

eISBN: 978-1-68108-387-2
ISBN: 978-1-68108-388-9

EXPERIENTIAL TEACHING FOR PUBLIC HEALTH PRACTICE



Editors:
Bud Nicola
Amy Hagopian

Bentham  Books

Experiential Teaching for Public Health Practice

Edited By:

Bud Nicola

&

Amy Hagopian

University of Washington

Seattle, WA

USA

Experiential Teaching for Public Health Practice: Using Cases in Problem-Based Learning

Editors: Bud Nicola and Amy Hagopian

eISBN (Online): 978-1-68108-387-2

ISBN (Print): 978-1-68108-388-9

Published by Bentham Science Publishers – Sharjah, UAE.

First published in 2017.



© 2017 by the Editor / Authors. Chapters in this eBook are Open Access and distributed under the Creative Commons Attribution (CC BY 4.0) license, which allows users to download, copy and build upon published chapters, as long as the author and publisher are properly credited, which ensures maximum dissemination and a wider impact of our publications.

The book taken as a whole is © 2017 Bentham Science Publishers under the terms and conditions of the Creative Commons license CC BY-NC-ND.

CONTENTS

FOREWORD	i
PREFACE	iii
ACKNOWLEDGMENTS	vi
LIST OF CONTRIBUTORS	vii
DEDICATION	ix
CHAPTER 1 INTRODUCTION AND BACKGROUND	3
<i>Aaron Katz, Jack Thompson and Frederick A. Connell</i>	
PROBLEM-BASED LEARNING	4
CHALLENGES	5
COMMUNITY AND SOCIAL JUSTICE	7
CONFLICT OF INTEREST	8
ACKNOWLEDGMENTS	9
REFERENCES	9
CHAPTER 2 COMPETENCIES	10
<i>Amy Hagopian</i>	
INTRODUCTION	10
WHAT THE WORKPLACE DEMANDS	11
COPHP COMPETENCIES	14
MASTERING REAL WORK	15
CASE EXAMPLES	16
You Never Die of Just One Thing	17
Mystery at Saddle Mountain	18
When Groundhog Day Meets Kafka	19
Research Project	19
LOOKING TOWARD THE FUTURE	20
NOTES	20
CONFLICT OF INTEREST	20
ACKNOWLEDGMENTS	20
REFERENCES	20
CHAPTER 3 PEDAGOGY	22
<i>A. Gita Krishnaswamy and Bud Nicola</i>	
INTRODUCTION	23
PBL METHODS AND PRINCIPLES	23
TRANSLATING PBL ELEMENTS	25
Case Development	25
Small Group Composition	26
Group Work and Individual Work	26
Research Methods	26
Reiterative Learning Cycle	27
Technology	27
Academic Content	28
Evaluation of the Pedagogy	28
Future Evolution of the Pedagogy	29
CONFLICT OF INTEREST	29

ACKNOWLEDGMENTS	29
REFERENCES	29
CHAPTER 4 ADMINISTRATIVE CONSIDERATIONS	31
<i>Peter House</i>	
INTRODUCTION	31
ADMISSIONS	32
MARKETING	33
STUDENT SUPPORT	34
FACULTY SUPPORT AND RECRUITING	35
INSTRUCTIONAL TECHNOLOGY	36
EDUCATIONAL EVALUATION	37
INSTITUTIONAL RELATIONSHIPS	38
ANTI-RACISM AND SOCIAL JUSTICE STRATEGIES	39
ALUMNI RELATIONS	39
CONFLICT OF INTEREST	40
ACKNOWLEDGMENTS	40
CHAPTER 5 BUILDING A CULTURE	41
<i>A. Gita Krishnaswamy and Amy Hagopian</i>	
INTRODUCTION	42
CONTENT IN CONTEXT	42
CREATING A COMMUNITY OF LEARNERS	44
The Admissions Process	44
Arriving at the UW	45
Case 0: Heading Upstream, Together	46
Classroom Culture	47
Student Leadership and Service	48
BEYOND THE PROGRAM	49
CONFLICT OF INTEREST	50
ACKNOWLEDGMENTS	50
CHAPTER 6 THE HANDBOOKS	51
<i>Brett Niessen and Kelly Gilmore</i>	
BACKGROUND	51
CREATING AND UPDATING THE HANDBOOK	53
STUDENT HANDBOOK COMPONENTS	54
LOGISTICAL AND PRACTICAL INFORMATION	54
COPHP STRUCTURE	55
Program Director and Staff Roles	55
Student-to-Faculty Ratio	56
COPHP's Fee-based Structure	56
BUILDING COMMUNITY THROUGH SHARED VALUES AND NORMS	57
HANDBOOK CHALLENGES AND SUGGESTIONS FOR IMPROVEMENT	58
CONFLICT OF INTEREST	59
ACKNOWLEDGMENTS	59
CHAPTER 7 THE CAPSTONE	60
<i>Amy Hagopian</i>	
INTRODUCTION	60
CAPSTONE <i>VERSUS</i> THESIS	61
THE TIMELINE	62
THE CAPSTONE HANDBOOK	65
ASPECTS OF SUCCESSFUL CAPSTONES	65
NOTES	67

CONFLICT OF INTEREST	67
ACKNOWLEDGMENTS	68
CHAPTER 8 THE PRACTICUM	69
<i>Karen Hartfield</i>	
INTRODUCTION	70
PRACTICUM PARTNERSHIP	70
HOW IT WORKS	72
PROGRAM SUCCESS	74
PROGRAM CHALLENGES	76
CONFLICT OF INTEREST	77
ACKNOWLEDGMENTS	77
CHAPTER 9 SKILLS SEMINARS	78
<i>Bud Nicola</i>	
HISTORY AND BACKGROUND	78
FIRST-YEAR TOPICS	79
Examples of Seminar Sessions in the First Year	80
<i>Methods #1: Small Group Facilitation</i>	80
<i>Capstone Master's Projects</i>	80
<i>Working in Communities</i>	80
SECOND-YEAR TOPICS	80
Examples of Seminar Sessions in the Second Year	81
<i>Conflict Resolution Skills</i>	81
<i>Hanford Case Background</i>	81
<i>Farmworker Housing</i>	81
CONFLICT OF INTEREST	82
ACKNOWLEDGMENTS	82
REFERENCES	82
CHAPTER 10 COPHP CURRICULAR CONTENT AREAS	83
CHAPTER 10-1 POPULATION HEALTH	84
<i>Stephen A. Bezruchka</i>	
LEARNING OBJECTIVES FOR THE POPULATION HEALTH BLOCK	84
CASE EXAMPLES	85
Americans: Dead First	85
The 49th Parallel: A Health Divide	86
More Health Care = More Health	86
Early Life Lasts a Life Time	87
Untangling the Gordian Knot	87
WORKING WITH COMMUNITIES	87
CHALLENGES	88
CONFLICT OF INTEREST	88
ACKNOWLEDGMENTS	88
CHAPTER 10-2 COMMUNITY DEVELOPMENT	89
<i>Peter House</i>	
INTRODUCTION	90
OUR APPROACH: LEARNING THROUGH APPLICATION	90
First-Year Course	91
Second-Year Course	92
LEARNING OBJECTIVES FOR COMMUNITY DEVELOPMENT	92
FINDING AND WORKING WITH COMMUNITY PARTNERS	93
CHALLENGES	95

CONFLICT OF INTEREST	96
ACKNOWLEDGMENTS	96
REFERENCES	96
CHAPTER 10-3 QUANTITATIVE RESEARCH METHODS	97
<i>Ann Vander Stoep, Jim Gale, Michelle Garrison and Susan Buskin</i>	
INTRODUCTION	97
TEACHING QUANTITATIVE RESEARCH METHODS VIA PBL	98
PBL TEACHING STRATEGIES FOR QUANTITATIVE METHODS	99
Learning Objectives	100
Epidemiology	102
Biostatistics	103
INCORPORATING QUANTITATIVE METHODS LEARNING OBJECTIVES INTO PBL CASES	104
Fair Outbreak	104
To Screen or Not to Screen, That is the Question	104
Starting Right	105
COLLABORATING WITH COMMUNITY PARTNERS	105
Walk it Out	106
Crackin' the Case, Not the Head	106
Pedestrian Potluck	106
PREPARING STUDENTS FOR PUBLIC HEALTH PRACTICE	106
CONFLICT OF INTEREST	107
ACKNOWLEDGMENTS	107
REFERENCES	107
CHAPTER 10-4 ENVIRONMENTAL HEALTH	109
<i>Tania M. Busch Isaksen, Wayne Turnberg and Jude Van Buren</i>	
LEARNING OBJECTIVES	110
CASE EXAMPLES	111
Water Contamination	112
But I Love Raw Oysters On the Half-Shell!	112
Is It Getting HOT in Here?	112
COMMUNICATING RISK AND ACTION	113
CHALLENGES	114
CONFLICT OF INTEREST	115
ACKNOWLEDGMENTS	115
CHAPTER 10-5 HEALTH BEHAVIOR AND HEALTH PROMOTION	116
<i>Sarah Ross-Viles and Hendrika Meischke</i>	
INTRODUCTION	116
APPROACH	117
WORKING WITH COMMUNITIES	118
LEARNING OBJECTIVES AND CASE EXAMPLES	118
CASE EXAMPLES	120
No One Cares Any More, Do They?	120
Mrs. Rose's Dilemma	120
Meningitis at The Prom	120
Still Smoking After All These Years	121
CHALLENGES	121
CONFLICT OF INTEREST	122
ACKNOWLEDGMENTS	122

CHAPTER 10-6 EVALUATION	123
<i>Ian Painter, Tao Sheng Kwan-Gett cpf Amy Hagopian</i>	
INTRODUCTION	123
CASE DEVELOPMENT	124
Real Change Organization	124
The Seattle Office of City Auditor and The Seattle Office of Civil Rights	124
Neighbor Care and King County School Health, Public Health—Seattle & King County	124
Health Equity Circle and IAF Northwest	125
CLASS PROCESS	125
CHALLENGES	126
CONFLICT OF INTEREST	127
ACKNOWLEDGMENTS	127
CHAPTER 10-7 POLICY	128
<i>Aaron Katz, Lena Nachand cpf Amy Hagopian</i>	
INTRODUCTION	128
LEARNING OBJECTIVES	129
MAKING POLICY	129
PBL CASES	131
WORKING WITH COMMUNITIES	131
CHALLENGES	132
CONFLICT OF INTEREST	133
ACKNOWLEDGMENTS	133
CHAPTER 10-8 MANAGEMENT AND LEADERSHIP	134
<i>Chris Hurley, Katie Bell cpf Bud Nicola</i>	
MANAGEMENT AND LEADERSHIP ROLES IN PUBLIC HEALTH PRACTICE	134
LEARNING OBJECTIVES	135
APPLICATION OF EXPERIENTIAL LEARNING AND PROBLEM-BASED LEARNING	137
CASE EXAMPLES	137
Leading for Equity	137
Improve or Else	138
CHALLENGES	138
CONFLICT OF INTEREST	139
ACKNOWLEDGMENTS	139
CHAPTER 10-9 THE COMMITTEE ON OPPRESSION, RACISM & EDUCATION (CORE)	140
<i>Ariel Hart, Jennifer Hagedorn, Anne Althausser, Tara Bostock, Afomeia Tesfai, CORE Founders cpf Amy Hagopian</i>	
BACKGROUND	141
CREATING CORE	141
FOCUS ON RACISM	142
Guiding Principles	142
CORE ACTIVITIES	143
CONFLICT OF INTEREST	145
ACKNOWLEDGMENTS	145
CHAPTER 11 FINAL THOUGHTS ABOUT THE FUTURE OF COPHP AND CONCLUSIONS	146
<i>Amy Hagopian, Bud Nicola cpf Peter House</i>	
REFLECTIONS	146
CONCLUSION	150
CONFLICT OF INTEREST	150
ACKNOWLEDGMENTS	150
APPENDIX A-LIST OF ONLINE RESOURCES	151
APPENDIX B-COPHP PEER REVIEW PROCESS	152

APPENDIX C-COPHP LEARNING OBJECTIVES COMPARED TO UNIVERSITY OF WASHINGTON MPH COMPETENCIES	153
APPENDIX D-STUDENT FEEDBACK FORM	156
APPENDIX E-ORIENTATION WEEK SCHEDULE	160
APPENDIX F-SAMPLE PRACTICUM PROJECT DESCRIPTION	161
APPENDIX G-PRACTICUM SELF-ASSESSMENT SURVEY	165
APPENDIX H-SERVICE LEARNING CONTRACT	167
APPENDIX I-SAMPLE DAILY LEARNING OBJECTIVES	172
Day 1	172
Day 2	172
APPENDIX J-SAMPLE CASE FACILITATOR NOTES	174
Day 1	174
Day 2	174
Day 3: Assignment	175
Day 1 and 2	176
APPENDIX K-STRATEGIC PLAN EXCERPTS	177
1. BUILD ON OUR SUCCESS TO MAINTAIN AN EXCITING, THRIVING, ACADEMIC PROGRAM TO TRAIN PRACTITIONERS WHO WILL IMPROVE THE PUBLIC’S HEALTH ..	177
2. IMPROVE OUR FISCAL AND ADMINISTRATIVE SITUATION	177
APPENDIX L-COPHP CASE SUBSCRIPTION INFORMATION	179
SUBJECT INDEX	180

FOREWORD

How can we best prepare the public health workforce for today's world?

Diseases and disabilities in the human population today are extraordinarily complex: from chronic diseases such as heart disease, diabetes, and cancer; to infectious diseases such as HIV/AIDS, H1N1 influenza, and Ebola; to illnesses related to occupational and environmental conditions such as asbestosis and lead poisoning. Further, the causes and determinants of these diseases and conditions are frequently multi-factorial and include broad social, economic, and environmental factors such as income, education, and influences associated with where we live, work, learn, and play. Indeed, further progress in promoting the health of all Americans may well depend on an enhanced approach to what constitutes public health practice—one that seeks explicitly to positively affect “upstream” social, economic, and environmental determinants of health.

We know that working on problems whose causes and solutions are unclear requires collaborating with and leading many different groups. This means that the people working in public health from a variety of different professional backgrounds require training that prepares them to deal with this complexity and with the different groups of stakeholders required to collectively address complex public health challenges.

As the Regional Health Administrator for the U.S. Department of Health and Human Services for Region X in the Northwest part of the United States, I have experience in observing and leading teams of public health professionals to work on major public health issues and have had an opportunity to work with a program that is effective in training students to become impressive and confident practitioners. The MPH in Community-Oriented Public Health Practice program at the University of Washington in Seattle has created a rigorous academic environment that allows students to engage closely with health problems in the community and that teaches students to learn by doing.

Students help our region's practitioners solve real problems and develop practice skills that will be used every day to move public health teams to take effective data-driven preventive action.

I urge other schools of public health to consider how they can best incorporate the lessons

ii

from this effective and inspiring program into their own teaching methods. Such efforts will prepare members of our future workforce for the complex challenges that await them.

Patrick O'Carroll
Regional Health Administrator, Region X
U.S. Public Health Service
Seattle, WA
USA

PREFACE

In 2000, I returned to Seattle from the U.S. Centers for Disease Control and Prevention in Atlanta to work at the University of Washington School of Public Health and Community Medicine. At that time, my UW colleagues made me aware of a remarkable new enterprise: the development of a Master of Public Health program focused on the *practice* of public health. The MPH in Community-Oriented Public Health Practice (COPHP) would be an unorthodox undertaking for two primary reasons. Firstly, the school had a reputation for training future researchers on the fundamentals of research. Secondly, the group of faculty involved in developing the program had decided to base it on the best principles of adult learning theory, and as a result, they were determined to use the problem-based learning (PBL) method as the program's anchor. As a life-long practitioner of public health, I was intrigued and hooked. I was pleased to join with several colleagues in a multi-year exploration of how best to design a program for adult learners so that they could enter the employ of a non-profit or government agency or health care institution and "hit the ground running." Testimonials from employers hiring the graduates of this program as well as from the students themselves have confirmed that, with COPHP, we took the right approach.

This book tells the story of that exploration, our initial program design, and the lessons we learned as faculty and students together re-shaped the program each year to improve the effectiveness of the learning experience. It is directed at all teaching programs that wish to move from conventional methods of teaching and learning, where faculty lectures predominate, to an environment where the faculty craft PBL cases that students use to teach each other; from faculty-governed learning to a shared learning space; and from a knowledge base dominated by theory to one where students discover theory by looking at problems in a practice field. In this book, we provide examples of the PBL cases that faculty have written and used in COPHP courses. A companion project will make the entire set of COPHP PBL cases available for an annual subscription fee (see Appendix L).

The editors and authors of this book understand that it will be the rare program that converts completely from traditional learning methods to PBL. We offer advice and insight into the many aspects of PBL and how, over the years, we have tried to be flexible and pragmatic about its use and interpretation. One of our foremost tenets has been to monitor how both students and faculty have contributed to programmatic quality improvement.

The COPHP program has been fortunate, particularly at its inception, to have the support and vision of leaders in the School of Public Health. COPHP was launched under the direction of Dr. Frederick A. Connell, Associate Dean of the school at the time, who oversaw the first set of PBL cases created from the practice environment and worked through the complexity of

training faculty in a new method of teaching. Dr. Connell had the challenging task of turning a start-up into an accepted institutionalized program. His experience as an epidemic intelligence officer and a pediatrician anchored him in the practice world; his academic credentials as a researcher and ties throughout the school's academic departments helped to assure the program's successful launch. Dr. Connell now has emeritus status.

After the program was stabilized, I took the leadership reins for three years and was followed by Peter House, a senior lecturer in the Department of Health Services and a clinical associate professor in the Department of Family Medicine. Peter successfully met the challenge of moving the program from partial funding by the State of Washington to complete funding from student tuition. The current COPHP Director, Dr. Amy Hagopian, with research interests in global health around health worker migration from low-income to wealthy countries, has helped expand the program's annual cohort to three groups of eight students.

COPHP has been fortunate to have strong faculty leadership for each of the required curricular areas. Several of these faculty members—Aaron Katz, Jack Thompson, Fred Connell, and Stephen Gloyd, with support from then Health Services Chair, Bill Dowling—participated in early conversations about developing a program over post-class libations at a nearby cantina. The conversations over time developed into a formal proposal to the School of Public Health that generated the COPHP program.

Case-writing leads for programmatic content in the PBL cases at the beginning of the program include: Management (Bill Dowling); Population Health (Stephen Bezruchka); Community Development (Jack Thompson and Peter House); Epidemiology and Biostatistics (Fred Connell and Jim Gale); Health Promotion/Health Behavior (Karen Hartfield); Policy and Evaluation (Aaron Katz and Amy Hagopian); and Environmental Health (Bill Daniels). Many current faculty members are chapter authors for this book (Sharon Bogan [former student], Brett Niessen [former student], A. Gita Krishnaswamy [former student], Aaron Katz, Amy Hagopian, Peter House, Karen Hartfield, Jsani Henry [former student], Stephen Bezruchka, Ann Vander Stoep, Michelle Garrison, Tania Busch-Isaksen, Wayne Turnberg, Jude Van Buren, Sarah Ross-Viles [former student], Hendrika Meischke, Chris Hurley, Katie Bell, Ian Painter, Jack Thompson).

To credit all who have contributed to the success of COPHP, I should really name the program's alumni since many of them are substantial contributors to the development and improvement of all aspects of the program. The book chapter on CORE (Anne Althausen, Tara Bostock, Ariel Hart, Jennifer Hagedorn, and Afomeia Tesfai) describes the major contribution that students made to incorporate anti-racism principles into the curriculum.

Thanks to all of the students and faculty who have been a part of COPHP over the years for

v

their energy, enthusiasm, and devotion to learning. This learning community has shared the insights, the joy, and the continuing relationships resulting from many months of hard work.

Bud Nicola

University of Washington School of Public Health

Seattle, WA

USA

ACKNOWLEDGMENTS

The co-editors would like to thank Alice Porter, manuscript editor, and Sarah Cohen, copy editor, for all their hard work and impressive professional help on this book. Their effort improved the final product immensely.

The enthusiasm and thoughtfulness of COPHP faculty, students, staff, and community partners over the years inspired us to create this resource for other academic public health colleagues.

List of Contributors

A. Althausser	Evans School of Public Policy and Governance, University of Washington, Seattle, USA
K. Bell	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
S.A. Bezruchka	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
T. Bostock	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
T.M. Busch Isaksen	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
S. Buskin	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
F.A. Connell	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
J. Gale	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
M. Garrison	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Kelly Gilmore	Department of Obstetrics and Gynecology, University of Washington Medical Center, Seattle, USA
Jennifer Hagedorn	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Amy Hagopian	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Ariel Hart	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Jsani Henry	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Peter House	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Chris Hurley	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Aaron Katz	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA

A. Gita Krishnaswamy	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Hendrika Meischke	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Lena Nachand	Washington State Health Care Authority, Olympia, USA
Bud Nicola	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Brett Niessen	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Ian Painter	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Sarah Ross-Viles	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Afomeia Tesfai	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Jack Thompson	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Wayne Turnberg	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Jude Van Buren	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA
Ann Vander Stoep	Department of Health Services, Community-Oriented Public Health Practice program, University of Washington School of Public Health, Seattle, USA

Dedication

This e-book is dedicated to faculty and teachers from around the world who are searching for effective and exciting ways to improve student learning.

Introduction and Background

Aaron Katz*, Jack Thompson and Frederick A. Connell

University of Washington, Seattle, USA

Abstract: Faculty at the University of Washington School of Public Health developed an MPH program that departs significantly from traditional graduate training. They initially sought a pedagogy rooted in adult learning theory and social justice that would prepare courageous problem solvers and excellent critical thinkers. The first step toward this goal was selection of the problem-based learning method to replace the lecture mode. Faculty secured funds to support training in writing PBL cases and facilitating PBL groups, designing a curriculum, and developing administrative processes. They created a two-year curriculum that covers all the core competencies of public health through PBL cases, which are in part shaped by community partners. Fifteen years later, the program that resulted from this effort—the MPH in Community-Oriented Public Health Practice—continues to prepare public health professionals who demonstrate exceptional skills in self-discovery, leadership, teamwork, and collective analysis.

Keywords: Adult learning theory, Community, Curriculum, Critical thinking, Education, MPH, Pedagogy, Practice, Problem-based learning, Public health.

“The key challenge facing public health education today is reconciliation of the academic environment in which most public health education takes place with the practice environment for which students are destined”.

--Who Will Keep the Public Healthy? Educating Public Health Professionals for the 21st Century [1].

How can we train excellent public health practitioners?

* **Corresponding author Aaron Katz:** University of Washington School of Public Health Seattle, WA, USA; Tel: (206) 616-5227; Fax: (206) 616-9415; E-mail: garlyk@uw.edu

That was the question that vexed the four founders of COPHP when, 15 years ago, we sat down over bottles of beer. Our public health school at the University of Washington had a strong reputation in public health training and research—it consistently ranked among the top six public health schools in the country. Many of our colleagues were nationally renowned scholars in environmental health, epidemiology, biostatistics, and other fields, and each year the competition to get into our MPH, MS, and PhD programs was intense.

Still, we shared an uneasiness about whether our students, particularly our MPH students, left us well-prepared to work in public health. And our sense of uncertainty was supported by what we heard from the potential employers of our students. These employers—local health departments, health care providers, community organizations, and advocacy groups—sought not just specific research skills or methods expertise but also strong problem-solvers and critical thinkers. They tended to hire students from other disciplines, such as business or health administration, that apparently offered more flexible and applicable skill sets.

So we wondered, what would a curriculum look like that produced creative, courageous problem-solvers who could, according to the WHO definition of public health, help create the “conditions in which people can be healthy?” We were fairly confident that traditional graduate-level courses were unlikely to fit the bill. How does a student learn critical thinking skills by sitting passively in a lecture, watching a continuous stream of bulleted PowerPoint slides? How does a midterm exam or theory-based paper help a student learn the sensitivity and humility needed to work with and in support of communities?

PROBLEM-BASED LEARNING

What we needed was a pedagogy rooted in experiential learning and self-discovery, concepts consistent with adult learning theory [2]. Some of us had used case studies in our courses, placing students in realistic situations and posing questions that pushed them to research contexts, options, and impacts. But each of us has also worked in public health practice, and we knew that real challenges did not come in such neat packages—rarely is anyone around to set the stage or pose

the right questions. Once at work, many of our graduates had to gain the knowledge and confidence to start from zero and still find good solutions and effective strategies.

Another goal we had was for students to gain strong skills in teamwork and collective analysis. Certainly public health professionals must conduct independent research and take individual initiative. But public health is at its core a group effort: professionals working in teams, across disciplines, with community groups and stakeholder organizations. We wanted to create an educational environment in which our students learned and excelled at leadership skills, meeting facilitation techniques, respectful criticism, and other competencies needed to contribute to and lead high-performing teams.

Many of us in higher education learned how to teach on the job, with little or no formal training, and with only our own teachers as models; this means that lecture is what we're comfortable doing. We have confidence that if we design and deliver a lecture effectively, students will hear and "get" what we consider to be the main lessons, skills, and knowledge. This "I talk, you listen" pedagogy is age-old, but the research on adult education suggests that it rarely results in sustained learning [3]. We began to look for an alternative to the lecture model in which the instructor has total control over the content and flow of a session; we sought instead a method of teaching and learning in which the initiative and control would switch to students.

Through some personal contacts and a bit of literature review, we learned about problem-based learning (PBL), a non-didactic learning method that has been used, notably, in various medical schools. As we learned more about this pedagogy, an opportunity to obtain funding from the university administration arose. Backed by our dean's office, we crafted a successful proposal, which provided support for a year of learning, planning, training, and case-writing.

CHALLENGES

Finding the right pedagogy was the first step, but only the first, and perhaps the easiest. We faced three main challenges to creating the kind of innovative signature program we envisioned:

- Firstly, though we had obtained funds, we needed to find expertise to train faculty in writing PBL cases and facilitating PBL groups, to design a curriculum, and to develop all the administrative processes such as admissions, faculty and student support, and evaluation.
- Secondly, we needed to recruit faculty to write and lead blocks of cases on major public health competency areas. This is no small task, as PBL is not for everyone. Teaching outside of the lecture mode is neither easy nor comfortable for many academics. Since few if any faculty in our department had any experience with PBL, it took a leap of faith to agree to participate in the new program.
- The third challenge was designing a two-year curriculum that included sufficient depth on all the core competencies of public health—from biostatistics to management—through series of cases, each of which would last 1–4 weeks. Traditional MPH programs are an amalgam of individual courses, each addressing one area of competency such as program evaluation, management, or health promotion. Individual instructors are responsible for the content and organization of those courses, with limited attempts to coordinate across them. Starting a PBL program from scratch, we wanted to foster integration across blocks of cases. So, for example, a case on health behavior and prevention reminded students about epidemiology skills and techniques, or a case on health policy reminded them about biostatistical analysis. We believed this multi-disciplinary approach to curricular design mirrored the practice environment, where successful public health interventions entailed various types of inquiry, both qualitative and quantitative. We also knew that to be consistent with this pedagogy, we would have to “reinvent” approaches to traditional requirements such as the first-year practicum and the culminating thesis project.

As we discussed our ideas with other faculty, we discovered that one of our new faculty members had direct experience with problem-based learning in his former academic setting. He provided us with good advice from his experience and directed us to national experts in this area. With the planning funds, we were able to hire a staff person who visited the Hahnemann (now Drexel) School of Public Health, which had established an all-PBL MPH program. What she learned on that visit gave us great insight into the process of PBL and the nature of cases that

would generate deep learning. We were also able to bring a PBL expert who had worked on the Hahnemann program to our school to train faculty on case writing and PBL facilitation.

Of course, planning and training resources would mean nothing without sufficient faculty to run the various modules for a two-year program. As we discussed our budding idea with colleagues, we found the idea of a cutting-edge MPH program to be very attractive to many; indeed, the program's focus on public health practice and its basis in adult learning made recruiting faculty with strong practice credentials fairly easy.

COMMUNITY AND SOCIAL JUSTICE

In addition to working with a pedagogy that encourages self-discovery, leadership, and teamwork, we sought to design a program that would adhere to two key principles: application of learning to community settings and a priority focus on social justice and equity. This approach requires a very close involvement with communities served by public health. We were confident that PBL would support identification and discussion of public health competencies in class settings, but we wanted to ensure that our students could demonstrate mastery of specific competencies in work situations.

In this regard, we knew we did not want to follow a traditional approach of public health programs—inviting community leaders to participate in individual class sessions organized by academic faculty. Rather, COPHP faculty would bring experience from and connections with state and local health departments, community organizations, education, housing, and community planning. This wealth of community connections and experience with actual community problem-solving would inform case development and offer opportunities for hands-on class projects.

Our faculty achieve this standard by engaging in dialogue with community leaders prior to case-writing and block development. Today community partners help shape the direction of many of the blocks and even co-write cases with faculty. This is particularly true for those blocks that have direct community interaction as part of the work. Community leaders are also engaged with the program in

seminar leadership and in service as practicum and capstone advisers. (See Chapter 10.2 on our community development curriculum).

The practicum requirement had to be reconsidered in light of this new curriculum. Our school has a major partner in our local public health department, Public Health—Seattle & King County. Several faculty members either are current health department employees with clinical appointments or are former health department employees now at the university. In 2003, the school and the health department successfully applied to the U.S. Centers for Disease Control and Prevention for pilot funding as an *academic* health department. One of the lasting benefits of this collaboration was the agreement to hire a health department employee to coordinate a group practicum that would be housed at the health department. We now have an ongoing contractual relationship with this local health department to provide practicum settings and instructional faculty.

The program also emphasizes capstones, rather than traditional theses, as defining projects for the MPH degree. A capstone, like a thesis, is a rigorous, scholarly effort. Unlike a thesis, a capstone requires negotiation with a community partner to develop a project that is of value to the partner. The COPHP program was the first degree program in our school to use the capstone approach. This is consistent with our community focus and has extended our emphasis on application of learning to the program's culminating project.

The COPHP program has, we believe, fulfilled the vision of its founding faculty. It now has graduated 13 cohorts of highly competent, committed public health professionals who have transmitted the program's social justice "DNA" into practice at local, state, federal, and international levels; some have even returned to become the next generation of the program's faculty. Problem-based learning has, indeed, proven to be a pedagogy well-matched to the public health challenges of tomorrow.

CONFLICT OF INTEREST

The authors confirm that they have no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.

REFERENCES

- [1] Gebbie KM, Rosenstock L, Hernandez LM, Eds. Who will keep the public healthy? Educating public health professionals for the 21st century. Washington, D.C.: National Academies Press 2003.
- [2] Walker A, Leary H, Hmelo-Silver C, Ertmer P, Eds. Essential readings in problem-based learning. West Lafayette, IN: Purdue University Press 2015; p. v.
- [3] Ibid.



Competencies

Amy Hagopian*

University of Washington, Seattle, USA

Abstract: All MPH programs in the United States seek accreditation by the Council on Education for Public Health (CEPH). CEPH promotes competency-based education, an institutional process that moves education from an emphasis on what academics believe graduates should know (teacher-focused) to an emphasis on what students should be able to do (student and workplace-focused). These competencies are associated with skills that will be demanded of graduates in their public health workplaces. To assess attainment of competencies, faculty must ask students to produce work products that demonstrate skill mastery. In contrast to typical classrooms, the MPH in Community-Oriented Public Health Practice (COPHP) uses problem-based learning (PBL) cases as the method for achieving competencies and creates real partnerships with government public health agencies and community-based organizations to engage students in producing work these organizations really need. The University of Washington adopted a set of MPH competencies in line with CEPH accreditation requirements, and we have mapped COPHP case learning objectives to these competencies. In this chapter, we discuss the evolution of the competency-based approach in our program, offer examples of problem-based cases from our public policy curriculum, and list the competencies that students will attain by the end of their participation in COPHP.

Keywords: Accreditation, Benjamin Bloom, Case learning, Competencies, Council on Education for Public Health, Paulo Freire, Problem-based learning, Skill mastery, Student-centered learning, Systems thinking.

INTRODUCTION

The Community-Oriented Public Health Program (COPHP) is built on the

* **Corresponding author Amy Hagopian:** University of Washington School of Public Health Seattle, WA, USA; Tel: (206) 616-4989; Fax: (206) 543-3964; E-mail: hagopian@uw.edu

principle that cases and problems naturally produce competencies in adult learners. Our program's founders had in mind a revolutionary approach to public health education—one that placed teachers in the role of “problem-posers” rather than collectors and depositors of information in students' heads. This orientation is based on the work of educational theorists such as Paulo Freire, who advanced and popularized the concept of “problem-posing education” [1], as well as Benjamin Bloom, who categorized and ranked various ways of knowing, valuing, and doing things in an educational context [2]. Bloom and Freire understood that remembering facts and concepts is a fairly low-level cognitive act, one that is easily fulfilled by simply telling students what they need to know. By contrast, to demonstrate competency in a complex field like public health, students must analyze, apply, evaluate, and synthesize information and ideas. In addition, they must apply important public health values, including collective action, to advance social justice and face down power structures that threaten the public's health.

The Council on Education for Public Health (CEPH), the organization that accredits schools of public health in the United States, has promoted competency-based public health education for more than a decade. At the time of COPHP's inception in 2002, CEPH had already begun calling on schools to document the competencies they were attempting to develop in MPH students [3]. Clinical training programs had for some time embraced problem-based learning (PBL); it seemed logical that presenting students with a set of presenting signs and symptoms—a “problem”—stimulated students to synthesize their knowledge in ways they would soon be required to demonstrate in a clinical role [4]. This method also seemed to be a natural fit for the practice-oriented and competency-based approach of COPHP.

WHAT THE WORKPLACE DEMANDS

CEPH describes competencies as “what students need to know and be able to do in varying and complex situations (student and/or workplace focused)” [5]. Competencies encourage institutions to focus on developing the observable skills and knowledge that will be demanded of graduates in their public health workplaces, as defined by employers and professional leaders. After a series of working group discussions and negotiations involving more than 400 individuals,

CEPH in 2006 identified the following competency domains: biostatistics, epidemiology, environmental health, policy and management, and social and behavioral sciences. Crosscutting competencies included communication, diversity, leadership, professionalism, program planning, biology, and systems thinking. As this book was being written, CEPH was completing its overhaul of the public health competency inventory for the next round of accreditation assessments [6, 7].

In addition to defining competency domains and calling on schools to identify and break down large skill sets into discrete competencies, CEPH further challenges schools to design learning experiences and contexts that support students to master competencies as bundled sets. Each competency may have various levels of mastery, from basic understanding to advanced capacity to the ability to lead a project requiring the named skills and knowledge. The guidelines also present a set of verbs to define observable mastery. For example, “understand” is not an allowed verb because a teacher cannot directly observe understanding; “describe” is preferred because it is something a student can *do*. More advanced levels of mastery require verbs such as “synthesize”, “design”, or “create”.

The University of Washington and COPHP were early leaders in competency-based education. The university first established public health competencies in 1999 as part of a self-study in preparation for CEPH accreditation. At around the same time, competencies also drove the creation of COPHP curriculum. Frederick A. Connell, a founding faculty member who was associate dean at the time noted recently, “When we began the COPHP program, we started by articulating ‘competencies’ for each block —before any cases were written. At the time we may have been the first competency-driven curriculum in the school”.¹ Subsequent re-accreditation self-studies occasioned competency revisions across the school. In 2013, using the CEPH competency domains, the School of Public Health and Community Medicine called on its departments (Biostatistics, Epidemiology, Environmental Health, and Health Services) to engage in a process of establishing competencies that could be observed and measured among MPH graduates.

As a UW program, COPHP ensures that our problem-based cases meet the CEPH-identified competencies required of MPH graduates. This is relatively

simple to demonstrate, because each COPHP case has a set of learning objectives that can be mapped to the competencies. In fact, when faculty write cases, they *start* with the learning objectives, for the case overall and for each day of the case. They then write a story that offers students a scenario from which the learning objectives can be derived. Each COPHP course, therefore, includes dozens of learning objectives that can be mapped to competencies. (See Appendix C).

But CEPH competency domains are derived periodically and as the result of a political process involving the leadership of member schools, not from empirical work. There are likely important learning areas that don't emerge in this process. Researchers in the field have attempted to measure the views of both public health workers and employers about the skills, fields of knowledge, and other aspects of competency they feel are most important. Kaufman and colleagues conducted key informant interviews with public health workers from 31 agencies to learn what knowledge, skills, and attitudes the public health workforce needed the most to meet emerging challenges, yet currently lacked [8]. The top areas included systems thinking, persuasive communication, and managing change with flexibility and adaptability. The top 10 also included political sensitivity, recruitment, problem-solving, and managing a diverse workforce. Similarly, Sellers and colleagues surveyed central office employees at state health agencies in 37 states, with responses from more than 10,000 workers (46% response rate) [9]. Among their top training needs were "influencing policy development" and training related to understanding the "broad array of factors that influence specific public health problems [social determinants of health]".

When our COPHP began in 2002, we did not have the benefit of Kaufman and Sellers' research or even the first set of CEPH competencies that emerged shortly thereafter. By happy coincidence (or perhaps prescience), our curriculum has aligned with these priorities. In particular, we have an extraordinary focus on the competency areas that emerged from Kaufman and Sellers as most important: systems thinking, persuasive communications, problem-solving, and cultural diversity. Because our students work in teams on community-based projects from the first day, additional competencies we develop include: engaging staff within public health organizations, engaging partners outside the organization, applying evidence-based approaches to solve public health problems, and assessing the

broad array of factors that influence public health problems—all of these named in the Sellers survey as vitally important. Because COPHP faculty tend to be politically engaged in pursuit of social justice, all our cases and courses are also infused with discussion of political sensitivity and strategy.

COPHP COMPETENCIES

Upon satisfactory completion of the MPH in Community-Oriented Public Health Practice concentration, graduates will be able to:

- Meet the generic SPH learning objectives for the MPH degree.
- Meet the Core-Specific Learning Objectives for all MPH students.
- Collaborate with and motivate communities and community-based organizations concerning health.
- Act to connect a health organization with one or more communities for a variety of purposes.
- Develop leadership skills.
- Find, manage, and evaluate information of all kinds.
- Work effectively in and lead, as necessary, groups and small teams of professionals.
- Facilitate groups of people to assist them in understanding and debating issues, formulating and considering options, and making decisions.
- Develop written communications skills.
- Plan and prepare oral communications for meetings ranging from small groups to large conferences.
- Think critically and assist and encourage co-workers to think critically.
- Articulate the history and politics of community development for health.
- Conceptualize the dynamics of cultural diversity in and between communities and demonstrate an ability to interact sensitively and effectively with persons from a variety of backgrounds.
- Help communities identify problems and set priorities.
- Evaluate community development efforts.

MASTERING REAL WORK

To assess successful attainment of competencies, faculty ask students to produce work products that demonstrate skill mastery. In typical classrooms, these assignments include artificial products, such as a paper on a topic assigned by the professor or a hypothetical project employers or communities might want. At best, there might be role plays. In COPHP, by contrast, we use problem-based learning (PBL) as the method for achieving competencies and create real partnerships with government public health agencies and community-based organizations to engage our students in producing work these organizations really need. In these settings, we can watch students conduct fieldwork and interact with clients. Faculty assign products these organizations have requested: a design for an evaluation of a school-based health clinic; an assessment of the content of sex education in a rural school district; or an analysis of attributable risk to inform a policy decision. Students take on tasks such as conducting interviews with homeless youth to help shelter organizers understand their needs with regard to job searches and financial management.

Our assignments comprise a mixture of products that are low stakes (seen only by faculty and fellow students) and high stakes (delivered to clients). Traditional educational settings would be arranged so that students deliver their papers or projects only to their faculty member; their classmates would not see these materials. We believe the transparency of deliverables mimics the workplace more closely and therefore helps build the communications competency that is so important.

Our competencies also prepare students for real-world work by focusing on “systems thinking”. Typically, educators break complex problems into discrete, manageable pieces rather than expecting students to bring together many branches of knowledge in a complex systems approach [10]. In contrast our faculty pose scenarios that integrate, rather than separate, the components of the problem. We help students understand that problems rarely come pre-packaged in bite-sized pieces and that one of the greatest skills they can bring to a team is the ability to “turn a mess into a problem”, as we like to say. In the realm of data analysis, we aim to guide students away from a focus on the smaller concerns of type I or type

II errors (false positives and false negatives) and toward the big-picture, critical thinking skills to identify whether the right question is being asked [11]. These critical thinking skills are increasingly vital in public health. The traditional approach to ensuring good nutrition, for example, has been to encourage individuals to make better food choices, when instead we need to analyze the problem on a systems level and look at industry, which offers so many poor food choices packaged attractively and flavored alluringly. To this end, our cases pose the multiple facets of a problem all at once, and students work together to produce a product that integrates multiple realities. We appreciate the overlapping interests and conflicting views required to create viable solutions and teach that understanding the whole system is more important than being able to dissect each distinct component.

Other programs, of course, use similar models and approaches, with different emphases and values. For example, East Stroudsburg University in northeastern Pennsylvania reported on its use of community collaboration to guide public health training [12]. Leon *et al.* reported on efforts by the Rollins School of Public Health at Emory University to provide some case-based instruction, offering the examples of a norovirus outbreak in Jamaica and food fortification in Bangladesh [13]. These are retrospective cases, however, rather than live community-engaged projects, and they began with one lecture and concluded with another “to ensure all learning objectives were met”. Each student also produced an individual deliverable (*e.g.*, a food fortification intervention plan). By contrast, COPHP has abandoned lectures altogether as a means of ensuring learning objectives are met, to demonstrate our full faith in the case-based approach and to mimic a real workplace environment through a mix of individual and group products. We also often require group-produced reports and presentations, as these more realistically mimic a practice-based environment.

CASE EXAMPLES

We describe here three cases from COPHP policy block, which we have designed to build student capacity to integrate knowledge and skills in complex systems. The cases illustrate how real-world problems can focus students on developing specific competencies.

You Never Die of Just One Thing

Our first case in the policy block is set in Ghana. The protagonist is a Ministry of Health analyst with a personal situation requiring him to travel north (his sister has just died, leaving him in care of his nieces and nephews). Meanwhile, he is advising the ministry on its engagement with an international food fortification scheme, the Global Alliance for Improved Nutrition (GAIN). In the story line, we drop hints the first day to lead students to investigate the role of the Ghanaian Ministry of Health, the problematic nature of vertical diagnosis and treatment, the goals of food fortification, and issues facing orphans and vulnerable children. Students also discover the importance of public health biology, including the causes and consequences of TB, malaria, HIV, anemia, and how HIV care for pregnant women is organized.

On the second day of the case, students examine large multinational private-sector philanthropic entities (such as GAIN) and how they are governed. Students explore the predilection of philanthro-capitalist entities for imposing self-interested solutions on low-income countries while also assessing the dilemmas of ministries of health weighing the costs and benefits of being on the receiving end of those activities. Key critical voices in these debates are introduced, including Amartya Sen, Anne-Emanuelle Birn, Rick Rowden, and others. The concepts of food insecurity and the social and political context of hunger are introduced, and students explore the history of anemia and the Ghanaian diet and whether Ghanaians were malnourished before colonials arrived. Finally, students are introduced to the concept of attributable risk as a tool in policy making.

On the final day of the case, students are presented with several 2 X 2 tables illustrating the results of a study involving 1,173 subjects in relation to their exposure to various factors (iron status, malaria, and bednets) in relation to anemia status. For the final assignment of this three-day case, students produce a memo in the voice of the case protagonist to the Minister of Health presenting advice with regard to an anemia control program, using attributable risk calculations. The idea is to present a politically savvy solution (in a two-page memo), taking into account the value of the contributions by GAIN, while recognizing that a far greater contributor to the anemia problem in Ghana is

malaria rather than iron-poor food intake.

This case incorporates a wide range of issues influencing the anemia status of Ghana's population, from colonialism to biology, and it asks students to produce a persuasive, politically sensitive policy communication that requires problem-solving and systems thinking, important MPH competencies. This case starts on a Monday and is completed when students turn in their memos on Wednesday evening of the following week.

On Thursday, after reviewing the findings from the memos turned in the night before, we start the next case.

Mystery at Saddle Mountain

In the second case, protagonists are three graduate students, camping in eastern Washington State, who stumble upon a farmworker encampment. (In the design of PBL cases, the use of important storytelling elements such as protagonists drives student interest in the learning process). They soon learn about the taxonomy of the migrant farmer workforce, the health issues farmworkers face, the housing options available to them, the relationship between housing and health, the politics of public housing, the economic realities of farming (for both large and small landowners), and the implications of those realities for paying reasonable wages and/or offering housing. Students discuss the views of various stakeholders on these issues as well as the role of government agencies in farmworker labor and housing issues.

On the next day of the case, the lens widens. Students explore international trade agreements and their roles in affecting the health of migrant laborers. They explore the various views of Americans in relation to immigrants, the U.S. Farm Bill (most recently, the Agriculture Act of 2014) and its many components, and international food aid (circling back to aspects of the Ghana case). For their final assignment, students take on roles of various constituents and are asked to present farmworker housing solutions to a (hypothetical) governor's aide. Solutions that require a budget must identify a funding source.

When Groundhog Day Meets Kafka

The protagonist in this case is a newly hired aide to the Washington State Attorney General who has come to staff the state's new lawsuit against the U.S. Department of Energy. The federal agency operates the Hanford site in eastern Washington, location of one of the largest nuclear cleanup efforts in the world, where hundreds of billions of gallons of liquid waste were generated by production of plutonium, including that used in the bomb dropped on Nagasaki in 1945. Students learn about the stakeholders involved, the governance of the cleanup operation, the science of nuclear physics, the health effects of radiation, exposure and clean up standards, how government agencies work together (and don't) on such a project, the legal wrangling among parties, the Cold War, and the role of whistleblowers in protecting health and safety. They also learn about risk assessment, the "healthy worker effect", and the differential benefits of personal protective equipment as compared to engineered industrial hygiene. The role of the media and the power of workplace safety culture are explored. Finally, we strongly feature the issue of the rights of native tribes to the land and discuss how treaties were abrogated in the rush to produce an atomic bomb.

For their final assignments in the Hanford case, students design a lesson plan for teaching high school students about Hanford, its history, and the cleanup operation underway. We make arrangements at Seattle's Garfield High School for students to deliver several classroom lessons, each 55 minutes long, at the conclusion of the case. The competencies demonstrated by students to fulfill this assignment are high on the Bloom Taxonomy Scale, requiring synthesis of a great deal of information, design of a lesson plan, and communication to an audience.

Research Project

In addition to the cases, each year, we ask students to spend two to three weeks investigating an important public health topic, with the final assignment being to write a policy resolution for consideration by the American Public Health Association's governing council. To date, APHA has adopted eight policy resolutions drafted by our students, including transportation of spent nuclear fuel, improving farmworker housing, higher education access for undocumented

immigrant youth, strengthening Social Security, watershed pollution, removing barriers to mental health services for veterans, and improving the minimum wage.

LOOKING TOWARD THE FUTURE

In response to new accreditation requirements, COPHP will be more explicit with students at the outset of the program about the competencies we hope to develop. We will provide a checklist for students to monitor on their own behalf that prompts them to recognize progress at the end of each case, month, or each quarter, and require them to produce portfolios demonstrating achievement of the competencies.

NOTES

¹ Personal communication, 2016 Jan 6.

CONFLICT OF INTEREST

The author confirms that author has no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.

REFERENCES

- [1] Freire P. *Pedagogy of the oppressed*. New York: Continuum Books 1993.
- [2] Bloom BS, Engelhart MD, Furst EJ, Hill WH, Krathwohl DR. *Taxonomy of educational objectives: The classification of educational goals*. New York: David McKay Company 1956.
- [3] Calhoun JG, Dollett L, Sinioris ME, *et al.* Development of an interprofessional competency model for healthcare leadership. *J Healthc Manag* 2008; 53(6): 375-89. [PMID: 19070333]
- [4] Dochy F, Segers M, Van den Bossche P, Gijbels D. Effects of problem-based learning: a meta-analysis. *Eur Res Int* 2003; 13(5): 533-68. [[http://dx.doi.org/10.1016/S0959-4752\(02\)00025-7](http://dx.doi.org/10.1016/S0959-4752(02)00025-7)]
- [5] Competencies and learning objectives 2011. Available from: http://www.ceph.org/assets/Competencies_TA.pdf
- [6] Accreditation Criteria and Procedures 2016. Available from: <http://ceph.org/criteria-procedures/>
- [7] Council on Education for Public Health. CEPH Accreditation Criteria Amended October 2016.

Available from: <http://ceph.org/criteria-revision/>

- [8] Kaufman NJ, Castrucci BC, Pearsol J, *et al.* Thinking beyond the silos: emerging priorities in workforce development for state and local government public health agencies. *J Public Health Manag Pract* 2014; 20(6): 557-65.
[<http://dx.doi.org/10.1097/PHH.0000000000000076>] [PMID: 24667228]
- [9] Sellers K, Leider JP, Harper E, *et al.* The public health workforce interests and needs survey: the first national survey of state health agency employees. *J Public Health Manag Pract* 2015; 21 (Suppl. 6): S13-27.
[<http://dx.doi.org/10.1097/PHH.0000000000000331>] [PMID: 26422482]
- [10] Canyon DV. Insights in public health: systems thinking: basic constructs, application challenges, misuse in health, and how public health leaders can pave the way forward. *Hawaii J Med Public Health* 2013; 72(12): 440-4.
[PMID: 24377080]
- [11] Mitroff II. *Smart thinking for crazy times: the art of solving the right problems.* San Francisco: Berrett-Koehler Publishers 1998.
- [12] Woodhouse LD, Cardelle AC, Godin SW, *et al.* Transforming a Master of Public Health program to address public health practice needs. *Prev Chronic Dis* 2006; 3(1): A22.
[PMID: 16356375]
- [13] Leon JS, Winskell K, McFarland DA, del Rio C. A case-based, problem-based learning approach to prepare master of public health candidates for the complexities of global health. *Am J Public Health* 2015; 105: S92-6.
[<http://dx.doi.org/10.2105/AJPH.2014.302416>]



Pedagogy

A. Gita Krishnaswamy* and **Bud Nicola**

University of Washington, Seattle, USA

Abstract: The founding faculty of the MPH in Community-Oriented Public Health Practice (COPHP) considered several learning models appropriate for students preparing for careers in public health practice (rather than research). They selected problem-based learning (PBL), which has been successfully applied by other practice-based disciplines and incorporates elements such as strong faculty-student collaboration, group learning, a reiterative research cycle, and case learning based on real-world problems. At its core, PBL is a method in which learning results from the intellectual process involved in understanding and resolving problems. These problems are presented in cases, written by COPHP faculty, that are often based on real public health situations at the state, national, or global level. Most courses also present at least one case that requires students to complete a real-time project at the request of a partner agency such as the local health department. Students explore and discuss the cases in small groups that simulate the structure of actual work environments such as health and human service agencies; and they learn to lead groups and to cope with functional and dysfunctional group dynamics. PBL cases are built on community issues, reinforcing the program's grounding in service learning in the community. The COPHP program also trains students and in use of a course management system through which students post their coursework. Both students and faculty provide continuous feedback on progress in facilitating student learning.

Keywords: Adult learning principles, Case learning, Competencies, Evaluation, Facilitated learning, Group dynamics, Learner-centered education, Learning cycle, Pedagogy, Problem-based learning, Reiterative learning, Research methods, Service learning, Small-group learning, Technology.

* **Corresponding author A. Gita Krishnaswamy** University of Washington School of Public Health Seattle, WA, USA; Tel: (415) 309-5202; Fax: (206) 543-3964; E-mail: krishna2@uw.edu

INTRODUCTION

During the development of the Community-Oriented Public Health Practice (COPHP) program, the founding faculty discussed and reviewed available pedagogical methods to match program learning needs. They wanted to target COPHP curriculum to a population of students interested in working in public health practice, rather than in research careers. As they reviewed the many teaching methods available, faculty were most interested in methods based on adult learning principles that would require them to assess and respond to the needs, wants, concerns, and current abilities of the target learners. Any educational program should account for the motivation of the learner; reinforce the skills and knowledge being developed; and help students retain key learning and transfer it to new situations [1]. Learning—both in adults and youth— should encourage a sense of self-worth and personal power in learners [2].

Several learning models promote adult learning principles, but serendipity played a role in COPHP's embrace of a model perfectly suited to the approach the founding faculty were seeking: problem-based learning (PBL). One of our new faculty members at the time, Dr. Will Welton, had just arrived from Hahnemann University in Philadelphia and had helped develop a public health master's program there based on PBL.

Furthermore, national organizations such as the Association of Schools and Programs of Public Health had argued for a new commitment to service as part of the educational process. They also supported the use of Boyer's concept of the "scholarship of engagement", in which the practice-based scholar is engaged with practitioners, policy makers, communities, and organizations [3]. As noted in Chapter 1, this idea was wholeheartedly adopted by the founding faculty and reflected in the first year practicum and the second year master's project or capstone. PBL cases are built on community issues. Thus, from its inception, COPHP has been grounded in PBL and service learning in the community.

PBL METHODS AND PRINCIPLES

As implemented in COPHP, PBL involves a small group of students deciding for themselves what they need to study, after discussing some trigger material such as

a written problem or situation taken from the real world [4]. After a period of individual study, the students meet to share, compare, and relate their findings to the original material and to determine whether they have acquired enough knowledge to address the situation or case.

The following definition captures some of the above elements:

PBL asks students to confront “ill-structured”, real-world problems that have no immediate or clear solution. Well-constructed PBL experiences provide a genuine stimulus for learning; are culturally accessible and relevant; allow students to balance cooperative and independent work; require students to self-direct the learning process using a multidisciplinary perspective; and promote metacognitive habits that allow students to self-assess the development and quality of their learning [5].

The PBL method—in which learning results from the intellectual process involved in understanding and resolving problems—has been used successfully for many years in medicine, law and business programs [6, 7]. Its key features are that it is problem based, reiterative, learner centered, small group-oriented, and facilitated.

“Problem-based” refers to the use of simulations of realistic problems or real problems presented by external partners, carefully selected and designed to challenge learners to discover and accomplish the curriculum’s major learning objectives. The primary motivation to learn comes from the natural desire to understand and resolve the problem; the problem serves as a vehicle to stimulate and motivate learning. In COPHP, students are also motivated to engage with problems that build their capacity to understand and address the health needs of communities. Learners respond to the problematic situation by defining the problem, identifying areas for further research, synthesizing findings, applying existing knowledge to interpret data, and generating multiple hypotheses. Learners work in a reiterative sequence in which the problem stimulates them to investigate to acquire new information and then return to the problem and incorporate the new knowledge into thinking and decision-making [8].

“Learner-centered” refers to a focus on the students’ responsibility to collectively design the steps needed to navigate through the problem. Students have a responsibility to each other to research and present different pieces of the information puzzle and to achieve a basic understanding of key concepts. Small group facilitation skills process are essential for modern public health workers, indeed for workers, in general, in a knowledge-based society. Every group has a faculty facilitator who maintains the focus on learning, demands rigorous critical thinking, assists in the teaching of effective group process, and promotes individual and group self-evaluation.

COPHP faculty members have developed PBL cases for successful continuing-education training of public health practitioners, using the same principles as those used in COPHP case development [9]. But faculty are not purists about using the PBL method, because learners can respond positively to several different teaching methods. They rely on other strategies in their teaching repertoire including small, focused didactic or interactive presentations both in class and between classes [10].

TRANSLATING PBL ELEMENTS

Case Development

Many COPHP cases are taken from real public health situations at the state, national, or global level. In addition, most courses have at least one case that requires students to complete a real-time project at the request of a partner agency such as the local health department. The program first trained faculty in facilitating and writing PBL cases when it started in 2002 [10]. Faculty members have since begin to develop in-house trainings on PBL topics most relevant for new and experienced instructors. A University of Washington staff editor reviewed all of the cases for the initial years of COPHP and also coordinated many aspects of the program. More recently, faculty have written and edited cases for each block of content without staff support.

Examples of student work generated through case analyses include developing a social media campaign to educate the public on the health status of the United States; on the health status of the U.S. population, developing a strategic plan for

a health department, investigating youth homelessness in the University District, and other work products referenced in the other chapters of this book.

Small Group Composition

COPHP is designed for students who are interested in working in public health practice situations. The small group structure simulates the working environment of current health and human service agencies in providing services and tackling problems. Students learn to lead small groups and to cope with functional and dysfunctional group dynamics. Early in the program, faculty facilitate the small groups to provide a model for group facilitation. After group dynamics and facilitation skills are covered in a first quarter seminar, students assume the role of group facilitator, and faculty give regular coaching and feedback.

COPHP group size has varied from six to nine students. A group of six or smaller means that students must do more individual work to cover all faculty designed learning objectives for the cases; groups of ten or more can become more difficult for facilitators to manage.

Group Work and Individual Work

At the first meeting for a new case, students typically assign learning objectives for each member of the group to guide basic research around the case problem. Some cases require students to make a group presentation or report, and, as in so many facets of COPHP, they rely on each other for background knowledge.

Research Methods

At student orientation and again early in the first year, COPHP introduces students to modern research methods and technology. Students also learn to evaluate information sources for credibility. Research on PBL problems frequently requires sources of information outside of peer-reviewed literature, such as newspapers, interviews, windshield surveys, focus groups, or other primary data sources. Faculty facilitators help students think about the most effective means of gathering and analyzing pertinent information.

Reiterative Learning Cycle

PBL class groups meet twice a week for three-hour sessions (either Monday/Thursday or Tuesday/Friday). In *The Journal of Public Health Management and Practice*, former COPHP director Peter House *et al.* describe the learning cycle students experience:

They read cases, talk about what they already know about the public health issues at hand, and what they think is going on. Then, they develop a list of learning objectives (LOs). Each student takes an LO, researches the LO, and then submits a 5-page referenced paper to a Web-based instructional technology site using the Canvas program, (a knowledge-sharing and learning platform discussed later in the chapter. Examples of LOs include the following: “Population Health: Critique Public Health’s Role in Producing a Healthy Nation”, and “Policy: What Is a Superfund Site? What Are the Clean-up Issues at Hanford and How Do They Fit Under the Superfund Law?”) The faculty facilitator for the groups reads each of the papers before the next class and offers written feedback to the students. The students in the groups read and critique each other’s papers, creating strong and healthy peer pressure to do good work. On the second day of the case, the students start by rereading the case and then discussing the key learning from their independent work. At this point, students typically receive a next section of the case or a group assignment that builds on their collective research. Faculty members participate in class sessions by asking questions in a moderator role, rather than by lecturing [10].

Technology

The University of Washington uses an online course management system (CMS) for official for-credit courses. Support staff posts the faculty-developed PBL case to a discussion board. Students then post five-page papers on the board so that other students and the group’s faculty member can read them. COPHP is currently running three concurrent groups of eight students using the same set of PBL cases, but students can read postings only from their own group. This reinforces group integrity and reliance on fellow group members for research results. Faculty may use the online CMS or email for feedback comments. Canvas has the capacity to deliver faculty audio or video files to all group members. This is another way

faculty can provide feedback on the group performance as a whole.

Academic Content

The COPHP program confers an MPH degree. Over two academic years (six quarters), students address required competencies in blocks of cases in the following areas:

- Population health and the social determinants of health
- Community development for health
- Epidemiology
- Biostatistics
- Environmental health
- Health behavior and promotion
- Health policy
- Program evaluation
- Management and leadership

Evaluation of the Pedagogy

Students provide feedback to COPHP *via* online questionnaires developed in collaboration with the University of Washington's Center for Teaching and Learning (CTL). Each faculty member receives a summary of this feedback after the academic quarter has concluded. Feedback to faculty from students through COPHP/CTL evaluation includes student ratings of: effectiveness in facilitating student learning, openness to student views, interest in whether students learned, what the instructor did that may have hindered learning or could be improved, and as of 2014, how well the faculty member shaped the classroom to support an anti-racist learning culture. The COPHP Program Director uses this feedback at the annual faculty retreat to help improve COPHP teaching methods and practices. These data have also been useful in reviewing student feedback longitudinally.

For several years now, COPHP faculty have been using a peer consultation system to provide feedback to each other. The reviewing faculty member reads the syllabus and PBL cases, attends one or more classes, and observes faculty interaction with the group and with individual students. Feedback is performed on

an informal basis by sharing observations and recommendations. These observations and recommendations are also shared with the COPHP Program Director.

Future Evolution of the Pedagogy

COPHP faculty and students have been enthusiastic about the PBL methodology. They are invested in the program and eager to help make it even more effective in promoting learning. Each year during the day-long annual faculty retreat (attended by many student guests), faculty review and discuss specific practices with the aim of improving the effectiveness of learning methods and the knowledge content in COPHP.

CONFLICT OF INTEREST

The authors confirm that they have no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.

REFERENCES

- [1] Javadi N, Zandieh M. Adult learning principles. *J Am Sci* 2011; 7(6): 342-6.
- [2] Brookfield S. *Understanding and facilitating adult learning: A comprehensive analysis of principles*. Oxford: Open University Press 1986.
- [3] Association of Schools of Public Health Council of Public Health Practice Coordinators. *Demonstrating excellence in the scholarship of practice-based service for public health*. Washington, DC: Association of Schools of Public Health 2009.
- [4] David TJ, Patel L, Burdett K, Patangi R. *Problem-based learning in medicine: a practical guide for students and teachers*. London: Royal Society of Medicine Press 1999.
- [5] Torp L, Sage S. *Problems as possibilities: Problem-based learning for K-12 education*. Alexandria, VA: Association for Supervision and Curriculum Development 1998.
- [6] Albanese MA, Mitchell S. Problem-based learning: a review of literature on its outcomes and implementation issues. *Acad Med* 1993; 68(1): 52-81. [<http://dx.doi.org/10.1097/00001888-199301000-00012>] [PMID: 8447896]
- [7] Knowles MS, Holton EF, Swanson RA. *The adult learner: the definitive classic in adult education and human resource development*. 6th ed., Amsterdam, Boston: Elsevier 2005.

- [8] Gordon PR. An introduction to problem-based learning fundamentals for facilitators. Dresher, PA: Kelliher & Associates, Ltd. 2001.
- [9] Streichert LC, O'Carroll PW, Gordon PR, Stevermer AC, Turner AM, Nicola RM. Using problem-based learning as a strategy for cross-discipline emergency preparedness training. *J Public Health Manag Pract* 2005; (Suppl.)S95-9.
[<http://dx.doi.org/10.1097/00124784-200511001-00016>] [PMID: 16205551]
- [10] House PJ, Hartfield K, Nicola B, Bogan SL. The university of washington's community-oriented public health practice program and public health-seattle & King county partnership. *J Public Health Manag Pract* 2014; 20(3): 285-9.
[<http://dx.doi.org/10.1097/PHH.0000000000000054>] [PMID: 24667188]



Administrative Considerations

Peter House*

University of Washington, Seattle, USA

Abstract: The University of Washington's MPH in Community-Oriented Public Health Practice (COPHP) program is fully committed to a problem-based learning pedagogy that is unique among degree programs in our School of Public Health and rare across the country. This intense method of teaching and learning places uncommon demands on teachers and students alike. To teach all aspects of public health practice and to craft a broad curriculum, we draw faculty from other departments in our school and from the practice field as well as from the academy. We select students who bring work experience in public health practice, who share our dedication to social justice, and who are fully prepared to undertake problem-based learning. In this chapter, we discuss the customized set of administrative skills and practices that we have developed to support COPHP and govern admissions, marketing, student support, faculty support and recruiting, instructional technology, educational evaluation, institutional relationships, anti-racism and social justice strategies, and alumni relations. Together, these processes ensure the success of COPHP in producing effective public health practitioners while keeping our fee-based program affordable to students.

Keywords: Admissions, Administration, Advising, Alumni relations, Anti-racism, Case editing, Faculty meetings, Faculty recruiting, Faculty retreats, Faculty support, Institutional relationships, Instructional technology, Internet presence, Marketing, Peer mentors, Peer review, Self-reflection, Seminars, Social justice, Student feedback, Student support.

INTRODUCTION

Our program, the MPH in Community-Oriented Public Health Practice (COPHP),

* **Corresponding author Peter House** University of Washington School of Public Health Seattle, WA, USA; Tel: (206) 616-4985; Fax: (206) 543-3964; E-mail: phinney6@uw.edu

is committed to using a problem-based learning (PBL) pedagogy that is unique among degree programs in the University of Washington School of Public Health and Community Medicine and rare among comparable schools across the nation. We teach all aspects of public health practice, so we have an unusually diverse faculty, drawing from other departments in our school and from the practice field as well as the academy. Another factor that sets us apart is that our program is fee-based, which means that we are forced to operate as a business by balancing costs with tuition receipts—all the while working to keep our program affordable to our students. For all these reasons, we have developed and continue to apply a customized set of administrative skills and functions, which we describe in this chapter. These practices govern admissions, marketing, student support, faculty support and recruiting, instructional technology, educational evaluation, budgeting and staffing, strategic planning, institutional relationships, anti-racism and social justice strategies, and alumni relations.

ADMISSIONS

We know that COPHP is not for all students pursuing MPH degrees. Since our program's inception in 2002, we have been careful to recruit applicants who we think will thrive in our program's pedagogy. For each case we explore in our classes, our faculty direct two three-hour sessions of in-class discussion, and we require our students to do a lot of writing and meet inviolable deadlines. We simply cannot accommodate students who are not comfortable with these demands. At the same time, we undertake the admissions process with respect and humility. We know how important our decisions are to the applicants' lives and how imprecise we humans are in judging each other. Every year we admit students from the lower end of our waiting list who later turn out to be star students and strong public health practitioners.

Our admissions process entails several steps:

- **Interviews.** A second-year student is hired to manage our recruitment efforts. She conducts a telephone interview with every applicant. The interview emphasizes questions about how good a fit the applicant would be with our program. We allow time for the applicant to ask us questions. Most applicants

are then referred to a faculty member for a second interview. Both the student assistant and the faculty member complete a short survey after the interview, and we include these notes in the applicant's files.

- **Observation.** We strongly encourage all applicants to come to Seattle to observe a PBL session. Direct observation is the best way for applicants to get a sense of what they would be getting into with COPHP. The class discussions are always lively, and applicants are nearly always impressed with the enthusiasm and carefully structured, student-led facilitation in the classroom. These visits also provide COPHP with a powerful marketing tool.
- **Written application.** For COPHP, this includes 1) resume, 2) personal statement, 3) required statement regarding diversity, 4) academic transcripts, 5) Graduate Record Examination (GRE) scores, and 5) at least three letters of recommendation. At least three faculty members of our admissions committee read each application.
- **Admissions Committee.** We use a large admissions committee, drafting all faculty and several second-year students and alumni. We review applications in three admissions rounds: early, regular, and "space available".

We know that the reviewers vary in how much emphasis they give to each element of the written application. Some reviewers read the personal statement very carefully while others home in on the letters of recommendation. Several elements, however, are common across most reviewers. Our pedagogy works best when we have students who bring knowledge and experience to the table in their groups, so we look closely at resumes to make sure that we admit applicants with at least two or three years of work experience in public health practice. On the GRE scores, we pay special attention to very high or very low scores. Very high scores (greater than the 85th percentile) correlate with the ability to keep up academically while in school. Very low scores (lower than the 15th percentile) signal applicants who will likely need extra help on academics. For the "great middle" of applicants with neither very high nor very low scores, we pay little attention to performance on the GRE.

MARKETING

Our marketing has two main elements:

- **Internet presence.** The Internet is a key factor in our marketing, and we work hard to make our program's web page easy to find and informative. From our interviews, we know that applicants most commonly find us through web searches. They search for such terms as *community*, *social justice*, and *anti-racism* to find us.
- **Mobilizing current students.** We employ a current student to answer and manage inquiries that we receive about the program. A current student is perfectly equipped to answer questions from applicants. The student is also our most effective "salesperson" for COPHP.

STUDENT SUPPORT

We support our students at each stage of their journey through the complexities of graduate education and our program itself. These supports include:

- **Faculty advising.** We pair each incoming student with a faculty adviser. During the summer before school starts, faculty advisers reach out to their advisees to set up informal in-person conversations to talk about the program, public health practice, and the School of Public Health. We want to signal early on to the students that they have a faculty member to help them face the challenges and opportunities of our program. During the school year, faculty-student advising pairs meet from time to time. At the end of fall quarter of the first year, as students prepare to begin the practicum portion of the program, faculty advisers work with each student and the student's practicum site supervisor to make sure the practicum contract accurately describes the expectations of both the site supervisor and the student. Faculty advisers also work with students to identify capstone project strategies and options. It is important to note, however, that students are free to choose a different faculty member for their capstone advisers.
- **Peer mentors.** We assign second-year peer mentors to our incoming students. First and second year students work in pairs to talk about the program. The second year students are a great source of moral support as the first year students address the demands of COPHP.
- **Staff advisers.** All manner of administrative issues can arise for both first and second year students. We make sure our staff members are highly accessible and

expert in issues concerning class registration, tuition payments, graduation requirements, support for field work, scheduling meeting space, *etc.*

FACULTY SUPPORT AND RECRUITING

We recognize that our most important asset is our faculty. Just as PBL can be arduous for students, it is similarly challenging for faculty. All faculty members have competing demands on their time and creative energy, and many are employed in public health “day jobs”. It is therefore essential to our success to keep faculty well supported. Some elements of that support are:

- **Administrative staff.** We have staff to help manage administrative details of the academic program, including registration, room scheduling, admissions, orientation, graduation, and other events in the academic cycle. Together, they act as a teaching assistant team to support all faculty, as opposed to having individual teaching assistants (TAs) for each class. This strategy makes us more efficient: our small class sizes would not support having individual TAs.
- **Faculty from the practice community.** We draw faculty from our own department, from other departments in our school, and from the local public health practice world outside the university. This faculty mix assures that our cases are based on real issues both within academe and in the outside practice community. It also allows us to maintain expertise within our faculty from across the range of academic disciplines necessary to crafting a public health practice curriculum. Our diversity of faculty is a central feature of our program. COPHP faculty appreciate getting to know and work with colleagues across the range of academic disciplines. They draw energy from each other and they trade approaches to teaching in COPHP, especially related to PBL.
- **Faculty training and the faculty handbook.** Our longest-standing faculty participated in a formal two-day training on the PBL pedagogy. We train newer faculty as we recruit them, with mini-sessions as part of our monthly faculty meetings. We also build longer PBL refresher sessions into our yearly faculty retreat agendas. Finally, we have a detailed faculty handbook that serves as a short textbook on teaching with PBL, customized for our program.
- **Emphasis on education at faculty meetings.** We spend the bulk our time in monthly faculty meetings talking about adult education, pedagogy, and teaching

public health practice. This stands in contrast to faculty meetings in other settings that can get bogged down in administrative issues. This emphasis on education makes the meetings lively, energizing, and fun. We have very strong turnout for our faculty meetings and we use the time to keep our teaching fresh and our inter-faculty relationships strong.

- **Faculty retreats.** We conduct annual faculty retreats. We carefully plan the agendas and, as with the monthly faculty meetings, the emphasis is on education. We also take this time to recognize faculty who may be leaving the program and we often prepare an award for one of our many community partners who support our teaching in the field.
- **Case editing.** When COPHP began, we had an in-house case editor. For mostly financial reasons, we do not currently have that function centralized, but we would be stronger as a program if we did. It is very helpful to have one person, with strong editing skills, to help keep some consistency across the cases in the many blocks. The editor can also keep track of all the public health topics in the blocks to be sure that we do not deal with the same topics more than once for any given cohort of students. These editing tasks require substantial effort, but when they are well done, they have a strong positive influence on the entire program.

INSTRUCTIONAL TECHNOLOGY

To function efficiently, our program needs an Internet-based instructional technology platform to manage case documents and student written work. We currently use Canvas as our platform. Our students write five-page papers on their learning—sometimes twice per week—and post them to Canvas, the University's Learning Management System platform. The platform provides a single place to go to find student papers and allows review to occur on a very timely basis. Our students read each other's papers, as does the faculty facilitator. The faculty facilitator comments on the student papers and returns them to the students either *via* the Canvas site or email. Presenting all the papers in one place also allows students to quickly and easily refer back to any of the papers from the group at any time. Often our students review papers their peers have written for previous blocks.

EDUCATIONAL EVALUATION

We care intensely about the quality of teaching in COPHP. We consulted with the Center for Teaching and Learning (CTL) on the UW campus to help us think about how to evaluate our teaching. The center helped us to understand that there are at least six ways to evaluate graduate student instruction. We chose to focus on the following three methods:

- **Peer review.** We set up a schedule whereby our faculty review each other's teaching. The schedule works so that that each faculty member is reviewed at least every other year, and each faculty member acts as a reviewer at least every other year. The faculty pair meets before a class to talk about what feedback the reviewee would like to receive. The reviewer observes a class, and then the pair meets again for a feedback session. The reviewer may also review some of the feedback that the reviewee gives on student work. It is important to note that our faculty say that they gain important insights about teaching in both their roles as reviewer and reviewee. Our guides at CTL urged us to conduct this entire process *via* conversation—to have no part captured in writing. If we add a written component, the process could become too burdensome and discourage us from maintaining the review process. That said, if a faculty member under review is up for promotion or needs a review as part of the school's instructional evaluation process, we are able to prepare written documentation of our peer reviews.
- **Self-reflection.** An important element of teaching evaluation is self-reflection. We encourage all faculty to take 20 or 30 minutes after the completion of a block to reflect on how they think the block went. They should consider strengths, weaknesses, and ideas for change. They may sit at a computer and take notes as they think about the block; this approach helps organize their thinking and produces a document to refer to when planning the next block. This is also a good time to make revisions to cases, while they are fresh in mind. We encourage the faculty to do this reflection *before* they read the results of our student feedback survey (see below).
- **Student feedback.** We survey our students at the end of each block to gain the student perspective on the quality of our instruction. We use a questionnaire that CTL designed for us. (See Appendix D.) Students take the survey immediately

after the completion of each block *via* an on-line platform. The survey focuses on both the quality of the block itself as well as the quality of the instruction of the faculty facilitator. It asks for numerical ratings on several elements of the blocks and allows space for students to write comments. In recent years, we added some questions about classroom climate in relation to race and culture. In our experience, students make extensive and thoughtful comments that help us to keep improving our program. We also have the resources for faculty to request a very simple mid-block survey of the students. This allows faculty facilitators to identify any elements of the block that could change before the block is over. While we value student feedback, we avoid using the term *course evaluation* when referring to the student feedback survey. Student feedback is only one element of educational evaluation.

INSTITUTIONAL RELATIONSHIPS

As a program aimed at training practitioners, we seek partnerships with local public health agencies to keep our teaching grounded in the realities of the public health practice world. We want to expose our students to real world problems, and we seek experiences for our students where they work on real issues for community-based organizations. Working in the community puts pressure on both students and faculty to perform to high standards as our reputation depends on the quality of our work. We need a solid reputation in the community to teach the way we do. The following are three ways that we connect with our community partners.

- **Practicum.** One of our faculty members works to find practicum opportunities for our students. While most practicum assignments are located at our local health department, some are with smaller agencies in the community. See Chapter 8 for more details.
- **Capstones.** Similar to the practicum experience, we help our students find interesting and useful work that will fulfill their capstone project assignments. We have had students work in all manner of settings both domestically and abroad. See Chapter 7 for more details.
- **Case assignments.** We are increasingly using assignments from actual community-based organizations as part of our regular PBL class work. See

Chapter 10.2 for more information.

ANTI-RACISM AND SOCIAL JUSTICE STRATEGIES

Our website clearly states that:

COPHP faculty and students are dedicated to making sure everyone has the opportunity to live healthy, productive lives. The program recognizes that health inequities are created by institutions and policies that deliver health resources based on socioeconomic status, race, ethnicity, gender, and sexual orientation. Our mission is to work collaboratively with communities to address these barriers to improve health and well-being for all.

We know from experience that our commitment to social justice is a main attraction of the program. As such, it is a central part of our approach to teaching. We do several things to hold true to these ideals:

- **Seminars and workshops.** We sponsor seminars and workshops on race and equity, anti-racism, anti-classism, and ending institutional racism. We use some of our regular seminar sessions to address these issues, and we conduct a weekend-long workshop once every year for intensive training. We often engage outside speakers and trainers, but we endeavor to have much of this work led by our students. See Chapter 10.9 for a discussion of a student-founded anti-racism effort.
- **PBL cases dealing with anti-racism.** We intentionally build anti-racism concepts into many of our cases, and, thanks to student diligence, this topic comes up in nearly all cases. The very first case that our students work in the program, during orientation, is a practice case that concerns anti-racism, institutional racism, white privilege, and classism.

ALUMNI RELATIONS

We maintain a database of our alumni. Many programs do this as a way to raise money, but our purpose is to create opportunities for our alumni and current students to network and to build their careers. When our students approach graduation, we put them in touch with alumni located where the soon-to-be graduates intend to launch their careers. We also offer the same service to alumni

seeking to make career changes. We invite alumni to participate in our admissions process. And we let alumni know when we have openings for teaching in the program. We currently have five alumni teaching in the program. The fact that we maintain such close relationships with former students is one of many indicators that they value COPHP's customized approach to prepare them for careers in public health practice.

CONFLICT OF INTEREST

The author confirms that author has no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.



Building a Culture

A. Gita Krishnaswamy* and Amy Hagopian

University of Washington, Seattle, USA

Abstract: Faculty of the Community-Oriented Public Health Practice program (COPHP) continually refine our curriculum to support an anti-racist, inclusive program culture. COPHP faculty draws the most from successful contributions to their own learning, including trial and error, expert and personalized coaching, clear social and cultural expectations, and constructive feedback. COPHP “community of learners” begins to take shape at the first contact prospective students make with the program, as faculty and a graduate student coordinator assess applicants’ potential to succeed in COPHP and in using the problem-based learning (PBL) method. Program culture continues to evolve through a busy orientation week designed to prepare new students for the unique demands of PBL and introduce library research methods and the roles of public health workers. Perhaps the most important orientation week activity is “Case 0”, a practice PBL case through which students learn about the radical history of public health, adult learning theory, and institutional racism. In analyzing the case, students are exposed to a classroom culture that support formative, reiterative learning as well as self-reflection and equitable team roles and processes. The combination of COPHP’s dynamic learning culture, social justice orientation, and student leadership strives to support student activism and community service. In the recent years, COPHP students have helped form two important student-led organizations that address racism, oppression, and reproductive rights. Graduates tend to maintain strong relationships with the program, faculty, and local organizations, further extending COPHP’s vital community.

Keywords: Admissions, Anti-racism, Collaboration, Culture, Graduation, Group skills, Multi-cultural, Norms, Orientation, Personal growth, Service, Student-driven.

* **Corresponding author A. Gita Krishnaswamy:** University of Washington School of Public Health Seattle, WA, USA; Tel: (415) 309-5202; Fax: (206) 543-3964; E-mail: krishna2@uw.edu

INTRODUCTION

COPHP's problem-based learning (PBL) environment supports intellectual growth by providing opportunities for both individual and team-based learning in an intense environment. The group dynamics and cohesiveness of PBL influence both students' learning experience and the outputs of their learning processes. We work to create a strong internal community with shared values and practices—a dynamic, critical learning culture that models and prepares students to participate effectively in public health practice.

The PBL method is particularly significant for cases that involve students in community-based projects with requested deliverables. Our explicit commitment to developing an anti-racist program culture shapes our individual facilitation practices and other program structures. We are striving to evaluate where we sit on a continuum from a mono-cultural, exclusive culture to a multicultural and fully inclusive one. We believe this effort is essential to our roles in educating the future public health workforce. The commitment to social justice drives our emphasis on health inequity and the social determinants of health. We continually refine our curriculum to give students tools of humility, critical analysis, and compassion to ensure that public health is, in fact, the science of social justice Richard Horton in *The Lancet*, from 2011.

CONTENT IN CONTEXT

During the 2015–16 academic year, several new faculty members joined the COPHP program due to an expansion in class size and some retirements. This unprecedented expansion necessitated the first, formalized orientation to welcome new faculty to the program's core values, collaborative community, and unique learning culture. Orientation participants consisted of faculty new to COPHP, experienced COPHP faculty, and current students.

At the start of the orientation, participants were asked to think about something they had learned to do well and then to write down what helped them learn it well. Some recalled when they learned to bake or swim for the first time; others described the process of learning how to mediate conflict or communicate complex mathematical concepts to a general audience.

When asked to share the factors that helped them learn, participants eagerly created a long list as a group. The list below shows some factors shared by multiple participants:

Having a mentor or role model	Fun and enjoyable
Coaching from experts	Culturally proficient learning environment
Learning from mistakes	Learning created social connections
Trial and error	Social or cultural expectation
Intrinsic motivation	Need
Practice	Desire to help others
Survival	Personalized coaching
Constructive feedback	Supplemental resources from experts
Safe space to experience failure	Heterogeneous team
Timely and actionable feedback	Collaboration and small group activities
Positive reinforcement	Teaching others
Consequences for not learning	Necessary to advance a skill

When prompted to think about what *didn't* make the list—in other words, what factors are less conducive or prohibitive to learning—participants were quick to note that textbooks, worksheets, lectures, force, high-stakes assessments, and lack of relevance or purpose did not facilitate their most significant or memorable learning experiences. In addition, the student participants emphasized the ways that racial micro-aggressions, lack of student-endorsed group norms, imbalanced student-student and student-teacher relationships, and a normative academic culture catering to dominant groups disrupt learning for individually affected students and reduce group collegiality.

This opening activity reveals what we instinctively and empirically know about relevance and “learning by doing” and also affirms that *content* cannot be separated from the *environment* in which it is learned. At its most successful, PBL not only exposes students to public health competencies through real world, relevant learning experiences but also necessitates a classroom environment that reflects many of the factors our orientation participants listed.

Apart from the classroom environment, COPHP’s overall program culture includes defining characteristics and expectations of its community, including:

- Opportunities for personal growth and accountability to our commitment to

developing an anti-racist culture, both internally and in our relationships with community partners.

- Student involvement in key program milestones, including new student orientation, admissions, and graduation.
- Institutionalized service and leadership on issues of social justice in the department, school, university, and local community.
- Skills and competencies in working together as an effective group and in effectively leading groups.

CREATING A COMMUNITY OF LEARNERS

While each cohort of students develops its own unique culture, we expect all members of COPHP community—faculty, students, and staff—to uphold certain core expectations and practices. We start developing these characteristics in students before they ever arrive on campus.

The Admissions Process

We begin the work of assembling the right group of students each year during our pre-admissions process. We request that applicants speak to our program coordinator and at least one faculty member before submitting their applications. These are not formal interviews; instead, we use them as a two-way vetting process to determine mutual fit. During these conversations, we assess applicants' potential to succeed in the PBL environment, their alignment with the program's anti-racist commitment, and their existing knowledge of the program's pedagogy and culture. We also encourage applicants to visit the university to observe a PBL class in action. Through these activities, we maximize the chance that applicants "know what they are getting into", and that we have explicitly communicated our values to those wishing to join our community.

The program coordinator—usually a graduate student assistant position for a second year COPHP student—is invaluable to this process. This individual works very closely with all applicants who make contact with us and helps them navigate our admissions process. We greatly value the program coordinator's assessment of each applicant, which provides a qualified perspective as a student-staff member who has worked closely with most applicants. In recent years,

faculty have invited student representatives from CORE (see below and Chapter 10.9) to assist during the admissions process.

We apply no initial filters to students' applications, but we tend not to favor "blind" applications from students who have never attempted to contact a representative of our program. Multiple faculty, student, and alumni representatives review a subset of applications, giving particular weight to criteria that assess applicants' leadership potential, social justice orientation, understanding of PBL, and likelihood to remain in public health practice and/or work with underserved populations (rather than pursuing an MPH as a "stepping stone" to another degree or career). As the admissions committee makes acceptance decisions on individual applicants, we also review the composition of the cohort we are assembling for racial and socioeconomic diversity, a wide breadth of academic and work experience, and life experiences that will contribute to the public health field and the shared learning process in PBL.

Once accepted, students receive personal phone calls from faculty, foreshadowing the accessibility and involvement of COPHP faculty throughout the life of the program. In the spring accepted students are invited to attend a Visiting Students' day where they interact with COPHP faculty and students, visit a PBL session, receive an orientation to the School of Public Health and the Department of Health Services, and have an opportunity to ask questions. During the summer the program coordinator fields questions from interested and accepted students.

Arriving at the UW

While our new graduate students typically spend the summer wrapping up work or enjoying some travel before embarking on a new adventure, we spend the summer preparing for a weeklong orientation that immerses new arrivals in the life of a COPHP student. Over the course of orientation week, students begin forming relationships with each other and with second year students and faculty during information sessions, social events, and a preview PBL session. We make every effort to provide a personal welcome to new students when they arrive in Seattle and encourage advisors to meet one on one with advisees before the school year starts. Faculty, as well as second-year students, host a "Tips and Tricks"

session; the student-led sessions show trust in our second-years as mentors. Second year students and/or alumni facilitate a library and research orientation session on conducting academic research and using citation software; again, entrusting experienced students to facilitate this session signals our trust and respect for students' mentorship abilities. Finally, we arrange a program potluck and happy hour get-togethers (See Appendix E for an example of an orientation week schedule).

Case 0: Heading Upstream, Together

Perhaps the most important activity that students experience during orientation week is what we have dubbed Case 0, a practice PBL experience that immediately immerses students in the process of analyzing problems and developing learning objectives as a team. Working with a practice case—students are not evaluated on the work they produce nor held to specific expectations—reinforces a classroom culture that supports formative, reiterative learning. Students' initial work on Case 0 may be below the level we eventually expect from them, but we favor growth over a one-time display of mastery. When analyzing Case 0, students also experience self-directed learning by making decisions (within reason) about their desired length for their first research paper, due dates and times, and expectations around depth and scope. New COPHP students tend to display some hesitation or try to seek approval from the faculty facilitator during this process. By challenging students from day one to take control of some aspects their learning, we signal that we value and rely on student input in each day of class.

Over time, Case 0 has transitioned to focus on three main topics: the radical history of public health and its current role in protecting the public's health; adult learning theory and group dynamics; and institutional racism and other subtle forms of racism. Case 0 asks students to consider their role as future public health practitioners and demands that students consider the role of institutional racism and other forms of oppression in influencing health outcomes. In analyzing the case, students must acknowledge that to be successful in community-based work as individuals and teams, they must engage in consistent self-reflection and establish equitable team roles and processes. Subsequent cases during the first quarter revisit the themes established in Case 0, and in "exit interviews" during

the quarter, students have often commented on the importance of Case 0 in setting the tone for the quarter and the entire program.

Classroom Culture

Most students come to COPHP comfortable in traditional classroom hierarchies with faculty at the top. In PBL, students fill specific roles during each class and have to negotiate and select roles during longer group projects. Indeed, the student-directed PBL process necessitates a learning environment with specific norms and practices; ideally, faculty facilitate opportunities to build those practices intentionally, and the locus of control over the classroom culture shifts largely from faculty to students. While COPHP faculty still carry responsibility for guiding students toward course learning objectives and public health competencies, students themselves develop much of their culture in the classroom. Within the first month of the program, faculty shift the responsibility for class facilitation to students, immediately instigating their leadership development. For each class, a different student facilitator creates an agenda, develops a facilitation plan that helps students synthesize their learning, and fosters group participation.

During PBL cases and longer projects, students must put themselves in stakeholder roles (sometimes multiple stakeholders), which also supports a culture of student-driven, active learning. Students develop learning objectives for each case as a group, divide project tasks, decide on deadlines and project milestones, establish group norms, and hold each other accountable to specific group norms as well as the universal expectation that students work toward an anti-racist, inclusive culture. To do this with efficient, sustainable methods requires students to identify the best ways for their team to work together. Throughout each course, faculty facilitators pose metacognitive questions to help students self-assess their growth and areas for development as individuals and as a team.

Because students are not passive receivers of information in PBL, we evaluate them on their understanding of course concepts as well as the ways they contribute to the learning culture in the room. Many faculty ask students to submit academic and personal goals at the beginning of each class, and we provide feedback on their assignments such as whether we observe them moving the PBL

process forward, whether they support classmates intellectually and emotionally, and whether they adhere to the norms established by the group.

And—staying faithful to a culture that values student feedback—we provide regular informal and formal opportunities for students to provide feedback about facilitation, curriculum, and other pertinent issues as they arise. During a course, students may provide feedback in group discussions, mid-course feedback surveys, one-on-one meetings, and anonymous end-of-course evaluations that contain targeted questions on faculty facilitation of an anti-racist learning environment.

Student Leadership and Service

The combination of COPHP's social justice orientation and multiple avenues for student leadership has led to student activism and community service through the university and city of Seattle. Former UW Department of Health Services Chair Larry Kessler described COPHP students as "the ones you can always count on to 'show up'". COPHP students are often the first to volunteer for departmental or school-wide committees, and they show a high level of attendance at voluntary lectures and school events. Service learning through the formal curriculum as well as a strong spirit of volunteerism are integral components of our program culture.

Engaging in the PBL process gives students a unique level of ownership and commitment to their work. Many community-based projects that students complete, particularly in our community development courses, have required students to maintain some involvement with community partners well after the course has ended. For example, at the request of the partner agency, students have presented their work to local boards of health, presented evidence-based testimony to the Seattle City Council, prepared press kits, and facilitated meetings between local community-based organizations and their city councils. These activities have often required students to travel to rural counties and take on additional work while already engaged in new courses.

This level of additional commitment is most apparent during and after the health policy block in the second year. Each year, students write an American Public Health Association (APHA) policy resolution as a group assignment on a topic

ranging from migrant farmworker housing to removing mental health barriers for returning veterans. Students who wish to carry the resolution forward to the annual APHA meeting must continue to revise and polish the resolution for several months after the health policy course has ended. And they must attend and defend the resolution at the annual meeting itself. The APHA governing council has passed all of the student-written policy resolutions.

COPHP has also institutionalized some volunteer activities such as Seattle's One Night Count of homeless residents. The Seattle/King County Coalition on Homelessness organizes the one night count each January to establish a point-in-time count of the number of people who sleep outside. Each year, several COPHP students and faculty members participate together in this initiative, and at least one student volunteer will typically go on to serve as a team captain the following year. The count takes place during very early morning hours, which does little to dissuade student interest.

In recent years, two important student-led organizations formed under the leadership of COPHP students: the Committee on Racism and Oppression in Education (CORE) and the University of Washington Students of Public Health Engaged in Reproductive Rights (UW SPHERE). As discussed in Chapter 10.9 CORE has been instrumental in initiating our program's commitment to developing an anti-racist culture and has facilitated trainings on undoing institutional racism for students, staff, and faculty in the School for Public Health. UW SPHERE members play a leadership role in the university's "Sextravaganza", a weeklong series of educational and social events on healthy sexual practices, gender identity, and other topics to promote a sex-positive campus culture.

BEYOND THE PROGRAM

Perhaps one of the most significant student-led experiences comes at the very end of students' experience in the program: graduation. Students organize and plan their own COPHP graduation ceremony, which reflects that cohort's particular culture and is in fact that final PBL experience for students. Graduation planning is done by a core committee of students as well as various subcommittees involving nearly every student in the cohort. Faculty participate through monetary

sponsorship and informal speeches (and an annual musical comedy performance); the bulk of the event celebrates students' accomplishments and gives family and friends in the audience insight into the great scope of what students achieve through the PBL process and in a program that strongly values student voices and leadership.

Once our students graduate, many maintain strong relationships with the program. Our low student-to-faculty ratio and emphasis on community foster advising relationships that last well beyond the program. Alumni are eager to re-connect with other alums in the program and have organized periodic social gatherings in the Seattle area and at American Public Health Association annual meetings.

We also recruit alumni to participate on our admissions committee and contribute to the formation of each new cohort that joins COPHP community. Typically, we have to turn people away due to large numbers of alumni willing to serve on the admissions committee. COPHP graduates also serve as mentors to current students in a number of ways, including as practicum and capstone supervisors and informal advisers on many of these projects. Finally, several alumni have returned to the program as clinical and regular faculty. We view alumni interest and participation as an extension of the strong community students experience while in the program.

CONFLICT OF INTEREST

The authors confirm that they have no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.



The Handbooks

Brett Niessen* and **Kelly Gilmore**

University of Washington School of Public Health Seattle, WA, USA

Abstract: COPHP uses a series of handbooks to orient students and faculty to the program and to share the program policies and practices. The student handbook for the Community-Oriented Public Health Practice (COPHP) program describes a shared vision of expectations for students, faculty, and alumni. COPHP faculty members drafted the initial version of the handbook, which described the problem-based learning (PBL) process, expectations for student work, and information on capstone and practicum projects. Student coordinators have since developed three handbooks: a general guide for students, a resource about capstones, and an introduction for new faculty. This chapter summarizes the history, development, and purpose of the student handbook and a brief description of the faculty handbook and the capstone handbook. It also describes specific components that are included to facilitate PBL and community-building within the program; because students depend on each other for their learning in PBL, it is important to outline expectations for participation within COPHP community. The student handbook is available online to give prospective students the opportunity to learn what it means to be a part of COPHP community and decide whether the program is right for them. We encourage anyone creating a program similar to COPHP to engage students, faculty, and alumni in the process of creating such a document, which functions as a statement of shared values.

Keywords: Alumni, Community, Components, Coordinators, COPHP, CORE, Culture, Expectations, Faculty, Handbook, Online, Participation, PBL, PCE, Program, Prospective students, Recruitment, Successful, Values, Website.

BACKGROUND

Since the first COPHP cohort enrolled in 2002, it was clear that the program

* **Corresponding author Brett Niessen:** University of Washington School of Public Health Seattle, WA, USA;
Email: brettniessen@cardiaservices.org

needed a document to codify expectations for student work and participation. COPHP is built on the idea of community engagement within and outside of the program. The PBL process requires a high level of interpersonal skills, and—in common with real-life work environments—it can produce conflict and difficulty. The student handbook serves first and foremost as a guide to help students navigate the unique aspects of this program including:

- Expectations for student work and the PBL process.
- Guidance for getting the most out of faculty and peer mentorship relationships.
- Support for conflict resolution within the program.
- Standards for student relationships and partnerships with community agencies.

The initial handbook was long and distributed mainly in paper or over email; it covered everything from the PBL process to where students could register for classes and pick up their student ID cards. Over the years, the handbook has evolved into three separate handbooks, each with specific guidance on particular components of the COPHP program. These documents are:

- **Student handbook:** The student handbook has evolved from a catch-all reference for graduate school to a specific document about COPHP and the PBL process. It outlines expectations for student work, participation, mentor relationships, and community engagement. The current version still offers important information about student tuition, financial aid, and registration, but we have removed information about other campus resources to focus the handbook on COPHP experience, with links added as necessary to other university web pages. The student handbook is available publicly on COPHP website for prospective students to peruse as they consider the program.
- **Faculty handbook:** As the program has grown, so has the number of faculty. COPHP relies heavily on the use of clinical instructors—individuals actively working in the field of public health—and many COPHP faculty members have full-time jobs outside of academia. COPHP faculty handbook helps experienced faculty mentor these incoming and clinical instructors, whose contributions are critical to the success of the program. It covers the basics of PBL facilitation, case writing, grading, the academic calendar, student conflict resolution, and

expectations for student mentorship and academic advising relationships.

- **Capstone handbook:** COPHP capstone project is a major, year-long (and in some cases longer) undertaking by second-year students. In contrast to a thesis project, required by most schools of public health, COPHP capstone project requires students to work with a community, governmental, or academic agency to respond to a community need with a useful product. The capstone project requires careful planning as well as constant stakeholder engagement. For this reason, we removed capstone information from the general student handbook and created a separate capstone manual for COPHP students.

CREATING AND UPDATING THE HANDBOOK

It would be ideal for a new program to draft initial student and faculty handbooks using the PBL process with the first cohort and founding faculty. Use this opportunity to create a shared vision of student culture, participation, and expectations. Incorporating students and alumni into drafting and revising future versions of the handbook creates a living document that is responsive to the needs of students in the program.

In COPHP, yearly revisions to the handbook are supervised by the student program coordinator, a second-year student in a dedicated part-time graduate student appointee (GSA) position. This position, created during the 2005–06 academic year, provides the dual benefit of administrative support and a scholarship opportunity for the student.

As the main point of contact for current students, the student program coordinator is in a good position to lead the process of updating the student and capstone handbooks each year based on student and faculty feedback. In the spirit of community engagement, we recommend involving students, staff, faculty, and alumni in the updating process. Particular sections, such as guidance on faculty mentorship roles and expectations, should be revisited each year by faculty and students to determine if roles and expectations should be re-defined.

STUDENT HANDBOOK COMPONENTS

Each version of the student handbook includes the following sections:

- **Program-specific information:** This information helps students navigate the unique aspects of the COPHP program.
- **Program structure:** This section includes explanation and guidance on the program mission, goals, and values, as well as information on evaluation of student progress in relation to required program components such as PBL, seminars, practicum, and capstone.
- **Mentorship:** Mentors play a significant role in COPHP. Each first-year student is assigned a faculty and second-year student mentor. In the second year, students select their own faculty mentors to assist with capstone projects and also become mentors to one or more first-year students. The mentorship section of the handbook outlines roles and responsibilities for mentoring relationships and gives guidance and timelines about when to check in with mentors and mentees.
- **Governance:** This section defines the program director's role as well as the role of faculty and students in program governance and the admissions process.
- **The PBL process:** This section outlines the PBL flow from the student perspective, including expectations for online posting and participation and guidance on time management and PBL research techniques.
- **Expectations for student work:** Students are responsible for each other's learning, so it is important to outline expectations and responsibilities clearly. The expectations section covers postings (5-page papers posted to a program website); review of other students' postings; group discussion; group projects and products; work with community partners; research; student facilitation; and giving and receiving peer and faculty written and oral feedback.

LOGISTICAL AND PRACTICAL INFORMATION

Since the first version of the student handbook, we have removed most of the logistical information about the University of Washington, the Graduate School, and the School of Public Health. We still include the following information that is important and relevant for incoming students:

- **Financial aid:** Because we feel it is important to address cost and financial aid resources transparently, we have placed this section at the beginning of the student handbook. Cost has been particularly difficult for COPHP students since the Washington State legislature cut 50% of the University of Washington's state funding in 2007. As we write this book, in 2015, that funding has yet to be restored.
- **Registration:** COPHP students must register through a registrar within the office of Professional and Continuing Education (PCE). The process is different from registration elsewhere in the University of Washington, and somewhat awkward, so we have maintained this section in the student handbook.
- **Leadership:** This section outlines leadership at the university, school, department, and program level. We present the information as an organizational chart so students understand where the program falls within the school and university structure.
- **Program communications:** This section presents useful program calendars, listservs, email addresses, mailboxes, and websites. The program maintains a shared Google calendar for all classes, meetings, and events. Each cohort, alumni, and faculty member subscribes to a program listserv, and each student is assigned a UW email address and mailbox in the Department of Health Services. The program maintains a program-specific website with password-protected portals for students and faculty to post and access assignments.

COPHP STRUCTURE

The student handbook explains the roles of staff and faculty in the program. This information helps explain how COPHP is different from other graduate MPH programs.

Program Director and Staff Roles

Under the guidance of the Health Services Department chair and administrator, the program director has always been a faculty member as well. The director teaches PBL classes in addition to overseeing the budget, directing the admissions process, orienting and recruiting faculty, engaging with alumni, mentoring students, ensuring program consistency, scheduling and overseeing social events such as potluck dinners, new student orientation, and graduation. University staff

help manage the program and assist with student services, technology issues, and marketing. The student program coordinator, a graduate student assistant, markets to and recruits new students with a focus on seeking out underrepresented populations.

Student-to-Faculty Ratio

COPHP consists of six quarters across two years with one to two blocks per quarter. A faculty member facilitates each block class, which seven to nine students attend. All faculty, both tenured professors and adjunct faculty, are easily reached *via* contact information listed in the student handbook and on the program website.

COPHP's small student-to-faculty ratio is critical so that every student can receive the personalized attention needed to take an active role in class participation and projects. Faculty members work together to plan and conduct PBL cases for each block. For example, in the community development block, three faculty work together to partner with community-based organizations for our homeless youth case and public health departments for our rural public health cases. They write the cases, meet with the external partners, and determine what student projects would be most helpful for the organizations. Once the class gets started, faculty allow students to facilitate and initiate contact with the community organizations and health departments, then complete field work in preparation for a final group report and presentation. Throughout this process, faculty check in on facilitation plans with students and meet one-on-one or *via* email or phone to provide extensive feedback on writing and class participation. In evaluations, students frequently cite these close interactions with faculty, together with taking charge of their own learning, as key reasons they quickly improve as learners and public health professionals.

COPHP's Fee-based Structure

The low student to faculty ratio is expensive to maintain, and for this reason, COPHP became a fee-based program following the UW's loss of state-supported graduate education funds. The student handbook explains how the recession and subsequent state budget cuts prompted this change and makes clear that the

program is funded solely by student tuition. It also explains several nuanced outcomes of the fee-based arrangement in terms of graduate teaching and research assistantships, availability of electives from non-fee-based departments, financial aid, and increased costs. The handbook also explains options offered by the School of Public Health, such as graduate certificates in Public Health, Global Health, and Maternal & Child Health, including tuition information. As the handbook states, we encourage students to investigate how high costs limit access to education and health:

COPHP students and staff have been leaders in the fight against higher education cuts and in bringing the inequities faced by fee-based students to the school administration. We urge you as incoming students to continue to keep this issue visible in our academic community. One of our core values at COPHP is eliminating health and economic inequities—and access to higher education is a critical social determinant of both.

BUILDING COMMUNITY THROUGH SHARED VALUES AND NORMS

The student handbook lays out the mission, goals, and objectives of COPHP:

The mission of the Health Services COPHP is to prepare students to be problem solvers, advocates, and leaders in community health. Combining an active style of learning, rigorous academic preparation, and a commitment to social justice and community engagement, this two-year, full-time program equips graduates with the knowledge and skills to effectively address public health challenges.

A major benefit of creating the student handbook was getting all founding faculty members together in a room to brainstorm and create a shared set of values and norms for the program. The process addressed such questions as:

- How often should faculty step in during class?
- What should feedback and grades look like?
- How do the core components of PBL, seminars, fieldwork practicums, and capstone projects weave together to create COPHP?
- What is expected of faculty and students in COPHP classes?
- How can mentorship opportunities from second-year to first-year students, and

from faculty to students, help answer questions and pass on wisdom?

- How can admissions and hiring serve to create an inclusive and diverse student and faculty body?

As the program director, student program assistant, faculty, and other program staff meet to update the student handbook each year, they reflect on lessons learned and other updates. They lay out expectations for faculty mentors and advisers and suggest what information students should offer and seek out from their advisers. The same is true for faculty capstone advisers, who may not be the same as the first-year faculty adviser. The handbook also reinforces academic norms of the program. It presents expectations for students when they read, interpret, and divide up responsibilities from a case. For most PBL classes, students are evaluated on:

- The quality of postings.
- The quality of the research that goes into postings.
- Class participation.
- Written and oral presentations.
- Assignments and other products created for the cases.

Faculty are expected to provide extensive written and/or verbal feedback on individual writing assignments, group presentations and reports, and group participation and general guidance on what students are doing well and how they can improve. This form of qualitative feedback is a key element of CPHP, as opposed to wholly quantitative exams—epidemiology and biostatistics blocks notwithstanding.

HANDBOOK CHALLENGES AND SUGGESTIONS FOR IMPROVEMENT

One problem with the student handbook is that many students say they don't read it—undoubtedly because it has been very long. By making most information link-based and available on CPHP website, we have reduced the length of the handbook from more than 100 pages to 34 currently. Students can now read the highlights and click on hyperlinks when they require more in-depth information about a topic. There are also plans to make the student handbook more accessible

and reinforce its importance several times during a student's experience: as applicants, accepted students, new students at orientation, during initial block classes and seminars, and as contributors to annual revisions. With each year, the student handbook will continue to evolve as a reference document so that students can better understand how to succeed and thrive in COPHP. We recommend it as a key element of COPHP's success.

The principal challenge with the **faculty handbook** is keeping it up-to-date. With an evolving set of PBL cases, new policies and practices discussed at monthly faculty meetings and in an annual faculty retreat, feedback from the faculty peer review process and the student feedback process, there is a wealth of material for faculty to cover and to reference. Periodic updates of the faculty handbook (at least every 2–3 years) are necessary for an informed faculty.

CONFLICT OF INTEREST

The authors confirm that they have no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.



The Capstone

Amy Hagopian*

University of Washington School of Public Health Seattle, WA, USA

Abstract: All MPH programs accredited by the Council on Education for Public Health are required to provide a culminating experience in which students demonstrate their skills and integrate knowledge. In the MPH in Community-Oriented Public Health Practice (COPHP), this experience is the capstone. The idea is to apply theoretical knowledge learned in the classroom to a situation that mimics the demands of professional practice. Faculty coach students through this project, and they assess at its conclusion how well students have mastered the identified body of knowledge and whether they have acquired the competencies required to be public health professionals. For their capstone projects, students establish relationships with clients—typically government public health agencies or community-based organizations—who have real work to do and can support such a learning experience for COPHP students. We have developed an approach to the capstone that allows students a wide range of choices of types of projects while providing a highly structured and motivating environment in which to complete the work. To help our students produce strong culminating projects, we have developed strong expectations and norms. We also apply our own tracking and organizing tools and adhere to our clearly defined philosophy and culture.

Keywords: Accreditation, Capstone, Client, Culminating project, Literature review, Research, Thesis.

INTRODUCTION

The Council on Education for Public Health (CEPH) requires MPH programs to provide a culminating experience that requires each student “to synthesize and

* **Corresponding author Amy Hagopian:** University of Washington School of Public Health Seattle, WA, USA; Email: hagopian@uw.edu

integrate knowledge acquired in coursework and other learning experiences and to apply theory and principles in a situation that approximates some aspect of professional practice. It must be used as a means by which faculty judges whether the student has mastered the body of knowledge and can demonstrate proficiency in the required competencies”.

In COPHP, our culminating experience is called a capstone, and it requires each student to establish a relationship with a client organization that wants work done and is prepared to provide a synthesizing learning experience for the student. These organizations are typically government public health agencies or community-based organizations. We have developed an approach to the capstone that allows students a wide range of choices of types of projects while also providing a highly structured and motivating environment in which to complete the work.

COPHP faculty coach students both individually and collectively through the process of evaluating and selecting their projects. We rather deliberately herd students through the capstone experience by employing several cohort-wide milestone deadlines and tracking tools, and we encourage students to notice each other’s progress and struggles along the way. The reward for all this collective attention to the capstone is that almost all students complete a satisfactory project on time.

As our cohorts have grown over the years, we have developed the role of “capstone director”. This person establishes mechanisms to track students as they move through the milestones, identifies any individual difficulties, and manages presentations at both mid-point (January) and graduation (June).

CAPSTONE *VERSUS* THESIS

COPHP founding faculty felt strongly that a culminating project for a practice-oriented degree should be, well, practice-oriented. In a practice-oriented program such as ours, it would be inappropriate for students to think up independent research projects to be performed in the privacy of the library or a laboratory. This is why each COPHP student pursues a capstone and not a traditional thesis. A capstone, the way we define it, is conducted with an organization that is eager to

employ the results to improve its operations. Students are expected to define the bounds of the project in negotiations with client organizations, and in each of these arrangements, the student and the client both sign an agreement that spells out deliverables. COPHP faculty are encouraged to coach students in how to interact effectively with the client organization, improve time management and writing skills, and think through large projects with many moving parts.

Another differentiation between a thesis and COPHP capstone is that the supervisory committee for the capstone consists of a single faculty member and the site-based mentor (representative of the client organization). In a traditional MPH thesis, the committee consists of two faculty members.

Despite COPHP approach of collectivizing the experience so that students are shepherded through the capstone in a supportive way, we still have many anxieties to manage. Much can go wrong, with significant implications for the student: the client organization might have fiscal trouble and stop the project; the executive director or another principal could feel threatened by the project (such as when an evaluation reveals cracks in the organization); the mentor assigned to the student could leave the organization or lose interest in the project; human subject approval may be held up long enough to significantly delay data collection; recruiting difficulties for subjects could crop up; and so on. We try to help students understand that these are routine problems in organization-based projects and that they are part of the learning process. This is accomplished by following the timeline outlined below.

THE TIMELINE

On or about December 1 of their first year of COPHP, we introduce the capstone to students in a formal way. In their seminar class, we assemble a panel of alumni who have completed a variety of capstone projects to talk about their experiences. In our most recent session, we showcased an international project, a project in a public health department, a public school-based project, a project with a non-profit organization, and even a project that proved to be somewhat challenging to the student because the client organization was disappointingly disengaged. (Clearly, the best projects are those whose sponsoring organization assigns an

accomplished professional as a strong mentor; regrettably, this doesn't occur in every case).

To help students think about project selection, we provide a tool with an empty grid with skills along the vertical dimension and topics across the horizontal dimension. Students are encouraged to think about the skills they'd like to develop (such as data analysis, evaluations, working in a large organization) and the topics that attract them (racial equity, sex education, labor union organizing, *etc.*). The process of finding a client organization during the first year is not a linear one—it requires some fumbling around, some bravery (to seek informational interviews), and some luck.

We pull together first-year students during their winter quarter in a session or two to hear what they're thinking about their capstone preferences (skills, topics, geography, organizations they'd like to explore, *etc.*), and fellow students and faculty offer suggestions.

For each cohort, the capstone director posts a Google spreadsheet where students can fill in information about their capstones—the faculty adviser (not necessarily the same as the first year adviser), client organization, site supervisor, working title, and deliverables—as things develop. Faculty can check the spreadsheet, and students notice each other's progress (another motivator). We also use a Dropbox website to deposit deliverables along the way.

Capstone proposals are due on Labor Day for students who have completed their first year of classes. Our quarter system starts in late September, so many students and faculty members spend their summer “vacations” completing and reviewing these proposals. Other students propose projects that require significant work in the summer months (travel to Bangladesh, say). These students must submit their capstone proposals much earlier—certainly no one would be allowed to travel abroad on a capstone project without a completed agreement. Some students also require approval from the University of Washington human subjects research office. No projects involving human subjects research can start without this approval. Once the proposal is completed, students have a month to fine-tune their negotiations with the capstone client and submit a signed agreement by October 1.

The next collective milestone is the completion of a formal literature review. Before we instituted this requirement of all students, we found many were skipping the completion of a formal, rigorous, and academically sound literature review. We wanted to signal that while this is a practice-based degree and project, it must still be grounded in academic research. The literature is rich with both pertinent theory and descriptions of practice-based case studies. We found students sometimes didn't notice this resource until they were nearing the end of their projects and realized, "Oh yeah, I'm supposed to include a literature review in my report, I'd better do one of those now". The completion of an analysis of the literature should *inform* the design and conduct of the project, not just pose another hoop to leap through.

In January, we schedule a series of lunchtime "Works in Progress" (WIP) hours during which students present their capstone progress to their fellow students and faculty. Students use the WIPs to pose questions, seek advice, and practice talking out loud about their projects. These presentations pose an opportunity to focus attention and provide motivation for those who might have lost momentum on their capstone efforts.

First drafts of project reports are due on April 1, with final papers due in mid-May. We schedule a full day of capstone presentations in June, the day before graduation. We had experimented with other schedules but settled on presentations the day prior to graduation because we found we could include families who would travel to Seattle for the ceremony. Having parents and aunts and brothers and boyfriends and wives and sisters and cousins in the audience lends a certain gravitas to the occasion.

We also strongly encourage the capstone clients to come to hear these presentations; they always enjoy the presentations of students in addition to the ones who have been working directly with them. This event serves the additional purpose of building support for the program among our client organizations. (Students are expected to present their projects to the client organization in their own home setting, as well).

These presentation days are organized along the lines of a professional association

conference. We cluster the projects in groups of about five around a similar theme (“work in schools,” or “health promotion campaigns”) and give students about 11 minutes to present, with 3 minutes for questions.

We also encourage them to submit abstracts of their work to the American Public Health Association and its Washington State affiliate, along with other professional organizations, for conference presentations. Some faculty are enthusiastic about encouraging publication of final projects in academic journals, and several of our students have published their work— despite it being of a “practice” nature.¹

THE CAPSTONE HANDBOOK

We have a fairly detailed capstone handbook with all expectations clearly spelled out, along with deadlines, forms, and nuggets of advice. The handbook has been with us since nearly the beginning of the program, and we revise it fairly frequently. For example, the expansion of Internet-based tools has changed how we do things.

The appendix to the capstone handbook includes several evaluation forms:

1. The client’s evaluation of the student’s work.
2. The faculty member’s evaluation of the student’s work.
3. The students’ evaluation of their own work.
4. The students’ assessment of the client organization as a capstone site (for future student consideration).

We maintain an open list of all our students’ capstone titles, by year and author, on our website. (We’ve also organized the list by organization, so that future students can see where students have worked before them, which can ignite their imaginations and prompt networking).

ASPECTS OF SUCCESSFUL CAPSTONES

COPHP faculty used a brainstorming process to generate a list of aspects of a successful capstone project. Following is what we learned about the elements of a

successful culminating experience in COPHP:

- The student has an active role in the project and is genuinely interested in the topic.
- Expectations of students and faculty are clear at the start. For example, are there issues over which a party can be “fired?”
- The project committee works well together, enjoys meetings with the student, and is on the same page.
- Projects start with an approved written proposal from the whole committee.
- Students understand the incentive systems that faculty face—for example, that faculty aren’t credited for advising until students finish.
- The site adviser is actively engaged.
- Both the process and product associated with the capstone are valuable to the sponsoring organization.
- The research question is precise, clear, answerable, important, and publishable.
- Students meet with the *whole* committee several times.
- The project plan is realistic for the time allotted, and a back-up plan is in place for potential problems.
- Students read the thesis or capstone products of successful graduates as preparation to planning their own work.
- Students complete a thorough literature review *before* data collection tools are designed and as the research question or program is being developed.
- Human subjects requirements are well understood and in place in a timely manner.
- There is elegance to the methods, with a clear and concrete process.
- When students write their proposals, they include blank “table shells” to illustrate how they will present and analyze data to answer research questions. This ensures that data gathering tools will include required variables and provide necessary information.
- The capstone requires both quantitative and qualitative skills.
- Students may make creative and independent use of secondary or available data—not everyone needs to collect primary data.
- The project has a clear conclusion.
- The project involves innovation—the student brings something new to the

project.

- Process deadlines are meaningful and motivational.
- No laws or important rules are broken.
- When the project is conducted under stressful circumstances—or in an organization under stress—lots of faculty support is required. Likewise, students from stressed backgrounds, such as families with no academic tradition, will need extra support.
- The capstone encourages activities after it is completed.
- The capstone is a resume-stuffer, but it is not so burdensome as to be life-defining.
- Students are pushed beyond their current comfort area.
- The capstone turns into a job, or at least it builds relationships that will lead to future projects.
- There are policy implications from the findings of the project.
- Students learn about their own strengths and weaknesses.
- Time is scheduled for presenting works in progress.
- Sufficient time is allocated for final capstone presentations, with appropriate audiences.
- Students are encouraged to write publishable projects and then publish them.

COPHP approach to the capstone allows students a wide range of choices of types of projects while providing a highly structured and motivating environment in which to complete the work. The strong expectations, norms, and tracking and organizing tools add to the program's clearly defined philosophy and culture.

NOTES

¹ Academic publications include Hagedorn J, Campe J, Gilmore K, Stahl N, Sousa C. News items associated with capstone projects have also been published.

CONFLICT OF INTEREST

The authors confirm that they have no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.



The Practicum

Karen Hartfield*

University of Washington School of Public Health Seattle, WA, USA

Abstract: The MPH in Community-Oriented Public Health Practice (COPHP) supports a robust practicum program through a formal partnership with its local health department, Public Health—Seattle & King County, that provides students an opportunity to integrate academic training and practice within a metropolitan health department setting. This arrangement began in 2003, when the University of Washington School of Public Health and Community Medicine and the Public Health agency received a one-year Associated Schools of Public Health “academic health department” grant. Since then, the health department has served as a teaching institution for COPHP students and a venue to train students on-site in real-world public health practice. COPHP student and faculty linkages provide a vehicle to enhance the public health workforce through resource sharing and technical assistance, and have expanded public health department staff opportunities to conduct community-based public health research and projects with UW faculty. Nearly all first year COPHP students are placed in practicum assignments at Public Health that complement their coursework. COPHP pays for a part-time practicum coordinator who is a Public Health employee and a COPHP graduate. The coordinator solicits practicum opportunities from Public Health staff, reviews projects for feasibility and appropriateness of skills, oversees students’ self-assessments, and works with site supervisors to initiate the practicums. Students work closely with faculty advisers throughout the process. Practicum projects include community assessment, health education, program planning and evaluation, policy development, and community mobilization. The service learning experience has been beneficial to Public Health, COPHP students, and the greater King County community.

Keywords: Academic health department, Employment, Experience, Faculty adviser, Learning contract, Networking, Partnership, Practicum, Project, Self-assessment, Site supervisor.

* **Corresponding author Karen Hartfield:** University of Washington School of Public Health Seattle, WA, USA; Email: Karen.hartfield@kingcounty.gov

INTRODUCTION

A practicum is an essential element of any MPH curriculum and especially of COPHP. Council on Education for Public Health guidelines stipulate that accredited institutions include a practice experience requirement for all students prior to graduation. While classroom education is essential to developing robust skills in core public health areas such as epidemiology and policy development, the practicum experience provides an opportunity to apply classroom learning in real-world settings. When students ask, “Why do I need to study biostatistics if I’m planning to be a health educator?” they usually need not look further than their first-year practicum experience.

In COPHP, problem-based learning is a powerful teaching method designed to prepare students for the work environments they will encounter in governmental and community-based agencies. Given that focus, we wanted to provide a robust practicum program that guaranteed students a comprehensive and well-mentored public health practice experience.

PRACTICUM PARTNERSHIP

Our practicum program is driven by a formal partnership between COPHP and Public Health—Seattle & King County (Public Health), a large metropolitan health department providing the full range of local public health services. Public Health provides prevention-oriented programming and primary care services. The agency partners with community-based organizations to directly provide, as well as advise on, public health initiatives and services. These community connections provide additional networking opportunities for practicum students. Public Health has a strong investment in public health research and a long history of academic-practice collaborations, including a formal “academic health department” program. In 2003, motivated by the Institute of Medicine *Future of Public Health* report urging more academic-practice linkages, Public Health and the University of Washington jointly applied for and received a one-year Academic Health Department grant from the Association of Schools of Public Health (ASPH – now known as the Association of Schools and Programs of Public Health, ASPPH).

Public Health envisioned its health department serving as a teaching institution for public health students, in the same way that the county hospital serves as a teaching hospital for the university's medical school. The partnership would also allow the health department to train students on-site in real world public health practice, enhance the public health workforce through resource sharing and technical assistance, and conduct community-based public health research with UW faculty. The UW shared many of the same partnership goals, and beginning with the ASPH grant, COPHP made a major investment in student training.

Through a unique arrangement with Public Health, nearly all first year COPHP students are placed in practicum assignments at Public Health that complement their coursework; less than 5% of practicum placements are in other community-based organizations. COPHP pays for a part-time practicum coordinator who is a Public Health prevention specialist and a COPHP graduate. Practicum projects include community assessment, health education, program planning and evaluation, policy development, and community mobilization. All students are mentored by master's level staff. The result is a service learning experience that is mutually beneficial to Public Health, COPHP, and the King County community. COPHP students have built a strong reputation with public health staff over the years. They are seen as having a strong work ethic, commitment to social justice, comfort with assignments that entail some ambiguity, and aptitude for working in teams. With these qualities in high demand, there are always more practicum projects available than students.

The practicum program benefits both partners. On the university side, our students are taught to apply what they've learned in the classroom. On Public Health's side, students import new ideas and skills to Public Health. And the program also provides Public Health staff with opportunities to enhance their skills in coaching, mentoring, and supervision. In many instances, the practicum has turned into a capstone, part-time employment, or fulltime employment post-graduation, as Public Health frequently hires COPHP graduates to continue infusing their programs with new ideas and the latest skills in community-based public health.

HOW IT WORKS

Organizing the practicum experience begins before our students arrive on campus and continues through the fall quarter. The following steps are involved:

1. The Public Health practicum coordinator solicits practicum opportunities from Public Health staff two months before students arrive on campus. Public Health staff complete a detailed project description including learning objectives, project activities, project deliverables, and essential and desirable skills. (See Appendix F for a sample project description). COPHP enrolls 24 students each year, and the number of practicum opportunities has steadily grown. Public Health is usually able to generate about 35 projects.
2. The next step is to refine the project descriptions. The Public Health practicum coordinator reviews each project for feasibility and appropriateness of content and skills. For example, if a project requires knowledge of a statistical package, the practicum coordinator meets with the potential site supervisor and helps him or her refine the project to make it appropriate for a first year MPH student's skills and knowledge.
3. During the first two weeks of the quarter, the practicum coordinator meets with the students to explain the practicum requirement and process. The students complete written self-assessments (see Appendix G, Self-Assessment Survey). Students describe their greatest strengths and weaknesses and identify their public health-related skills and interests. This information is used in two ways: first to assure practicum opportunities are aligned with students' interests, and second, to help the practicum coordinator match students to projects where students will both expand their skills and be successful.
4. The coordinator then compiles all practicum project descriptions and distributes them to the students. After students have been on the UW campus for one month, they come to Public Health headquarters to hear the site supervisors describe their practicum opportunities and answer questions. This is an important step as it allows students to more accurately assess the fit of a project and supervisor with the skills they hope to learn. Students are then asked to rank their top three practicum choices; the practicum coordinator makes the final placement decisions. Most years, more than 80% of students receive one of their top two choices. In some instances, the practicum

coordinator may assign students to projects they did not select, but this is always done in consultation with the student.

5. Once the assignments have been made, each student conducts some preliminary background research on his or her practicum site and drafts a service learning contract. (See Appendix H). This contract clearly spells out the project scope, learning objectives, project activities and project deliverables. The student then works collaboratively with the site supervisor and faculty adviser to refine the contract. It is essential to “get it right,” since the contract is the basis for the midterm and final practicum evaluation. Project circumstances can change, so supervisors are given latitude to adjust the service learning contract as the year proceeds, but major revisions are done in consultation with the practicum coordinator and the student’s faculty adviser.
6. The practicum coordinator then works with site supervisors to initiate the practicum. Integrating students into the work of a large urban health department can be an arduous process. Student interns are processed in the human resources system much like regular employees—with identification badges, a computer network, telephone access, and HIPAA privacy training. The practicum coordinator creates a site supervisor manual containing all of the necessary forms and instructions and provides technical support to supervisors who have not worked with students before. In addition, the practicum coordinator provides mentorship and coaching and encourages veteran site supervisors to share expertise. Site supervisors rate this aspect of the practicum program very highly.
7. Faculty advisers are also an integral part of the practicum experience. Students often consult their advisers when they are making practicum project selections. Once the student drafts the service learning contract, faculty advisers comment and ultimately approve it. During the course of the practicum, faculty advisers provide technical assistance on the project where applicable and can be critical players in addressing any practicum challenges. Most faculty advisers enjoy the interaction with public health staff and the practice community.
8. The students begin their practicum work in the winter quarter and continue through the spring. The coordinator surveys site supervisors and students at the end of winter quarter to assess how the practicum is going in case mid-

course corrections are warranted. Site supervisors meet with students weekly to assess progress on meeting deliverables and adjust the service learning agreement as needed.

9. The practicum culminates in a half-day session for students, site supervisors, and faculty advisers. Students present their practicum experiences, including any products they've produced (*e.g.*, reports, data analyses, and needs assessments). The session is celebratory but serious, and it is a great opportunity for students to practice public speaking skills and answer rigorous questions in a group setting. The students may also present the results of their practicums to their team at Public Health, whose staff are always eager to hear about the student experience and what has been learned.
10. We conduct final evaluations in two ways. First, site supervisors conduct an exit interview with students. This is an excellent way for us to gain insight into ways to improve the practicum experience. It's also an opportunity to provide structured feedback to the student. Second, students and site supervisors complete a final assessment of the practicum experience. The course is not graded.

PROGRAM SUCCESS

Since 2005, Public Health has mentored more than 200 COPHP students. The students have worked in nearly all Public Health programs, including the Office of the Director, Communicable Disease Epidemiology, Immunizations, HIV/AIDS, Environmental Health, Emergency Medical Services, Communications, and Chronic Disease and Injury Prevention. Projects have included community needs assessments, qualitative and quantitative surveys, educational materials development, curriculum development, policy analysis, and social media projects.

Over the years, we have amassed a great deal of practical experience and outcome data, and the ingredients for success are clear. The following are critical program elements:

- **Ensure project deliverables are substantive and precise.** Our experience tells us that service learning contracts with clear and measurable deliverables are essential. For example, a deliverable such as “help health educator update a curriculum” is replaced with “revise two sex education lessons for the sixth

grade curriculum”. We have learned that projects should provide students with exposure to new skills and experiences, and they must be challenging. At the same time, we are explicit with students that not all of their work will be substantive. On occasion, students have complained that they’ve had to photocopy or do mailings, but they end up understanding that often, public health professionals are tasked with carrying out activities that run the gamut from strategic thinking to making their own copies, all of which are essential to supporting the workplace.

- **Provide a range of projects.** Providing a variety of skill development opportunities is essential. For example, we find students are intimidated by epidemiology projects, but they gain valuable experience and insights working around epidemiologists. Our site supervisors are usually willing to provide some rudimentary training in tools such as statistical software and Geographic Information System (GIS) basics.
- **Align project scope with the practicum time commitment.** Scope the project to align with the six hours per week time allotted to the practicum. When we receive negative feedback on practicum, it is often because students feel frustrated they cannot accomplish a project in the allotted 120 total hours.
- **Assure the project can be carried out with some level of independence.** It is important to separate the project from other program elements in the event those elements do not materialize. This allows students to accomplish work even when their supervisor is unavailable or pulled in a new direction.
- **Encourage site supervisor continuity.** Most site supervisors are program veterans; they participate in the program almost every year. Over time they learn what makes a good project and how to effectively coach and mentor students. Continuity also reduces the time spent on supervisor training. Finally, experienced site supervisors can serve as mentors to newer supervisors and help them develop projects and bring students on board in the health department.
- **Establish a formal training program for site supervisors.** As stated earlier, our practicum coordinator creates and updates formal training materials and oversees supervisors throughout the practicum.

This kind of practicum program is possible only if partners commit to a long-term partnership. It takes time to establish relationships and systems, but after 10 years,

our practicum process runs efficiently. One of the strengths of the program is that COPHP pays the Public Health practicum coordinator *via* a contract with the county agency. This allows COPHP to have an on-site coordinator with inside knowledge and connections to the local practice community. While the contract is renewed annually, neither Public Health nor COPHP has wavered in its commitment. Furthermore, COPHP and the University of Washington demonstrate commitment by supporting affiliate faculty appointments for Public Health site supervisors. This support is a tangible marker of the respect the University of Washington has for the health department supervisors, and it provides an important participation incentive for staff. The faculty appointment allows the supervisor unlimited access to University of Washington e-journals as well as to all libraries. It is also a resume builder and is widely viewed as a major benefit.

PROGRAM CHALLENGES

While our evaluation data and experience clearly demonstrate program effectiveness, we have experienced challenges. As our cohort size expanded, we decided to seek practicum assignments outside of Public Health to assure enough project choice for students. We asked local community-based agencies such as YWCA and Planned Parenthood to develop projects and supervise students. While some of these projects have gone smoothly, the practicum assignments outside of Public Health are more difficult for the practicum coordinator to oversee. In addition, students working outside of Public Health have experienced some isolation from the rest of the students who are working in the same building and could more easily collaborate and commiserate. We continue to accept practicum assignments from outside agencies, but we are judicious about them and careful to be clear about expectations. We want to assure students have similar mentorship experiences regardless of what program they work for.

On occasion, the fit between the student and the project and/or site supervisor has been problematic. To help prevent this, the practicum supervisor now meets individually with all students prior to matching them to their projects. This helps identify potential mismatches and gives the practicum coordinator the opportunity to gain important information about student preferences and needs. Occasionally, unwieldy projects or projects that change over time create challenges; students

express disappointment and distress when their practicum doesn't go according to plan. Any number of things can affect a practicum: grants that come through, grants that *don't* come through, parental leaves, illnesses, and staff turnover. Sometimes project scopes of work must be adjusted. These are the same kinds of issues students will encounter when they enter the workforce, but they can present particular problems for students who are working only six hours a week. We have found that requiring students to meet with site supervisors regularly, and urging them to proactively address problems, resolves most concerns. We also ask students to keep a weekly log of their practicum activities as a way to track their own progress and notice issues.

Budget constraints also pose challenges. Real costs are associated with taking on a public health student who will need an office cubicle, a computer, a phone, and related technical support. And there is the cost in time—mentoring students takes time away from supervisors' ability to accomplish their own work. In the current budget environment, the true cost of mentoring students is a factor programs must consider. Occasionally, supervisors who have enjoyed mutually beneficial relationships with COPHP students are no longer able to host students because of costs. Both partners must be honest about the true costs of this kind of program and commit to creative ways to address them. In our program, each partner contributes in-kind support. University of Washington faculty provide consultation to Public Health when possible, and the health department takes on increasing numbers of students each year with little additional funding.

The service learning experience has been beneficial to Public Health, COPHP students, and the greater King County community.

CONFLICT OF INTEREST

The authors confirm that author has no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.



Skills Seminars

Bud Nicola*

University of Washington School of Public Health Seattle, WA, USA

Abstract: As we developed the curriculum for the MPH in Community-Oriented Public Health Practice (COPHP), it became clear that there were skills and competencies that might best be taught using traditional lecture or interactive faculty presentation and discussion methods rather than problem-based learning (PBL). We see some of these skills as prerequisites to PBL. We try to align these traditional learning sessions, or seminars, with PBL cases and the faculty who facilitate them. Since students, through their periodic input, helped to design the overall COPHP, we have integrated into our program design opportunities for students to take charge of organizing seminars during the second year.

Keywords: Active learning, Competencies, Curriculum, Lecture, Seminar, Skills, Student involvement, Teaching methods.

HISTORY AND BACKGROUND

We designed COPHP around the principle that active learning increases student performance [1]. Nonetheless we recognized that students would benefit early in the program from short presentations or learning labs to impart certain essential skills. We also realized that seminars were an opportunity to showcase local public health role models who were engaged in exemplary work. One such skill is the facility to conduct rapid research using online library resources, understand how to use library databases, and recognize credible sources of information. Over time, this learning took the format of weekly skills seminars in 90-minute sessions.

* **Corresponding author Bud Nicola:** University of Washington School of Public Health Seattle, WA, USA; Email: bnicola@uw.edu

During the first six years of COPHP, the program director planned all sessions for the first year of the program and involved faculty in planning seminar content for second-year students. More recently students have taken charge of the second-year seminars and have worked with faculty from each block to coordinate with block material, to organize sessions, and to invite speakers on various topics. During a recent year, second year students even took it on themselves to sponsor seminar topics in an impromptu additional forum, with first year students as their primary audience.

The COPHP program directors learned what skills were essential early in the program. These skills include library research, group facilitation, and basic knowledge of the University of Washington's Institutional Review Board and the steps required to obtain approval for a master's thesis or project that involves human subjects. We have found that student ownership of the planning and scheduling of second-year topics has increased interest and participation in these sessions. The student involvement also resulted in active participation by block faculty in attending seminars and coordinating them with PBL cases.

FIRST-YEAR TOPICS

Students have helped identify topics that are better learned *via* structured skills seminar or bringing in community experts to discuss their experiences than through the free-form research cycle that is PBL. In particular, seminars address aspects of these topics where a seminar will provide an overall framework, teach a specific skill, or share perspectives from experts and community members. For the first year, topics are selected to address the following overall learning objectives:

1. Describe large public health problems facing populations:
 - Global burden of disease
 - Institutional racism
 - Challenges faced by immigrants
2. Incorporate important public health methods into your case work, including:
 - Conducting community-based participatory research
 - Reading journal articles and conducting literature reviews

- Conducting stakeholder analysis
- 3. Apply skills required for successful problem-based learning, including
 - Facilitating small groups
 - Writing well
 - Conceptualizing and planning for the capstone project
- 4. Embrace the role of political activism in public health

Examples of Seminar Sessions in the First Year

Methods #1: Small Group Facilitation

This session addresses issues such as the indicators and factors contributing to successful meetings, ways to become a better facilitator, how students can best prepare for roles as facilitator or group participant, and ways to provide feedback to group facilitators to improve their skills.

Capstone Master's Projects

In this session, a panel of recent graduates discusses how to choose a capstone project.

Working in Communities

This session supports conversations about the effect of working in communities and the role of students and faculty in cultivating and sustaining community relationships.

SECOND-YEAR TOPICS

The following are the overall learning objectives for second year seminars:

1. Describe the role of public health activists in advancing progressive public health policy:
 - Running for office
 - Running a policy institute
 - Professional association involvement
 - Farmworker housing advocacy: NW Justice Project

2. Explain the approaches of public agencies and public policy to containing particularly large and challenging health problems such as:
 - AIDS, malaria, TB, anemia
 - Cancer
 - Toxic waste in the environment
3. Apply skills required for successful public health practice, including:
 - Conflict resolution
 - State agency rule-making
 - Health impact assessments

Examples of Seminar Sessions in the Second Year

Conflict Resolution Skills

This class explores the basic theory around causes and resolutions of conflict, how interpersonal conflicts differ from policy or political conflicts, examples of policy conflicts students have experienced, and lessons and resources for public health professionals working on contentious issues.

Hanford Case Background

This session explores the history of the Hanford site (a former plutonium production facility in central Washington state), what it means that it was designated a Superfund site, strategies around clean up and how citizens influenced that process, what we should be worrying about in relation to Hanford, and where to go for information.

Farmworker Housing

This session considers the history of the workforce that does farm labor in Washington state and how their working and living conditions affect their health. It examines the success of various policy initiatives to address these conditions, the differing views of the stakeholders regarding these policies, and whether the current policy landscape offers opportunities for progress.

CONFLICT OF INTEREST

The authors confirm that author has no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.

REFERENCES

- [1] Freeman S, Eddy S, McDonough M, *et al.* Active learning increases student performance in science, engineering, and mathematics. *Proc Natl Acad Sci* 2014,. 111(23): 8410-5.
[<http://dx.doi.org/10.1073/pnas.1319030111>]



COPHP Curricular Content Areas

The following subchapters represent the main teaching blocks of the COPHP program. Each subchapter will include:

- The role of this topic in public health practice and in an MPH curriculum
- Learning objectives for this topic
- Application of experiential and problem-based learning to the topic
- Case examples and the process of choosing cases
- Working with communities
- Challenges of teaching this topic

Bud Nicola & Amy Hagopian (Eds.)

© 2017 The Author(s). Published by Bentham Science Publishers



Population Health

Stephen A. Bezruchka*

University of Washington, Seattle, WA, United States

Abstract: A population's health status and factors determining it are vital to producing health of the citizens therein. The evidence is overwhelming that people in the United States have worse health outcomes than those in other rich nations. Yet this fact is little appreciated in the United States. U.S. public health practice remains rooted in the 20th century with efforts to change personal behaviors, access health care, and ensure satisfactory sanitation outcomes. Professional public health education remains similarly stuck in the last century's paradigms. The population health block of the MPH in Community-Oriented Public Health Practice attempts to orient students to 21st century public health with a focus on creating appropriate structures in societies to make a population healthy. Such an approach is inherently political, which is a challenge in the United States because we tend to view health through an apolitical lens. This chapter explains the population health approach, which requires students to look at other countries to learn about health production. The goal: for people in the United States to not be dead first but to live longer healthier lives.

Keywords: Barker hypothesis, Early life, First thousand days, Health, Inequality, Inequities, Life expectancy, Medical harm, Morbidity, Mortality, Population health, Socioeconomic gradient, U.S. mortality.

LEARNING OBJECTIVES FOR THE POPULATION HEALTH BLOCK

As in the other blocks of the COPHP program, we build our coursework on learning objectives. By the end of the population health block, students should be able to do the following:

* **Corresponding author Stephen A. Bezruchka:** University of Washington, Seattle, WA, United States USA; E-mail: sabez@uw.edu

1. Rapidly synthesize public health literature and facilitate problem-based learning groups.
2. Describe concepts of health as applied to human populations.
3. Analyze the status of health in the United States and health inequities within the United States and between the United States and other nations.
4. Analyze the trends in relative health status for the United States in recent times.
5. Critically discuss the impact of current medical and public health interventions on health outcomes for populations.
6. Recognize the contribution of medical care to morbidity and mortality.
7. Consider the key role of societal hierarchy in determining health.
8. Prioritize health production efforts over the human life span, and consider when hierarchy may have its maximal impact.
9. Relate early life to adult health.

CASE EXAMPLES

When we launched the COPHP program in 2002, we decided to begin with population health. Our first challenge was to situate health status in the United States in the context of other nations. This context is relevant in the current selection of cases we use for the population block, summaries of which are as follows:

Americans: Dead First

The initial case in the population health block exposes students to the fact that U.S. mortality outcomes are shockingly poor. We die younger than people in the other rich nations. The mechanism we use to make this point is that of a speechwriter for the president who wants to tell the people this bad news. The case brings students to the Institute of Medicine's report on "U.S. Health in International Perspective: Shorter Lives, Poorer Health", a reputable source that is backed up by many others. Students outline the speech and it is then recorded as they present it. The case requires students to come up with conceptualizations of health for a society. People in the United States seem to prioritize living a longer life rather than a shorter one. U.S. health care spending—an estimated \$3 trillion in 2014, or fully a sixth of the U.S. economy—amounts to close to half of the world's total health care expenditures. In this case, we expose students to our high

level of spending as well as the paradox that it does not buy us health (life expectancy). The rest of the block continues to explore these points.

The 49th Parallel: A Health Divide

The University of Washington is located close to the U.S.-Canada border, so it is natural to compare the health of people in Canada with those in the United States. This comparison reveals vast health inequities—namely, poorer health outcomes for those in United States. A similar contrast is revealed when we compare the status of residents of Washington State with those of our provincial neighbor to the immediate north, British Columbia. The case situates an MPH graduate working in the Washington State Department of Health who is asked to make health comparisons with Canada. Students are tasked with playing a board game on the social determinants of health developed by a Canadian medical student and a public health student. They are also required to organize a community event and hold a screening of one of two documentaries: *These are Unnatural Causes: Is Inequality Making Us Sick*, or *The Raising of America: Early Childhood and the Future of our Nation*. New documentaries are forthcoming.

More Health Care = More Health

In the United States, medical care is considered to be the key factor in producing health, and the terms “health” and “health care” are widely considered to be synonymous. This case continues the story of the Department of Health student employee, who must come up with a media campaign to inform the public about the limitations of health care in producing health. In the process, the student is exposed to the concept that medical care, that is, the provision of medical services to sick people, is always a leading cause of death (medical harm). As with all cases in the population health block, we hope to challenge students’ core beliefs. The students have to consider the profit motive in delivering medical care in the United States, an exercise that also explores the possibility that not-for-profit institutions may achieve lower associated mortality than do for-profit institutions in the health care system. The students grapple with ways to inform the public about these matters. During this block, students come to appreciate the limitations of medical care in producing health, a concept that is rarely addressed in MPH

programs because access issues continue to be a main focus of public health policy in the United States.

Early Life Lasts a Life Time

A substantial portion of our health as adults is programmed in early life, especially the first thousand days after conception. Continuing the Department of Health employee role, students are challenged to synthesize a research brief on this concept and to explore the developmental origins of health and disease paradigms. They are expected to review cohort studies, examine the Barker Hypothesis, and explore the Dutch Hunger Winter natural experiment, along with others that demonstrate the importance of the period in *utero*. Students consider maternity leave policies, investments other countries take to establish health in early life, and surrogate markers such as rates of hypertension as proxies for desirable outcomes including longer life. They are then asked to write an opinion piece for a local paper presenting these ideas.

Untangling the Gordian Knot

The final case challenges students to improve U.S. health status compared to other nations while working in a position not directly in public health—namely, working for the City of Seattle Department of Neighborhoods. In this position, students recognize the intersections of race, class, and inequality that are reflected in the city’s housing crisis. They are asked to contribute to the Public Health Insider blog of the local health department, Public Health—Seattle & King County. This case reflects a new effort within this block to explore ways to inform those working in public health about the great extent to which our health outcomes can improve.

WORKING WITH COMMUNITIES

This block addresses community collaboration in myriad ways. We ask students to organize and carry out a community event, to present concepts they have learned from a documentary, and to write speeches so that concepts of public health may be understood by the public at large. They conceptualize a media campaign and also write op-eds and blog material that can be submitted for

publication.

CHALLENGES

The major difficulty in facilitating this block is getting students to accept the “killer facts” we present. Most believe that the population health strategies we present don’t apply to them because they do all the recommended things to be healthy. Recognizing that this isn’t enough flies in the face of U.S. exceptionalism and individualism. Our curriculum is designed to encourage students to accept paradigmatic shifts by understanding the difference between health and health care and to present this difference to others.

CONFLICT OF INTEREST

The author confirms that author has no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.



Community Development

Peter House*

University of Washington, Seattle, WA, United States

Abstract: Community development is a key concern of public health and a central focus of the MPH in Community-Oriented Public Health Practice (COPHP) curriculum. Our community development blocks, which occur in both the first and second year of COPHP, introduce students to the challenges of working with communities on issues related to health. These blocks are intense for faculty and students alike because they must cover in a short period a broad range of material that spans sociology, organizational theory, epidemiology, and psychology. They also require students to make quick connections between a growing body of research literature and real world community challenges; entail organizing and conducting fieldwork with community partners; and expose students to provocative ideas and norms. The COPHP program has achieved considerable success with its community development blocks in meeting learning objectives that address issues such as defining and applying a true concept of community in a variety of settings; recognizing communities' assets and problems; describing approaches to getting things done at the community level and assembling a team to do them; and completing strong written assignments on tight deadlines. Through the community development blocks and student projects, the COPHP program has built enduring connections with community partners and has helped address local challenges ranging from securing housing and health services for homeless youth to accommodating the needs of recent immigrants in disaster preparedness.

Keywords: Cognitive distortions, Communications skills, Community, Community assets, Community based participatory research, Community development, Community organizing, Community partners, Practical applications of theory, Project planning, Public health practice, Student presentations.

* **Corresponding author Peter House:** University of Washington, Seattle, WA, United States; E-mail: phinney6@uw.edu

INTRODUCTION

As public health professionals come to recognize the underlying and fundamental determinants of health, we become more interested in the power of social capital and community factors in promoting health. Until fairly recently, the profession's focus has been on the proximate causes of morbidity and mortality (heart disease, cancer, stroke, *etc.*) rather than the fundamental issues that lead to those manifestations of poor health. These underlying factors include racism, poverty, isolation, alienation, powerlessness, and other problems that are better addressed by social activism than by medical intervention. Public health activists have long recognized the power that lies within communities to advance public health and well-being, and there is a growing body of literature and experience from which to draw for this course.

A major challenge associated with offering a course addressing community development is the range of material that must be covered. Community development is an interest of sociologists, organization theorists, political scientists, epidemiologists, and psychologists, to name a few disciplines contributing to our knowledge of working with communities. Another challenge is resolving what, exactly, to call this concept. "Community" must be one of the most worn-out words in the social services field. Many government agencies and voluntary organizations use the word in their names or mission statements. But if you ask folks what the term means, they will have a hard time agreeing on a definition. Similarly, some believe the phrase "community development" is paternalistic, thus leading us to some of the political issues in the field. An overriding goal of this block is for our students to understand the concept of community.

We know from our work developing the COPHP program that there are few courses on community development for health, *per se*, on the University of Washington campus or elsewhere in the country. We also know that the concepts concerning communities commonly arise as we teach other subjects essential to public health practice.

OUR APPROACH: LEARNING THROUGH APPLICATION

The key to our teaching approach in this block is practical application. We

emphasize skill development over the attainment of knowledge. Just as we expect students to explore community development theory, we also search for opportunities for practical applications of the theories. We believe that community development skills are achieved through application, and we believe that the applications must be real; students must undertake actual useful work to give context to the theory. Without context, community development theory can appear to be turgid and pedantic, especially for those students who have never worked in communities. The COPHP program offers two courses in community development, and the timing is key.

First-Year Course

First-year students start our program with a block on population health and the social determinants of health. There is a lot to learn in this block, and much can be learned in the library. We encourage our students to read academic studies as well as the popular press, government documents, and white papers. The population health view is from “10,000 feet” and is strong on theory. For the community development block, however, we intentionally bring the students back down to earth to work on problems at the community level. We want them on the ground in communities talking to people from all parts of the community and not just sitting in front of their computer screens to complete learning assignments.

We find community partners that have real work they would like to have done, and students get assignment memos from agencies with specific work requests. This step assures that agencies’ expectations are clear and it puts gentle, but real, pressure on students to get something done in a short time frame. That pressure, we know from the literature on adult learning [1], instills in students a compelling need to develop and *retain* knowledge and skills.

Day One of cases in this block supports a theoretical exploration of a community-based problem to prepare students for their assignments. In Day Two, a community-based agency makes specific work requests, including a letter with the assignment. From this point, students fill in remaining knowledge gaps and make a plan to get the work done. Typically the students have about 10 calendar days to 1) do their fieldwork, 2) write a report, and 3) make a presentation.

The students make their presentations to all COPHP groups in their cohort. (As of this writing, we have three groups per year). We invite community partners to the presentations and promise to make another presentation directly to the community partner at a time and place of its choosing. This can require students to come back to communities or organizations many weeks after the end of the course, mimicking the way health professionals must manage a portfolio of projects that overlap in sometimes inconvenient ways. Nonetheless, students are always eager for this “real world” opportunity to develop presentation skills.

Second-Year Course

Students return to community development in the middle of their second year, at which point they are well-grounded in all the elements of public health practice. We start the block with a short theoretical case (that is, not a real assignment) where the students think about how to apply some of their previous learning to help an elected official work in the community to gain support for social justice programs. The remainder of the block, however, is spent working on a real assignment for a community-based organization. We expect students to fit this work into the schedules of the partner agency. At this point on COPHP calendar, our students are deeply engaged in their capstone projects, so the case they work on is a welcome break from the “read-and-post” grind of problem-based learning. We endeavor to find opportunities for our students in a Seattle-based organization that is willing to work with us over several years. Again, the students write a report and make presentations in a variety of settings.

LEARNING OBJECTIVES FOR COMMUNITY DEVELOPMENT

In all COPHP courses, we build cases on defined learning objectives. The following are the learning objectives for the community development blocks.

1. **Define the concept of community and apply that concept to a variety of settings.** Struggling with the concept of community engenders important learning. Students come to understand the importance of *place* when thinking about communities. They learn to contrast populations (groups of people with similar characteristics such as sexual orientation, color, and language) with actual working communities.

2. **As a part of assessing communities, learn to recognize assets, as well as problems, and to attach significance and context to these factors.** We strive to have our students learn to first see the assets within all communities.
3. **Develop skills and techniques to engage communities and mobilize them to action.** The students learn this through practice and application. We also encourage them to explore the literature on these skills. We emphasize the importance of strong communications skills: writing, public speaking, working in teams, and interviewing key informants.
4. **Describe approaches to working with communities to get things done.** This is where students learn to apply the principles of community-based participatory research. Topics that come up under this learning objective are:
 - Community structures, power, and the concept of governance
 - The dynamics of a community development approach to health problems
 - Social capital
 - Community competence
5. **Organize a team of professionals to take on a complex assignment and prepare a written report all within a tight time frame.** We design our classwork—two three-hour sessions per week—to emulate working in professional teams. Students share responsibility for facilitation.

FINDING AND WORKING WITH COMMUNITY PARTNERS

All of COPHP faculty in this block have experience working with community partners, and we tap our colleagues in the community to find projects. We start this work months before the community development blocks begin. We draw on relationships with agencies we have worked with or with which we are engaged as volunteers or allies. Sometimes we must “sell” an agency on working with our students. While we recognize that the agencies will need to spend some time with our students, we work very hard to have the students do as much of the work as possible. We set up some preliminary meetings, but from then on, the students are on their own. We believe that learning how to organize a team to do a lot of work in a short time is a fundamental skill of public health practice.

Over the years, our students have done great work on these projects, and this success helps enormously when we search for new community partners or ask to

continue existing relationships. Some of our community partners have invited us work with them more than five years in a row, and some organizations hear about what we are up to and seek us out as partners. Following are examples of community-based projects that COPHP students have conducted in recent years:

- **Planning overflow space for a homeless youth shelter.** A homeless youth shelter needed help in working with nearby churches to develop overflow space. Students engaged the homeless youth as well as the leaders of receptive churches to make recommendations for extra capacity.
- **Engaging the community in cleaning up a river in a rural county.** The county health department asked the students to “take the temperature” of the community concerning its efforts to clean up the river. The students went door to door and talked with local residents at meetings and on the street.
- **Helping a city department improve services at its community centers.** The community centers faced problems with funding, diverse populations, and geography as they worked to serve its communities. The students helped them think through new approaches to offering services and gaining community support.
- **Exploring opportunities and barriers to access to medical care for homeless youth.** The students engaged with homeless youth as well as local medical care providers. When they had little success contacting providers by phone or email, they very resourcefully showed up at the offices and were able to gather a large volume of information from busy people in an efficient and unobtrusive way.
- **Assessing the availability of sexual health education in a very large rural county.** Students spent three days in a rural county and visited all its schools to find out what was being offered for sexual health education. The local community housed and fed the students as they explored an area the size of the state of Connecticut. They developed information that the county government did not have the time to collect.
- **Helping a suburban community with disaster preparedness communication in locations with a high proportion of recent immigrants.** This case concerned worries about the safety and reliability of a river dam in a largely immigrant community. The students talked with community leaders and business people and they conducted focus group discussions with low-literacy

immigrant groups. They performed many work tasks that the health department did not have time to do.

- **Helping a rural town prepare for the legalization of marijuana.** Washington State recently legalized recreational marijuana possession. At the invitation of a city council, COPHP students helped a small community think through the effects that legalization and increased availability would have, especially for young people.
- **Helping a rural town engage its citizens in addressing adverse childhood experiences (ACEs).** As a rural county health department worked on the implementation of its Community Health Improvement Plan, it requested help finding others in the county addressing ACEs in the population.

CHALLENGES

COPHP faculty have learned to anticipate challenges facilitating the community development block, including:

- **Covering a large range of materials and skills in a short time.** This is the bane of all educational programs. We hope in this course that we can encourage students to learn more, and at the same time, help them develop key skills by learning from others. In the end, the students rely on each other to get their essential learning done.
- **Relating theory to skills.** The best community developers apply a range of skills that they have built over time through practice. It can appear to students that strong community developers have rare and innate talents in bringing people together. We seek to overcome that perception by showing the students that the best community developers know and study the literature on their topics. Without context or much experience in working with communities, research literature can seem dense and unapproachable for students.
- **Finding community partners.** Our community partners take risks and commit resources when they agree to work with our students. It takes substantial effort on the part of the faculty to find good projects for this block. We make sure the students know that the faculty have “skin in the game”, and we hope that will inspire the students to come through for our partners and do no harm. In the end, the effort is well worth the benefits. Our students appreciate these opportunities,

and we faculty can see them growing and learning as they struggle with challenges.

- **Project planning and management.** Most of our students come to us with few skills in organizing a project. In all cases the students must produce a report and a presentation with rock solid deadlines for completion. We have to teach the students how to manage projects, and we have to trust them to learn from mistakes. Their largest challenge is the egalitarian culture within their groups. They are overly concerned with appearing to be bossy or pushy, and consequently, they can fall victim to wanting everyone in on every decision.
- **Helping some students overcome emotional stress.** Because we are dealing with real communities in the community development blocks, students are sometimes exposed to ideas and people that they do not agree with. For example, when we are working in rural places, our mostly city-bred students may encounter political views (*e.g.* on religion, sexual health education, and gun rights) that they are not used to. That can cause stress for some students, and they may fall into cognitive distortions such as catastrophizing, labeling, name-calling, and mind-reading. We have had very difficult conversations in class when students' emotions get the best of them. That said, dealing with tough issues in real communities is part of the power of this block in that it mimics the world our students will face in their work.

CONFLICT OF INTEREST

The author confirms that author has no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.

REFERENCES

- [1] Council of Public Health Practice Coordinators, Association of Schools of Public Health. Demonstrating excellence in the scholarship of practice-based service for public health. Spring 2009.



Quantitative Research Methods

Ann Vander Stoep*, Jim Gale, Michelle Garrison and Susan Buskin

University of Washington, Seattle, WA, United States

Abstract: When public health graduate students enroll in their first epidemiology and biostatistics courses, they vary widely in their knowledge of and comfort with quantitative research methods. This chapter highlights the challenges and rewards of presenting quantitative concepts to students using a problem-based learning (PBL) approach. We suggest adaptations to usual PBL practice to optimize learning for a diverse group of learners. We introduce instructors to a variety of teaching tools for conveying quantitative methods course learning objectives. We provide synopses of six PBL cases and suggest ways to develop cases that incorporate “shoe leather epidemiology” and meet community data analytic needs. Finally, we contrast learning through lecture with learning through experience, arguing that with PBL, students gain knowledge about quantitative research methods that is more than skin deep, and as such, has longer and deeper staying power when graduates embark on their careers as public health practitioners.

Keywords: Biostatistics, Case writing, Community-based teaching, Didactic *versus* experiential instruction, Epidemiology, Learning environment, Learning objectives, Math anxiety, Preparing public health practitioners, Problem-based learning, Public health learners, Public health pedagogy, Public health practice, Quantitative methods, Teaching.

INTRODUCTION

Epidemiology and biostatistics form the backbone for public health research and practice. Epidemiologists and biostatisticians develop, hone, and apply quantitative research methods to count, describe, and ascribe risk to potential

* **Corresponding author Ann Vander Stoep:** University of Washington, Seattle, WA, United States; E-mail: annv@uw.edu

causes of health conditions and evaluate health interventions, programs, and policies [1, 2]. Communities rely on epidemiologists and biostatisticians to characterize the prominent health problems affecting their populations, to provide and interpret the evidence for making decisions about which health programs to implement, to track temporal trends in diseases and exposures, and to serve as public health detectives when diseases of mysterious origin appear. This chapter is about how we use problem-based learning (PBL) pedagogy to prepare public health practitioners to appreciate and use quantitative research methods to improve health in populations.

TEACHING QUANTITATIVE RESEARCH METHODS *VIA* PBL

Previous chapters introduced PBL as a method of teaching in public health courses. Teaching quantitative research methods *via* PBL is both highly challenging and rewarding and differs from teaching population health, community development, or other COPHP courses in two important ways:

- **In epidemiology and biostatistics, there are right and wrong answers.** While perspectives on the political forces that shape population health are to some extent based on opinion, questions about the strength of association between a risk factor and a health outcome, the sensitivity of a screening test, or the crude *versus* age-adjusted mortality rate are answered *via* computations and formulas. Thus in addressing quantitative methods, PBL discussions focus less on debating global issues and more on struggling to grasp quantitative concepts: underlying variable coding and regression equations, the meaning of statistically significant effect modification, or the implications of a low positive predictive value.

In addition, course concepts are taught in sequence. Students must grasp the initial building blocks—differences between proportions, rates, and ratios—before they can move forward to understanding prevalence, incidence, odds ratios, and relative risks. Instructors must follow a logical, linear progression to introduce these quantitative research concepts. Once the learning momentum accelerates, if students fall behind, it is difficult for them to catch up.

- **There is wide variation among students in experience, skills, aptitude, and confidence about quantitative methods.** Many able students emerge from their

primary, secondary, and post-secondary education with an unhealthy anxiety about performing poorly in math. Student anxiety is a major impediment to successful attainment of learning objectives in a PBL context. To optimize learning, the instructor must listen to and appreciate the variation among students in comfort, learning styles, and skills. Rather than expecting one size to fit all, the instructor charts and supports multiple pathways to mastery.

PBL TEACHING STRATEGIES FOR QUANTITATIVE METHODS

To address the unique features and specific challenges of teaching “public health math”, we offer students a variety of learning modalities. Over the 10-week Quantitative Methods (or Quant) course, groups of eight students meet together to read, digest, and discuss six PBL cases during two 3-hour sessions per week. During these sessions, the students work together, with minimal instructor intervention, to make sense of the case and identify the questions the case is raising. By the end of the class session, they have compiled a list of “need to know” items that they divide into eight pieces, one for each student. Each student conducts research, composes a three-page “posting” to teach classmates the concepts, and submits the posting prior to the next class. All members of the group are expected to read classmates’ postings and prepare for discussion in the next classroom session. The instructor reads student posts and comments on epidemiology/biostatistics points that were well-made as well as those that were poorly articulated or incorrect. The following day, in a pre-class coaching session, the instructor reviews these points with a student facilitator who will lead the class discussion.

During several of the PBL sessions, students gather in a computer lab to learn to use statistical software and accumulate skills in statistical analysis. We offer weekly 1.5-hour seminars in a semi-didactic format during which a skilled math communicator uses PowerPoint slides to convey quantitative concepts and demonstrate their application through examples. We augment didactics with problem sets that students complete in small groups. Assigned readings—usually deemed impediments to discovery learning in other PBL courses—help to even the playing field among students with different learning styles and abilities and to establish a common vocabulary and library of examples. A reference shelf in the

university library contains a collection of basic epidemiology and biostatistics textbooks that students can read to augment or clarify their understanding and gather additional examples of concepts applied to different health problems. Instructors offer students pre-PBL class time for remediation and to review practice problems, as well as one on one meetings as needed.

The instructor strives to create a learning environment in which “no graduate student is left behind”, using instructional time to promote the development of competence and confidence for each student. While student collaboration and discussion are the mainstays of PBL, Quant students can confuse one another by assuredly explaining concepts incorrectly or by explaining concepts correctly but hesitantly. Classmates can become anxious if they lose their tenuous grasp on a new concept. At this point a gentle intervention by the instructor with a question such as, “Is this the way all of you understand this concept?” suggests that the answer may not be correct, without directly calling out a student for giving a wrong answer. Knowing when to stand back and when to step in is an art.

Because instructors come from different backgrounds and have learned epidemiology and biostatistics at different universities using different textbooks, they must make a special effort to teach course concepts using the same terminology, definitions, and formulas. In the COPHP program, all students take a common Quant methods midterm and final. These examinations are graded using the same key across instructors. The stakes are high when teaching concepts differently might yield systematic differences in student grades across PBL subgroups. Weekly or biweekly meetings among Quant faculty help to keep instructors aligned.

Learning Objectives

In designing COPHP Quant course, instructors kept in mind the jobs that COPHP students would be performing as program managers and administrators in local health departments and community-based organizations. The Association of Schools of Public Health monograph on competency-based epidemiologic training in public health practice includes a helpful grid illustrating the quantitative research competencies that public health practitioners should be prepared to

demonstrate at different levels of responsibility within local health departments [3]. At the top levels of responsibility are senior-level epidemiologists and senior scientists, who use critical thinking processes to design, conduct, and disseminate research and synthesize original and published findings to guide decisions the health department director makes about public health problems and public health policy questions. In our Quant course, we aim for an understanding of methodology adequate to assisting or even, with additional experience and education, serving as a mid- or senior-level epidemiologist. While we do not expect students who complete the course to be able to set up an active surveillance system on their own, we do expect them to have a strong grasp of how an outbreak of a communicable disease is investigated. To this end, they learn to apply the steps of outbreak investigation within a PBL case. Course learning objectives aim to prepare students for this level of practice.

The Quant course incorporates epidemiology and biostatistics objectives that are required for MPH accreditation by CEPH, the Council on Education for Public Health, and recommended by the Association of Schools and Programs of Public Health [4]. This enables our students to emerge from COPHP with a globally recognized MPH degree and allows interested students to pursue additional upper level quantitative methods courses at the University of Washington. To fulfill these objectives, the “Quant block” goals are to acquaint students with methods of epidemiology and biostatistics as they are used in conceptualizing, collecting, analyzing, and interpreting quantitative data on health outcomes and risk factors. We also work to expand and refine student skills in communicating with different audiences about quantitative aspects of public health, through writing reports and constructing and presenting tables and graphs. Even if program graduates do not fully remember or frequently employ every technical concept taught within the Quant course, the broader goal is to imbue future public health practitioners with the beliefs that:

1. Systematic tracking and counting are important.
2. Comparisons are necessary.
3. Inferring cause is more complex than it seems at first glance.
4. Causes come before outcomes. Fundamental causes come before proximal causes.

5. There are multiple ways to address a single research question. Each way has its strengths and limitations.
6. Research and evaluation products provide the evidence base for public health action.
7. Some studies are of better quality than others. The ability to discern is important for a public health practitioner.

Following are the Quantitative Methods course learning objectives as stated in the course syllabus.

Epidemiology

1. Recognize the importance of epidemiology in public health.
2. Distinguish between public health research and medical research in topic, focus, sample, and implications for improving health in populations or individual patients.
3. List the steps for investigating and controlling infectious diseases.
4. Describe a public health problem in terms of person, time, and place.
5. Design data collection tools and protocols for descriptive epidemiology.
6. Collect epidemiological study data from original and secondary sources.
7. Differentiate between descriptive and analytic (case-control, cohort, cross-sectional, and experimental) study designs.
8. Calculate measures of disease occurrence.
9. Use descriptive statistics to summarize public health data.
10. Evaluate the strength of an association between an exposure and a health condition.
11. Demonstrate an understanding of confounding and adjustment for confounders.
12. Critique epidemiology research articles.
13. Name the criteria used to infer causality.
14. Comprehend basic ethical and legal principles pertaining to the collection, maintenance, use, and dissemination of epidemiologic data.
15. Describe the principles of public health screening and criteria that are considered when deciding the appropriateness of a screening program. Assess the validity of a screening procedure *vis a vis* a “gold standard”.

16. Explain how selection and information biases affect results of epidemiological studies.
17. Carry out stratification, and describe the concept of effect modification.

Biostatistics

1. Use basic concepts of variable types (continuous, ordinal, nominal, binary), central tendency (mean, median, mode), variability (standard deviation, inter-quartile range), commonly used statistical probability distributions (normal, binomial, Poisson), and sampling distributions (sample mean, standard error) in both written and oral language.
2. Select and interpret appropriate graphical displays and numerical summaries for the distributions of both continuous and categorical data.
3. Translate scientific questions into appropriate null and alternative hypotheses.
4. Explain and interpret p-values and confidence intervals, the potential for Type I and Type II errors, and the effect of sample size on these constructs.
5. Describe the assumptions underlying measures of association (z-tests, t-tests, chi-square tests, and analysis of variance); use these tests to compare two samples and interpret the results.
6. Make predictions with a simple linear regression model.
7. Use contextual knowledge about potential confounding factors to develop and interpret multivariate linear and logistic regression models.
8. Clearly communicate the interpretation of statistical output from the analyses covered in the course, in both discussions and written responses.
9. Statistical package to read data, describe data, and perform the statistical analyses covered in the course.
10. According to the research question, the type of study design, and the type of data collected, design an appropriate analytic plan and apply appropriate descriptive and inferential biostatistical approaches.
11. Interpret methods, results, and limitations of statistical analyses found in public health journal articles and reports.
12. Develop written presentations based on statistical analyses for both public health professionals and educated lay audiences.

INCORPORATING QUANTITATIVE METHODS LEARNING OBJECTIVES INTO PBL CASES

PBL cases are composed, selected, or adapted to teach students each facet of the course learning objectives. There is an art to writing cases in such a way that information unfolds in a logical sequence that leads students to realize what they need to know to “solve” the research problem. We use humorous names for our cases and characters and colorful language within the text to keep students engaged. For instructors who are PBL and case-writing novices, Quant methods cases are available online. Many are posted on the Association for Prevention and Teaching Research (APTR) and Centers for Disease Control and Prevention (CDC) websites.

Below are synopses of three COPHP Quant course cases.

Fair Outbreak

This case is adapted from one of several excellent cases that the U.S. Centers for Disease Control and Prevention designed to immerse epidemiology students in the process of investigating an e. coli outbreak that occurred at a county fair. The case presents an introduction to infectious disease epidemiology, outbreak investigation and surveillance, sampling, prevalence and incidence, and writing up methods and results.

To Screen or Not to Screen, That is the Question

Written by a COPHP instructor, this case introduces public health screening in the context of a public school considering whether to implement an early intervention program. The program uses universal screening to detect emotional distress in students transitioning from elementary to middle school. The case introduces students to public mental health; screening as a public health strategy; universal, targeted, and indicated screening; 2 X 2 tables and screening statistics; design of studies to validate screening tools; and conditions communities weigh and controversies they face in deciding whether it is appropriate to implement a screening program.

Starting Right

Written by another COPHP instructor, this case is set in a maternal and child health division of a state health department that is evaluating the effectiveness of a community-based outreach program designed to increase women's access to timely, comprehensive prenatal care and to decrease the number of low birth weight babies born in the state. The case provides an introduction to variable types, basic descriptive statistics, common statistical distributions, tables, graphs, and manipulation of data in the Stata statistical software package [5]. The case explores hypothesis testing, criteria for inferring causality, cohort and case-control study designs, and bivariate measures of association.

COLLABORATING WITH COMMUNITY PARTNERS

In all COPHP courses, instructors are encouraged to collaborate with community partners. Arguably, study design and implementation are best learned through experience in conducting research—that is, by gathering information from real people in real community settings such as schools, parks, neighborhoods, nursing homes, bars, and sidewalks. “Shoe leather epidemiology” is challenging, but not impossible, for a group of students to implement in a 10-week course. Challenges include time constraints that make it difficult to learn methods quickly and adequately to design and conduct a study within several weeks' time.

Additionally, gathering information from real people for research purposes (*versus* educational exercises) usually requires permission from an institutional review board (IRB), and the turn-around time for review of new human subjects IRB applications is generally longer than the 10-week course. Furthermore, studies conceived of and executed rapidly by novices are apt to produce uninterpretable results, which can be frustrating as well as enlightening to students.

We work in real community settings when possible. Our hypothetical Quant cases are set within communities and provide students with opportunities to role play delivering communications of quantitative research questions, methods, and results to the public. Quant cases that involve data analysis use real publicly available datasets. Instructors can also forge community collaborations by asking local health departments for data sets that COPHP students can analyze to provide

assistance in addressing local public health questions. To expose students to practical community-based research experiences, we have written cases that send students to the field to address public health questions with studies that can be conducted quickly and don't involve human subjects.

Below are examples of cases with original data collection that we have used to address Quant learning objectives.

Walk it Out

In this case, students plan and execute assessments requiring street-corner observations of neighborhood walkability in the vicinity of elementary schools. Information from this case was used in feasibility determinations for a Walking School Bus program that was in the planning stages.

Crackin' the Case, Not the Head

This case takes students to neighborhoods to systematically observe, document, and then compare helmet-wearing habits of bicyclists.

Pedestrian Potluck

In this case, university-based epidemiologists gave us data they had gathered from the Seattle city traffic office about the incidence of vehicle-pedestrian accidents at 28 local intersections. Half were low and half were high collision intersections. Blind to the collision records of the intersections, students developed a methodology, determining what information to gather and how to gather information about environmental and human features at these intersections. After carrying out the fieldwork, they analyzed their data in an attempt to identify systematic differences in features of high and low collision intersections.

PREPARING STUDENTS FOR PUBLIC HEALTH PRACTICE

Students who learn epidemiology and biostatistics through PBL are both learners and teachers. Their mastery is enhanced through the efforts they make to clearly convey quantitative concepts to their classmates. These are major benefits for practicing with real live people in real live communities! Some of our colleagues

who teach public health research methods to graduate students with a didactic approach raise concerns that a case-based curriculum is not rigorous enough. Several years ago we compiled data on the grades earned by COPHP students who opted to enroll in upper level epidemiology courses. We were pleasantly surprised at the exceptionally strong performance of our students in these advanced courses, as measured by grades that were on par with those of students from other backgrounds.

Probably the most valuable outcome of students who learn concepts through PBL is that they are resourceful and able to figure out what they don't know, seek information they need to know, and bring knowledge to bear in practical ways. These skills serve students well in the workplace. On the basis of "exit surveys" with former students in public health jobs and with employers of our former students, we have evidence that our PBL approach yields students with a high capacity for appreciating and employing quantitative research methods to address public health problems in community settings.

CONFLICT OF INTEREST

The authors confirm that they have no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.

REFERENCES

- [1] Terris M. The epidemiologic traditions. *Public Health Rep* 1979; 94: 203-9. [PMID: 377363]
- [2] Friis RH, Sellers TA. *Epidemiology for Public Health Practice*. 5th ed., Jones and Bartlett Learning 2013.
- [3] Birkhead GS, Davies J, Miner K, Lemmings J, Koo D. Developing competencies for applied epidemiology: from process to product. *Public Health Rep* 2008; 123 (Suppl. 1): 67-118. [PMID: 18497021]
- [4] Moser M, Ramiah K, Ibrahim M. Epidemiology core competencies for Master of Public Health students. *Public Health Rep* 2008; 123 (Suppl. 1): 59-66. [PMID: 18497020]

- [5] StataCorp. Stata Statistical Software: Release 14. College Station, TX: StataCorp LP 2015.



Environmental Health

Tania M. Busch Isaksen^{*}, Wayne Turnberg and Jude Van Buren

University of Washington, Seattle, WA, United States

Abstract: The Environmental Health block of the MPH in Community-Oriented Public Health Practice is designed to help students understand the environmental public health system and how it investigates and reduces community risks from agents that cause disease, injury, and death. The case studies primarily address the recognition of various hazards in the environmental and occupational setting; the theoretical construct for understanding the properties of these hazards; the exploration of the factors that can generate or diminish exposure and reduce disease incidence and severity, especially in vulnerable populations; and the importance of risk communication in addressing environmental issues. The cases ensure that students learn about local, state, and national laws and regulations promulgated to reduce exposure and disease from environmental factors and also how to mine these standards for gaps and incongruent policies. They focus on determining causal factors and mitigation approaches as they explore the politics and pressures of the environmental health challenge. We press students to search for inequities in exposure and disease risk such as evidence of institutional racism in high risk communities. This core prepares public health practitioners to work on community environmental health risks to reach fair resolutions and reduce adverse health outcomes.

Keywords: Built environments, Causality, Climate change, Environmental contamination, Environmental epidemiology, Environmental health, Environmental racism, Executive briefing, Exposure pathway, Exposure potential, Hazard analysis, Health disparities, Institutional racism, Protection standards, Regulations, Risk benefit analysis, Risk mitigation, Town hall meeting, Toxicology, Vulnerable populations.

^{*} **Corresponding author Tania M. Busch Isaksen:** University of Washington, Seattle, WA, United States; E-mail: tania@uw.edu

LEARNING OBJECTIVES

We expect students to understand the core concepts of environmental health (EH) in the current paradigm of public health practice, and the learning objectives for this block reflect this expectation. They are:

- 1. Increase awareness of the environment's role in healthy communities.** Students learn to define the concept of environmental health and apply that concept to a variety of community settings and topical situations. Digging deeper, they learn to recognize principal health risks from chemical, microbial, and physical hazards encountered through environmental pathways and to attach significance and context to problems within communities. Given that change is constant, it is important that students can identify and describe potential effects of demographic change, economic development, built environments, environmental pollution, and climate and ecosystem change on health.
- 2. Understand the environmental public health system at the local, state, and national level as it works to reduce exposures to agents in the community's environment.** The environmental health field is largely based on laws and regulations that are implemented and enforced by federal, state, or local public health agencies. Our cases are designed to explore the complex interactions between federal, state, and local policies and the agencies charged with their implementation.
- 3. Increase understanding through quantitative and qualitative characterization of complex, multi-faceted environmental public health problems.** Students define and characterize exposures to physical, infectious, or toxic agents from major environmental and occupational health problems that are associated with morbidity and mortality in both industrialized and developing countries.
- 4. Recognize how vulnerable populations can be at greater risk for a variety of environmental health-influenced health outcomes.** Students learn to think critically about what population characteristics are associated with greater risk for disease and injury associated with environmental contamination, both generally and within the specific context of each case study. They practice important concepts of environmental justice and community engagement while

proposing sustainable solutions to environmental health problems.

5. **Envision the component steps and overall process of conducting a health hazard assessment.** Consistent with our problem-based learning approach, we design environmental health case studies to present some of the many environmental hazards that can confront a community. Students work through their learning objectives to understand the concepts of hazard analysis and exposure of an agent, including a risk analysis of the agent based on its toxicity and dose, the frequency and duration of exposure, and the exposure pathway. They also probe the particular characteristics and vulnerabilities of the exposed community and the environmental context surrounding the case—which can enhance or decrease exposure potential of this community to the agent under study. The disciplines of toxicology, epidemiology, and laboratory science are explored in the learning objectives as methods to evaluate the risk of exposure and disease so students more fully understand the risk paradigm of an environmental health threat.
6. **Understand the various approaches to preventing, controlling, and mitigating environmental health risks to a community.** COPHP students conduct research to find approaches to controlling or mitigating hazards as they also seek to determine the root causes for the community's exposure to the agent of concern. Through the review of the literature, interviews with involved entities, and discussions with real communities about their challenges in similar scenarios, students learn about environmental health risks and develop strategies to decrease the harm of these risks to communities.
7. **Understand and develop skills to effectively educate the public, policy makers, elected officials, and other stakeholders about environmental public health risks and health risk assessments.** This communication includes disease and injury causation to ensure that decisions are sound, are risk-based, and result in appropriate public health actions. We expose students to different communication modalities to communicate health risks and proposed solutions.

CASE EXAMPLES

We select cases for the environmental health core with the goal of providing a learning platform of relevant current events that illustrates the complexity of a

particular environmental health issue. For example:

Water Contamination

A case examining a real world incident of drinking water pollution relates a field investigation of the level of contamination in a community's drinking water supply. It also explores the long and short term health risks posed to the population that is drinking the water, the economic risks to the community that no longer has potable water, the occupational hazards of exposure or employment loss due to the economic downturn resulting from a long term drinking water problem, and the intensified effects to the vulnerable populations living in that community and to the food distribution and ecologic life system in that community.

But I Love Raw Oysters On the Half-Shell!

Another case explores an outbreak of shellfish-borne *Vibrio parahaemolyticus*, its effects on human health, and the steps taken by the public health community to minimize the risk to the public from commercial, recreational, and subsistence shellfish harvesting. Students research the etiologic agent, where the agent is found in the environment, how it is transmitted to humans, and the symptoms it causes. Environmental laws and regulations, as well as the roles of the public health agencies responsible for monitoring and enforcing shellfish food protection standards, are examined. A tour of the State Environmental Laboratory provides insight into specimen collection and testing processes. Steps taken to conduct an epidemiologic case investigation are analyzed as well as the human communicable disease reporting surveillance systems used to monitor disease trends in populations. We discuss mechanisms used by public health agencies to alert executive leaders, elected officials, and the public about disease outbreak risks and prevention messaging.

Is It Getting HOT in Here?

A third case explores the effects of climate change on public health outcomes. Unlike the previous two cases, which have a pre-defined geographical context, this case allows students to consider a major environmental public health risk

from a local, national or global perspective. Basic scientific principles are identified and examined, highlighting the importance of credible sources of information. Connections with deleterious changes to environmental systems are drawn to both observed and predicted public health outcomes. Inequitable distribution of harms is emphasized along with particularly susceptible and vulnerable population characteristics. The roles and responsibilities for public health agencies around mitigation, adaptation, and the leveraging of health benefits are explored along with current local, state, and national policy decisions.

COMMUNICATING RISK AND ACTION

A key part of the environmental health block is risk communication—how to communicate a risk and a potential action to deter or control its effects on a concerned population. These communication styles include:

- **Executive briefing papers.** These serve as a primary communication vehicle to inform senior public health or elected officials about relevant public health issues, particularly those that involve media attention. Students write a brief policy overview for a senior official (*e.g.*, governor) that describes topic, background issues, immediate and future actions, media attention, and talking points so that the official is able to address any questions that might arise.
- **Elevator pitch.** The ability to communicate a position concisely (2-3 minutes) to a predefined audience is important for a range of environmental health issues. In COPHP, students learn to distill the vast evidence around climate change and focus their “pitch” on a specific aspect of health outcomes related to climate change. Each student is encouraged to consider a particular personal relationship in their own lives and how it would present challenges in communicating the public health consequences of climate change. Students learn to connect with a common value and then provide minimal but effective evidence to support their pitch.
- **Town hall meeting.** Environmental health issues are often complex, with a wide range of opinions and views. In one case study, we seek to ensure that students understand the complexities of perspectives, *via* a role-played town hall meeting that involves a specific event with specific players representing a diversity of positions. This is a role-playing exercise in which each student represents a

major role in a community or incident. By researching the perceived viewpoints of community members, they learn to represent their perspectives on the incident and their choice of solutions. This approach helps students fully realize the challenges and frustrations of community members and recognize factors that lead to environmental racism, economic inequalities, and health disparities in a community.

- **Working with communities.** The EH core is currently a four week block, which is not enough time for students to engage the community in substantive projects or interactions. COPHP faculty address this need for real world exposure by inviting speakers to class to discuss environmental equity issues and experience exercises that demonstrate the challenges to equity with environmental exposures. We encourage students to interview citizens and government officials who are or would be involved in an environmental health incident. Students also participate in a field trip to Washington State's public health laboratory to view how shellfish samples are presented to the state lab for analysis of various viruses and shellfish toxins from state beaches. Students see how lab scientists and epidemiologists work together in a public health setting with various local, state, and federal partners to piece together the causative steps in a nationwide food outbreak and how to stop it.

CHALLENGES

COPHP students bring a diverse range of educational backgrounds with varying levels of the type of science-based expertise needed to critically analyze complex issues such as the fate and transport of chemicals in the environment. In response, we design cases to address learning objectives that define the basic tenets of hazard analysis (exposures, agent, host, environmental pathway). Often, students must learn basic biological concepts to avoid misdirection in the research.

Many students also require a refresher on how local, state, and federal laws and rules are created and work, or don't work, together. The environmental health field is largely based on laws and rules, so student understanding of our basic legislative and regulatory structure is essential.

CONFLICT OF INTEREST

The authors confirm that they have no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.



Health Behavior and Health Promotion

Sarah Ross-Viles* and **Hendrika Meischke**

University of Washington, Seattle, WA, United States

Abstract: Students in the MPH in Community-Oriented Public Health Practice (COPHP) frequently progress to careers that require strong skills in health behavior and health promotion. Learning objectives for COPHP's Health Behavior and Health Promotion block cover skills in program planning and assessment, theories of behavior change, and application of an equity lens in health promotion. Cases in this block explore content through specific health topics. As in other COPHP blocks, students teach themselves and each other as they review cases, write and discuss learning objectives, post research findings, and conduct practical assignments. Faculty who facilitate this block rewrite cases annually to ensure they include at least one timely topic that the students will be eager to explore, and real world practitioners lead seminars that complement the cases. Challenges of the Health Behavior and Health Promotion block include teaching complex theory and extensive skills in a short time, keeping the health topics compelling to students, and making sure students maintain an appropriate balance between exploring interesting health topics and understanding the fundamentals of health promotion.

Keywords: Assessment, Communication, Cultural competency, Ethics, Health behavior, Health promotion, Literacy, Objectives, Planning models, Prevention, Primary prevention, Program design, Program planning, Protective factors, Risk, Secondary prevention, Tertiary prevention.

INTRODUCTION

COPHP students take the Health Behavior and Health Promotion block at the end of their first year in the program. At this point, they have been immersed in

* **Corresponding author Sarah Ross-Viles:** University of Washington, Seattle, WA, United States; E-mail: sarahrv@uw.edu

population health, community development, quantitative methods, and environmental health, and they are ready to synthesize skills from those topics and design health promotion programs. Students are typically very excited for this block; many declare in their admission materials that they picture their futures working with communities to implement successful health programs. Many COPHP graduates do indeed find health program management jobs in community organizations or governmental agencies.

The coursework in the Health Behavior and Health Promotion block covers program planning models, assessment techniques, theories of behavior change, equity in program planning, health communication, and an introduction to program evaluation. Students approach these fundamentals through the COPHP program's social justice lens, which encourages them to analyze the faults as well as the merits of health interventions and exposes them to the ambiguities and challenges of developing health programs as community outsiders.

APPROACH

As with other COPHP blocks, we teach Health Behavior and Health Promotion with a set of cases built around a health topic (obesity, communicable disease, tobacco) that also include teaching notes with prompts and questions to ensure students cover important learning objectives. We use classroom time to collectively generate learning objectives, and then students have two or three days to research an objective using primary and secondary sources and write up a post for their peers. We then analyze the posts in class. Faculty participate very little in the discussions but provide extensive feedback on postings, especially focusing on how well students synthesize information from their research and are able to communicate their ideas to their peers. Most of the cases culminate in a practical project that the students do alone, in small groups, or as a class. Examples of projects are designing and presenting a health communications campaign, developing a sample health intervention that focuses on an assigned level of the social-ecological model, and creating a mock town meeting to discuss a disease outbreak.

WORKING WITH COMMUNITIES

This block uses weekly seminars to introduce students to local examples of health promotion efforts similar to those in the cases. The seminars provide an opportunity for students to conduct a dialogue with experienced professionals about health topics and the skills involved in health promotion. Seminar speakers have included health outreach workers who engage with men who have sex with men, a health communications account manager from a national firm, and a panel of professionals developing obesity programs for families, employees, and large geographic populations. We encourage students to develop questions in advance for the speakers, and a faculty moderator assures that the questions are equally distributed across the small group cohorts—this assures that all groups receive information relevant to their specific interests or concerns.

LEARNING OBJECTIVES AND CASE EXAMPLES

The Health Behavior and Health Promotion block covers a broad area to equip students for public health careers. As the list below reveals, most of the objectives include understanding a key concept and being able to apply it. The application occurs in the practical assignments and posts. The learning objectives are:

- Develop a comprehensive understanding of a health problem and risk and protective factors associated with it; identify predisposing, enabling, and reinforcing factors that foster or hinder health and well-being for a health issue.
- Describe the distinction between primary and secondary prevention.
- Explain how to use rapid assessment techniques to involve target populations and the community in problem identification and solutions.
- Identify Precede/Proceed model phases; use planning models to assess factors that affect the health of designated groups.
- Define cultural competence frameworks and explain how they relate to health promotion/disease prevention practice.
- Recognize historical underpinnings of relationships between diverse communities (*e.g.*, African-American, gay) and the public health system.
- Understand the interaction of environmental variables and health behaviors.
- Understand principles and issues involved in ethical and sensitive conduct of

health promotion/disease prevention practice and research.

- Explain how to use health-related data in program design.
- Define theoretical frameworks that influence behavior change; use behavioral theory to plan interventions specific to community or individual needs.
- Determine the validity of evidence for social and behavioral interventions addressing health issues.
- Understand and use the social-ecological model; understand multiple levels of influence and multiple intervention strategies; and systematically integrate theories of health behavior and community and organizational change into program planning and design.
- Practice writing SMART objectives.
- Describe the three ways in which we evaluate health behavior interventions (process, impact, outcome).
- Define and apply key terms and concepts related to risk communication and persuasive speech.
- Support a decision to use specific health communication approaches for communicating in an emergency situation.
- Understand factors that influence processing of risk information.
- Understand strategies for delivering complex risk information to a variety of audiences.
- Plan and lead effective public meetings.
- Explain how mass media affect the health of individuals and communities.
- Identify characteristics of effective health communication campaigns as they relate to the target audience, message and channel selection.
- Identify and apply sequenced planning models used to design communication campaigns.
- Make and justify decisions to use entertainment education, social marketing, media advocacy, small media, mass media, interpersonal communication, social media, or other communication approaches for advancing a public health agenda.
- Identify and apply methods for developing communication materials appropriate to literacy level and cultural attributes of a target audience.

CASE EXAMPLES

As we describe above, the health topics of each case are vehicles to lead students to the Health Behavior and Health Promotion learning objectives. The cases are a mix of classic and prominent health promotion topics and trending hot topics students find very appealing.

No One Cares Any More, Do They?

The first case of the block introduces students to the Precede/Proceed planning model and assessment techniques for identifying factors affecting a health issue. The protagonist is a student intern surprised by the high rates of sexually-transmitted infections remaining in gay populations served by the local health department. As he learns fundamental planning skills, the intern is also forced to reexamine his preconceptions about a community—which is not the way the community actually are sees itself. He learns that the populations he wants to help may have trauma from previous “help” by the health department that he needs to consider in formulating his actions.

Mrs. Rose’s Dilemma

The matriarch of a Fairbanks, Alaska, family worries that her three children are perhaps more than just chubby. She is inundated by shaming and information overload as she considers how to create a more active and nutritionally healthy lifestyle for her family. She works long hours, and a McDonald’s is conveniently located on her way home. A co-worker puts her in a touch with a nutritionist at the state health department. In meeting Mrs. Rose, the health professional comes to understand how complex it is to achieve healthy weight for individuals and families and how it demands integrated solutions at multiple levels. The nutritionist digs into her knowledge of health behavior theory and recruits a coalition of community members to design a comprehensive intervention (using an ecological framework) addressing overweight and obesity in Fairbanks.

Meningitis at The Prom

A teenager in a small community dies from meningitis shortly after her *quinceañera*. The tragedy inflames students, parents, and community members

with worry and fear, even after the health department has followed proven steps to stop an outbreak. A health information officer from the county health department employs his skills in risk communication to cut through the mental noise in the community. He eventually decides to set up a town hall meeting so trusted people in the community can speak directly to citizens and address concerns and misinformation.

Still Smoking After All These Years

A high school science teacher in a lower-income school had no idea what a vaping device looked like until he saw one on TV. Now he is worried that his students may be using them on campus. This is especially worrisome considering how tobacco companies target their messages to specific high-risk populations, including his students. He involves his classes in designing a communications campaign for fellow students while he undertakes a public will campaign to shift local policy on youth access to tobacco products.

CHALLENGES

The foremost challenge of this block is introducing a high volume of new content to students—include health behavior theory—and asking them to apply their new knowledge with a very quick turnaround. This challenge is fairly universal in COPHP. In the Health Behavior and Health Promotion block, we create opportunities to explore theories, planning models, and other content didactically. Students take on learning objectives that require them to deliver a class presentation, present content in a seminar, or offer special sessions with faculty to help iron out and connect the many ideas in the cases.

A second challenge is keeping the health topics fresh. The health topics themselves are not the key content of Health Behavior and Health Promotion, and we can switch them up, applying the same key theories and planning models that are the principal block content. At the end of the first year of COPHP, students are fairly exhausted from the often bi-weekly cycle of researching, analyzing, writing, reading, and discussing. We try to keep their attention by refreshing our cases to add a new topic with a current hook. During the 2015–16 academic year, for example, we transformed the health communication objectives from the vaping

case into a marijuana case. This change acknowledged that Washington State legalized recreational use by popular vote two years ago, and stores are now popping up in many neighborhoods.

The last significant challenge is a result of using timely topics for the cases. Students are often eager to research and discuss the community experience of a health topic in a case and not balance their interest with a focus on the competencies related to theory or methods of program planning. We work with the student facilitator to make sure that the class covers the learning objectives on core health promotion skills, and at times, intervene to keep the class focused on these concepts.

CONFLICT OF INTEREST

The authors confirm that they have no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.



Evaluation

Ian Painter*, Tao Sheng Kwan-Gett and Amy Hagopian

University of Washington, Seattle, WA, United States

Abstract: COPHP Evaluation block occurs over a four week period during the second year of the program. It builds on a case that focuses on designing an evaluation for an outside client. The evaluation requirements are detailed early on in the case, and the class subsequently meets with the client to clarify questions about the evaluation and understand constraints on the process. Students then design the evaluation, write a report on the evaluation plan, and present the plan to the client at the end of the course. The case covers evaluation theory in the first two days, and the course focuses on applying to the design process both evaluation theory and quantitative design skills covered previously in the quantitative methods block (epidemiology and biostatistics). The block emphasizes the important skills of interacting with clients and eliciting and clarifying evaluation requirements.

Keywords: Barriers, Data, Evaluation, Evaluation design, Evaluation theory, Evaluator, Logical framework, Policy, Program theory, Variables.

INTRODUCTION

The evaluation block takes place at the start of the winter quarter in the second year of the program. As the block lasts for just four weeks, the class designs, rather than conducts, an evaluation. The focus on the design process has the advantage of emphasizing the process of developing an evaluation question through interactions with an outside client. Students lead this process, producing a detailed evaluation plan for the client and presenting the results to the client on the last day of the block. We cover evaluation theory through a combination of the

* **Corresponding author Ian Painter:** University of Washington, Seattle, WA, United States; E-mail: ipainter@uw.edu

learning objectives for the second day of the case and class seminars.

CASE DEVELOPMENT

COPHP finds clients for its evaluation block either directly through faculty contacts or through requests sent by email to program faculty and graduates. Cases are not recycled; each year, every class features its own case, although occasionally classes that occur simultaneously will use cases that share the same client. After a client has agreed to participate, faculty draft the case based on interactions with the client, typically in person or by phone. Following are some recent clients and cases:

Real Change Organization

Evaluation of services offered to the vendors of *Real Change*, a weekly street newspaper sold by homeless and other very low income individuals in Seattle.

The Seattle Office of City Auditor and The Seattle Office of Civil Rights

One project involving evaluation of the effects of the new Seattle paid sick and safe leave ordinance on employment of low-wage vulnerable populations. A second project involving evaluation of the effects of the Seattle paid sick and safe leave ordinance on minority and immigrant employers who own small businesses (e.g. nail salons, restaurants, etc.).

Assessment, Policy Development, and Evaluation Unit (APDE), Public Health—Seattle & King County

Evaluation of the SeaTac and Tukwila Food Innovation Network

Neighbor Care and King County School Health, Public Health—Seattle & King County

Evaluation of knowledge and uptake of long-acting contraceptives in Seattle high school-based clinics.

Health Equity Circle and IAF Northwest

Evaluation of clinic based organizing.

CLASS PROCESS

The cases are relatively short; day 1 is written to elicit learning objectives that target knowledge the students will need about the client and about the subject matter domain. During the first week a seminar is also typically given by a guest presenter with experience designing and conducting public health evaluations (for example, as an evaluation consultant). This seminar covers the process of developing evaluation questions, developing a theory of change, and using logic models.

Day 2 targets evaluation theory and is generally similar year to year. We hint that students may generate suitable learning objectives for this day by summarizing individual chapters of an evaluation textbook (for example, Grembowski's *The Practice of Health Program Evaluation*). Some topics (such as reliability and validity) are already familiar to the class from the quantitative block. Day 2 learning objectives also focus on evaluation theory for vulnerable or difficult-to-reach populations.

Day 3 ideally occurs immediately after a "meet the client" seminar, and it starts the process of designing the evaluation. We usually provide the evaluation question, but students often refine it further in consultation with the client. As part of the assignment, we provide a table outlining different aspects of an evaluation plan that should be included in the report; this serves as a grading rubric for the final project. Students typically assign roles during Day 3, and a specific student (often the student who takes on the role of project manager) has responsibility for coordinating all client interactions, as additional questions for the client are usually generated throughout the design process.

Students often begin by developing a theory of change and/or logic model, followed by selection of specific methods to answer different aspects of the evaluation question. We encourage students to create skeleton tables so they become familiar with clearly defining their data needs and thinking in terms of

variables required to answer the evaluation question. During the last week, students write the evaluation plan and make their presentation. See Appendix I for an example of daily learning objectives from the Evaluation block.

Following are learning objectives for the whole of the Evaluation block:

1. Describe the type of background information an evaluator needs about an organization before starting to design a program evaluation.
2. Explain how a comprehensive evaluation of a single program in a community requires knowledge of the landscape of other organizations working in the space.
3. Explain how political, ethical, and local, state, and federal policy issues are factored into an evaluation design.
4. Describe how evaluators assess the adequacy of data available for an evaluation and in what situations additional data must be collected.
5. Describe how the relationship between the client and the evaluator can affect the quality of the evaluation.
6. Explain how a logical framework and program theory are important drivers in framing the evaluation question.
7. Detail the most reliable types of evaluation design. Why do we settle for other types of designs?
8. As a team, synthesize evaluation theory and knowledge of a program to design an evaluation for a real community-based client.

CHALLENGES

As the Evaluation block is based on an actual assignment with a real client, domain and client knowledge must be built into the case. This limits the amount of time that can be devoted to evaluation theory, and it may be necessary to prompt the class to revisit aspects of evaluation theory during the design process. Students are often surprised when the client doesn't already have some documentation of a program theory, but this mimics real-life evaluation consulting work. Some confusion may also result when clients' evaluation requirements don't fit neatly into evaluation theory divisions (for example, formative *versus* summative; process *versus* outcome). In this situation students can become focused on trying to fit needs into the theory rather than focusing on

the design process, and it may be necessary to refocus the class to the specific needs of the client.

CONFLICT OF INTEREST

The authors confirm that they have no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.



Policy

Lena Nachand¹, Aaron Katz^{2,*} and Amy Hagopian²

¹ *Washington State Health Care Authority, WA, United States*

² *University of Washington, Seattle, WA, United States*

Abstract: The policy block is a cornerstone of COPHP experience. For 10 weeks at the beginning of the second year of the program, students engage in public discussions across all spectrums of the social determinants of health and such non-traditional public health topics as free trade and nuclear waste disposal. During this block, students work through real-life scenarios and participate in actual policy development. They benefit from the close relationships the program maintains with non-profit organizations, and the work they have conducted under their auspices during the policy block has been well-received and influential. In the course of community-based projects, students work in concert with local stakeholders and public policy makers. By the end of the block, students have learned the basic concepts, analytical tools, and skills for policy analysis, development, and advocacy, and some have also developed the inclination to pursue public health policy careers.

Keywords: Advocacy, Analytic tools, Conflict, Context, Cultural framework, Delivery, Financing, Health policy, Policy, Policy analysis, Political framework, Public policy, Stakeholder, Values.

INTRODUCTION

At the beginning of students' second year, an entire academic quarter (10 weeks) is dedicated to the study of health policy. Health policy refers to public decisions that guide organizational and individual behaviors affecting health and financing, delivery, and use of health services. Students learn the basic concepts, analytical

* **Corresponding author Aaron Katz:** University of Washington School of Public Health Seattle, WA, USA; Tel/Fax: 206.616.5227/206.616.9415; E-mail: garlyk@uw.edu

tools, and skills for policy analysis, development, and advocacy. By understanding the complex array of factors that affect public policy, and therefore how organizational and individual behaviors are influenced in regards to health, students are able to work within the cultural and political frameworks that influence and change the nation's health system.

Without adequate exposure and study of this topic, students would leave the program with a significant gap in their ability to be effective public health practitioners. Public policy in particular touches aspects of every life in the United States and is a major determinant of health outcomes. Even if students chose not to pursue a career in policy, this block prepares them to know how to get a health promotion campaign funded, assess critically whether initiatives or levies will benefit their community, or how to design a study that will both get the necessary answers and be useful in addressing conflicts among key stakeholders.

LEARNING OBJECTIVES

The learning objectives identified in the policy syllabus are:

1. Identify and understand the historical, social, cultural, economic, and political context of a public policy issue.
2. Identify and analyze the stakeholders and their interests in relationship to specific policy issues.
3. Identify and apply the policy tools and analyze options for using them to address a specific public policy issue.
4. Understand and analyze the roles of science and values in choosing a course of public policy action.
5. Identify appropriate measures of success or failure of a public policy action.
6. Present concise analyses of public policy issues both orally and in writing.

MAKING POLICY

The COPHP program is rooted in experiential and problem-based learning and this continues in the policy block. No case of the policy block occurs in isolation, as each block is rooted in real-life scenarios and requires students to reach out to public health professionals around the world. The block also takes the students on

an all-day field trip to visit the Hanford nuclear site in southeastern Washington State, followed by activities to develop and execute a lesson plan for local high school students that addresses the site's long history producing plutonium for the nation's defense program and the cleanup of the nuclear waste it generated.

Additionally, the policy block draws on the real-world needs of partner organizations to develop policy stances. Faculty have relationships with a number of policy-related organizations and agencies, and they have engaged students in working on cases with these partners. For example, as a service to the Seattle-based Economic Opportunity Institute, COPHP students conducted some of the early research on stakeholder views of city-mandated sick leave policies, contributing to the 2012 ordinance adopted by the Seattle City Council. One of our alumni works for the Washington State Board of Health developing health impact assessments (HIAs) for legislators seeking estimates of the health effects of proposed legislation; we now have a case where students help develop procedures for those HIAs and actually conduct them. For the county health department, students have researched best practices in policy to reduce the consumption of sugar-loaded beverages, how the federal Patient Protection and Affordable Care Act (ACA) could be leveraged to improve the health of jail-involved individuals, and how the ACA would affect insurance coverage in King County, especially as related to small businesses.

Since 2010, the American Public Health Association has adopted eight policies authored by COPHP students. They are:

- Prioritizing Cleanup of the Hanford Nuclear Reservation to Protect the Public's Health Policy #20105
- Improving Housing for Farmworkers in the United States Is a Public Health Imperative #20107
- Improving Access to Higher Education Opportunities and Legal Immigration Status for Undocumented Immigrant Youths and Young Adults #20117
- Improving Housing for Farmworkers in the United States Is a Public Health Imperative #20118
- Anticipating and Addressing Sources of Pollution to Preserve Coastal Watersheds, Coastal Waters, and Human Health #20126

- Strengthening and Updating Social Security to Protect Our Nation's Health #201315
- Removing Barriers to Mental Health Services for Veterans #201411
- Improving Health by Increasing the Minimum Wage #20167

A key lesson of the policy block is that no policy is developed in a vacuum. It is essential that students master practical skills that they then have the opportunity to put into practice in real world situations. This is a continuation and further example of the values and mission of COPHP.

PBL CASES

The cases for the policy block cover local, national, and global topics. Some of the cases we use in this block are not specifically policy issues but are designed to cover ground not addressed in any other block. For example, our case set in Ghana, “You Never Die of Just One Thing”, introduces students to the Big Diseases globally: malaria, TB, HIV, and anemia. Remarkably, many domestic MPH students never learn about these diseases because they are not among the biggest health problems in the United States. After students explore issues related to the imposition of colonial-style international aid on low-income country ministries of health, we present them with a final problem set in which they are asked to calculate the attributable risk factors for anemia. If they do the calculations correctly, they will conclude malaria is a much larger contributor to the incidence of anemia—although the international aid agency in the case is redirecting resources toward food fortification. We ask students to write a memo to the Minister of Health from their assigned position as an analyst in the Ministry of Health. This case challenges students to conduct statistical analysis, explore the political and economic interests of aid agencies, and review historical and biological issues of health in low-income countries. It culminates in a critical thinking assignment to produce a policy recommendation. For more detail about specific cases used in the policy block, see Chapter 2. See Appendix J for sample case facilitator notes from the policy block.

WORKING WITH COMMUNITIES

A successful and relevant policy analyst, policy writer, and policy advocate must maintain relationships with a broad range of organizations, agencies, movements,

and communities. The first learning objective of the block is to understand the various contexts in which public policy is formed. A key context is how advocates can turn a problem into a policy issue. Further, we help students understand that policy makers and advocates must meaningfully and forthrightly engage with the affected community or communities to ensure sufficient stakeholder engagement to make progress.

Immersing public health students in real health policy issues within a 10-week block requires faculty to have and nurture relationships with local and state public agencies, public policy makers, and advocacy organizations. As a result, various people and organizations have given vast amounts of time to students and their learning. Maintaining these relationships, both through faculty and quality student work, is critical for the policy block and COPHP.

CHALLENGES

Public policy involves both science and art. The “science”—how policy agendas get set, stakeholder analysis, policy analysis, *etc.*—can be appreciated through PBL cases in a 10-week block. But the “art”—how to work with stakeholders of many different points of view, how to forge compromise, how to gauge the right “timing” for moving a policy initiative—takes much more time and experience. The policy block can give students a sense of the art and a framework they can then use when they start or continue their careers.

A second challenge concerns the experience and preparation of students who come to COPHP. Many are attracted to the program and the pedagogy because they want to do community-level work or “get their hands dirty” in helping communities be healthy places. They often don’t come with extensive—or any—experience or background in policy or political work, not even something as simple as dinner table conversations growing up about how to eliminate racism or poverty or whether to invade a country. Some enter the program thinking that the only mechanism for improving public health is (or should be) communication targeting individuals, such as posters admonishing the public to quit smoking, wear a condom, and eat right. As a result, this block has the challenge of expanding students’ understanding of what affects health from the individual to

the collective, and that can be a struggle for some.

CONFLICT OF INTEREST

The authors confirm that they have no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.



Management and Leadership

Chris Hurley*, **Katie Bell** and **Bud Nicola***

University of Washington, Seattle, WA, United States

Abstract: The Management and Leadership block in the COPHP program focuses on providing students with the skills and knowledge needed to direct and coordinate the efforts of individuals and organizations. Managers and leaders accomplish their work through and with others and must understand, motivate, and manage individuals, groups, and teams. Managers also establish directions, plan and organize the work to be done, identify and resolve problems, budget and manage the organization's resources, evaluate and improve performance, drive change, and establish and manage external relationships. In this block, we use cases set in a variety of different community health settings to explore the full range of management and leadership skills. Mini-cases illustrate management principles. Students visit several community organizations to observe management at work.

Keywords: Communication, Conflict management, Financial management, Interpersonal competence, Leadership, Leading change, Management, Organizational equity, Personal awareness, Strategic planning, Team dynamics.

MANAGEMENT AND LEADERSHIP ROLES IN PUBLIC HEALTH PRACTICE

COPHP graduates will practice their population health skills in organizations with other people. Without regard to a student's precise career trajectory, the COPHP program encourages all students to acknowledge and embrace their responsibilities as both formal and informal leaders in improving population health. Skills taught in the Management and Leadership block will help students work effec-

* **Corresponding authors Chris Hurley and Bud Nicola:** University of Washington, Seattle, WA, United States; E-mails: xtine.hurley@gmail.com and bnicola@uw.edu

tively in groups and teams, in large and small organizations, with for-profit and non-profit and governmental organizations, and across organizations in collaborative teams.

LEARNING OBJECTIVES

The Management and Leadership block aims to help students explore the evidence and experience base underlying and informing management best practices. Students gain insight in assessing their own proclivities, strengths, and weaknesses relevant to management and leadership. They strengthen their competencies and skills to carry out core management and leadership functions and responsibilities, including the following fundamental learning objectives:

1. Manage with and through people, groups, and teams.
 - Describe the basic roles and responsibilities of managers and leaders. Understand the major theories of management and leadership. Describe approaches for energizing commitment and involvement by an organization's people in addressing challenges, achieving goals, and improving performance.
 - Describe approaches for recruiting, retaining, and developing human resources.
 - Assess personal strengths, weakness, and preferences and explore the implications of personal style and behaviors on abilities to work effectively with others.
2. Establish organizational direction, goals, and operational plans.
 - Describe the elements and methods for formulating organizational strategies, plans, and programs. Explore the limits of long term planning and the importance of contingent approaches in response to change.
 - Develop and communicate an organization's mission, vision, and values to motivate the organization's people and guide unit-level planning.
 - Explain the importance of aligning organizational goals, culture, structure, reporting relationships, budgets, and reward systems.
3. Guide and manage conflict productively.
 - Manage effective group decision-making, collaborative problem-solving, conflict resolution, team-building, and teamwork.

- Identify organizational problems that impede an organization's ability to carry out its functions; analyze problems; and identify potential solutions.
4. Budget and manage resources.
 - Explain methods for budgeting financial and human resources in support of goals, programs, and projects, and explain techniques for managing within a budget.
 - Describe sources of external funding and processes for seeking grants and other external resources.
 5. Lead and manage change.
 - Explain approaches for bringing about change in organizations, including empowerment, training, removing obstacles, dealing with resistance, and rewarding successes.
 - Describe the elements and process of formulating a plan for introducing significant change in an organization.
 6. Understand the dynamics of groups and effectively lead and manage teams.
 - Describe approaches for developing effective working relationships between an organization, its community, and other external stakeholders important to its mission.
 - Describe approaches for advocacy, collaboration, and social marketing to gain support for an organization's mission and programs.
 7. Evaluate and improve organizational performance.
 - Describe performance measures and monitoring methods and the use of data and best practices to improve performance.
 - Define the core tools for analyzing and improving workflows and processes.
 - Explore the roles and responsibilities of managers and front line staff in improving safety, service, and financial performance.
 8. Assess and improve the organization's performance as a just and equitable contributor to improving community health.
 - Describe tools to assess and enhance an organization's competence and effectiveness to engage and serve the diverse constituencies that make up its workforce and community.
 - Explain best practices for creating an equitable inclusive workplace.

APPLICATION OF EXPERIENTIAL LEARNING AND PROBLEM-BASED LEARNING

Cases within the block attempt to capture the breadth, depth, and complexity of the roles of managers and leaders and reflect management and leadership responsibilities both within an organization and in relating the organization to the environment in which it operates. Cases are set within a variety of community and public health contexts, including community health centers, human service providers, public health departments, and large public hospitals. Effective management and leadership require thoughtful, sensitive, skilled interaction with others. Public health practitioners must understand their own beliefs, values, and preferred styles of interacting with others in the work setting to enhance their capacities to lead and manage successfully. To support the growth of personal insight, the block provides students with the opportunity to explore their own “emotional intelligence” and managerial “style” and “skills” by completing a number of self-assessment instruments. Results of these assessments are shared only with student consent.

CASE EXAMPLES

Leading for Equity

This case shifts the focus from the inequities of the larger health care delivery system and affected communities to the internal inequities of a small community health center. The center’s new director comes to his job expecting to be able to really leverage his experience to affect disparities experienced by the clinic’s patient population. Instead he finds his clinic’s culture and structures might actually be part of the upstream sources of those disparities. The new leader inherits a diverse front line team but a leadership team dominated by well-educated white males like himself. Staff feel that the odds of advancement are stacked against them, that rules are unclear and differentially applied, and that they do not have a voice in how the clinic operates. And patient satisfaction is less than stellar, with community members asking about all the promises the center made to them in its last planning cycle. Students explore the questions that a leader encounters when looking deeply at how to improve an organization’s

internal equity. Topics include audits for diversity and equity, strategies for improving and measuring performance, methods to enhance accountability to the community, and the emotional skills needed by managers to change culture and practices.

Improve or Else

This case gives students the opportunity to learn about some fundamental process improvement techniques that every public health practitioner should be familiar with regardless of her or his career destination. All public programs and services face pressure to do more with less, while improving the safety and satisfaction of consumers and staff. The case begins with a leader of an HIV/AIDS service organization confronting a federal funding requirement: the organization must reduce its longstanding wait times without new funding, or face future funding reductions. With the help of a newly hired manager with process improvement experience, the leadership team begins its introduction to basic tools and builds a plan for bringing its wait times down—and identifying other opportunities for improvement. Topics include the role of leadership; the composition of improvement teams; the process of identifying sources of waste, especially over-processing and re-work; the use of tools such as value streams, spaghetti charts, 5S, Kanbans, and lead time measurement; and a description of a typical rapid process improvement workshop.

CHALLENGES

This block is scheduled for the final quarter of the two-year CPHP. Students are facing the distracting pressures of completing their second year capstone projects and beginning their job search for life after graduate school. In light of this student context, the format of the block returns to a more traditional exploration of learning objectives and postings with less emphasis on external community engagement. Instead, students are urged to approach their written products as real work communications with an emphasis on conciseness, clarity, and a compelling story. Because management and leadership take place only in the context of other human beings, the course encourages direct contact with community leaders and managers as sources, allows students to explore a series of personal assessments,

and includes role-play practice of interpersonal skills.

Faculty for the block comprises of all deeply experienced senior managers and leaders from various public and community-based organizations. Their participation in the block creates a unique temptation to step outside of the PBL traditional faculty role and participate more actively in class discussion. Students are eager to understand the “real world” of leaders and managers as they stand on the cusp of entering the public health workforce. Faculty must constantly weigh the value of sharing their own perspective, seeking the proper balance of contributing observations and holding back and asking questions on a limited basis.

CONFLICT OF INTEREST

The authors confirm that they have no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.



The Committee on Oppression, Racism, & Education (CORE)

Ariel Hart*, Jennifer Hagedorn, Anne Althaus, Tara Bostock, Afomeia Tesfai, CORE Founders and Amy Hagopian*

Washington State Health Care Authority, University of Washington, Seattle, WA, USA

Abstract: The Committee on Oppression, Racism, and Education (CORE) is a group of Community-Oriented Public Health Practice (COPHP) students working to integrate anti-racist principles into the program. CORE provides a common language and framework to discuss racism in COPHP. It has a twofold overall purpose: to tackle manifestations of racism playing out in the classroom environment and in the COPHP program structures, and to ensure all students graduating from the COPHP program are prepared to address issues of racial equity as public health practitioners. By confronting the underlying drivers of health disparities that plague people of color, CORE has become a force for institutional change not just in COPHP but also in the School of Public Health, elsewhere in the University of Washington, and in the community.

Keywords: Anti-racism, Anti-racist education, Anti-racist principles, Anti-racist public health program, Classroom culture, Community engagement, Community organizing, Health equity, Institutional change, Institutional organizing, Institutional racism, Internalized racial inferiority, Internalized racial oppression, Internalized racial superiority, Micro-aggressions, Racism, Student-driven change, Systems of oppression, Undoing institutional racism, White privilege.

* **Corresponding authors Ariel Hart and Amy Hagopian:** University of Washington, Seattle, WA, USA; E-mails: amhart521@gmail.com and hagopian@uw.edu

BACKGROUND

Problem-based learning, the teaching and learning method used in COPHP, gives students an opportunity to create the learning environment they want. But even within COPHP classrooms, students of color were experiencing the same, and sometimes more severe, micro-aggressions and marginalization than they had in past work and educational settings.

Before CORE, students lacked a common language or framework to discuss racism in COPHP, and it became clear that the program needed additional resources and dedicated time for anti-racist education. Several cases offered opportunities for students to discuss racism and its effects on health, but the conversations lacked depth and highlighted students' hesitancy to focus on racism. The program offered one two-hour seminar during fall quarter to explore the ways racism affects public health. But as future public health professionals, students felt it would be negligence to graduate with an MPH and not have a more comprehensive understanding and vocabulary about racism than could be offered in a couple of seminars.

CREATING CORE

In fall 2013, a few students came together to discuss the manifestations of racism in the classroom and within the structures of the COPHP program. They decided the program needed external support to become anti-racist. Students initially formed CORE to bring anti-racism organizers to COPHP, but the group quickly expanded its goals to become a force for institutional change within COPHP, the School of Public Health, other schools within the University of Washington, and the community.

CORE's goals are:

1. To support the COPHP program to deepen its commitment to using an anti-racism lens in all aspects of the program.
2. To work with other student groups, organizations, and departments across health sciences programs and the university as a whole to dismantle social, political, and economic oppression to create a sense of restored community and

mutual caring.

3. To build and maintain relationships with community organizations to establish accountability to racially oppressed communities in the Seattle-King County region.

FOCUS ON RACISM

In the United States, the racial categorization of human beings has enabled certain groups of people to have disproportionate access to educational, economic, social, and health opportunities. This specious categorization has played a pivotal role in creating the economic inequality and the poor health outcomes that we see in our country today. Our current societal institutions and systems frequently screen out people of color in a systematic manner from obtaining wealth, prosperity, and general success. Therefore, CORE members felt it was vital to critically analyze their own institution, the COPHP program within the University of Washington School of Public Health, to move toward a fully inclusive environment.

Other oppressions (sexism, heterosexism, classism, *etc.*) are also linked to health outcomes. But without an intentional focus on eliminating racist policies and protocols (both formal and informal), efforts to confront these other “-isms” will undoubtedly perpetuate racial disparities. Confronting the underlying drivers of health disparities that plague people of color requires that students build the skills necessary to identify barriers to health equity and challenge the systems and institutions that privilege white people to the detriment of people of color.

Guiding Principles

CORE adopted the anti-racist organizing principles of the People’s Institute for Survival and Beyond as a framework to guide efforts internally and externally. Before fully embracing and using the principles, CORE brought anti-racist organizers to campus for a deep dive into racism in the United States and an examination of how internalized racial oppression and superiority were playing out in the classroom. CORE called for an anti-racist analysis to be integrated into the curriculum and competencies for all future cohorts as well. Partnering with the People’s Institute provided students with a common analysis of racism as well as a deep understanding of oppression and organizing strategies to bring social

liberation in public health and in the many other spaces students occupy.

CORE's work within the COPHP program, with support from the People's Institute community organizers, provides students with the language to name and challenge racism in the classroom and beyond. CORE believes students' capacity to change racist institutions begins with COPHP giving students the understanding and skills to stand against oppressions and injustices.

CORE ACTIVITIES

Since its inception, CORE has acted as a change team, paving the way for anti-racist work. Throughout this anti-racism process, CORE members have intentionally engaged students, faculty, and community partners in multiple conversations about anti-racism goals and activities. Following are some of CORE's approaches.

- **Institutional organizing.** CORE consulted students, faculty, and community partners; People's Institute principles; and tools such as the Continuum on Becoming an Anti-Racist Multicultural Institution to identify specific areas within COPHP that required modifications. CORE members then developed recommendations for changes to COPHP, including classroom environments, admissions processes, curriculum, community engagement, and hiring practices. Due to the work of CORE students, the COPHP program has committed to becoming an anti-racist, multicultural program—a continuing journey.
- **Integrating anti-racist ideas.** CORE members have worked with faculty and administrators to integrate anti-racist ideas and content into nearly every program function. This work involves:
 - Integrating questions about anti-racism into end-of-quarter student feedback questionnaires
 - Developing anti-racist approaches to faculty hiring, including revising job descriptions to include the program's vision of undoing structural racism
 - Crafting and including a statement of COPHP's anti-racist commitment into program syllabi
 - Collaborating with faculty to revise PBL cases and integrate content on racism and public health into learning objectives and class discussions
 - Serving on the admissions committee to bring transparency to this process

- and increase the diversity of voices making these decisions
- Creating an admissions rubric to reduce bias during admission decisions
- Providing resources and support for all COPHP students and faculty to attend a People's Institute Undoing Racism training
- Establishing a standing agenda item for CORE students to have time at faculty meetings

CORE's work within the COPHP program has gained the attention of the School of Public Health more broadly, as well as other schools within the University of Washington. Members of CORE were asked to teach a one-credit elective course on racism in public health practice each quarter of the academic year to expose students in the larger School of Public Health to discussions about structural racism. CORE members may in the future be involved in the creation of a class in the School of Public Health to fulfill a new core competency regarding racism. CORE members presented about the journey of working towards becoming an anti-racist program at the 2015 American Public Health Association. Students in other programs at the University of Washington have reached out to CORE members for consultation and partnership, and CORE has supported their organizing.

- **Community organizing.** CORE places a high value on engaging with community issues because it creates accountable relationships between anti-racist community organizing groups and COPHP. They partner with community organizations affiliated with the People's Institute to support community organizing. Among these partnerships are:
 - **Ending the Prison Industrial Complex (EPIC)**

This multi-racial, multicultural, inter-generational collective of anti-racist community organizers works to create alternatives to detention; it advocates that the county stop the construction of a new youth jail. CORE provided support by engaging faculty and students from other departments to testify at city and county council meetings about the public health benefit of reducing racial disproportionality within juvenile justice and creating healing spaces to respond to the underlying issues with a punitive criminal justice system.

- **European Dissent**

This is an anti-racist collective of white people who organize to undo racism in accountable relationships with groups led by people of color. Members of CORE have collaborated with European Dissent to give community presentations and do organizing within predominantly white institutions and communities.

- **The Village of Hope**

This Black-centered collective supports communities of color, especially in relation to the criminal justice system. CORE members hosted meetings of elected officials about issues chosen by the Village of Hope and the Black Prisoners' Caucus.

Informally, CORE students and COPHP faculty run into each other at Black Lives Matter events, picket lines, marches, City Council meetings, and other events and activities in the community. These solidarity moments create opportunities for team-building and a sense that our program is part of something larger than just an academic enterprise.

CONFLICT OF INTEREST

The authors confirm that they have no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.



Final Thoughts about the Future of COPHP and Conclusions

Amy Hagopian*, Bud Nicola and Peter House

University of Washington, Seattle, WA, USA

Abstract: Public higher education in the United States is in great flux. A number of factors adversely affecting the effectiveness of higher education in the U.S., such as the erosion of public financial support, have undermined the COPHP program. Recruiting and retaining an ideal mix of motivated students and faculty are ongoing program tasks. In spite of these challenges, COPHP is an effective program for producing successful, motivated, and highly sought-after graduates in public health.

Keywords: Culture, Higher education, Faculty, Funding, MPH, Program size, Students.

REFLECTIONS

Now that our the COPHP program is a little more than a dozen years old, we have enough experience to reflect on how we might have designed some things differently. We also have some musings about our future.

We have highlighted all the ways in which our program succeeds and thrives in the previous chapters of this book. In this chapter we will reveal some of our continuing concerns and some of the downsides of this pedagogical model.

First, we exist in the context of public higher education in America, which is seriously in disarray. “Contingent” faculty are now the norm in U.S. higher education, with tenured or tenure track faculty at most institutions in the minority,

* **Corresponding author Amy Hagopian:** University of Washington, Seattle, WA, USA; E-mail: hagopian@uw.edu

and at our university this reality is even more exaggerated. The University of Washington (UW) as a whole moved from a position of 70% regular tenure track faculty before the 2008 economic collapse to 30% now. Public health master's programs at our university, and across the U.S., commonly supplement regular faculty ranks with part-time faculty whose regular employment is elsewhere; this can bring in niche areas of expertise. COPHP does this to an extreme. Further, those who do have more regular faculty appointments at the university are obligated to bring in the bulk of their salaries through grant funding, as state appropriations are far too small to support a full-sized school of public health. This context creates a situation where our highly student-focused program relies on faculty willingness to volunteer time to assess twice-weekly postings (usually in the evenings, when class is the next morning), as well as to contribute to the life of the program through monthly faculty meetings, admissions committee, student orientation, first-year student advising (which includes practicum supervision), annual faculty retreat, capstone presentation day, graduation celebrations, and our many social events throughout the year. It is not clear that this arrangement is sustainable, especially as grant opportunities dwindle for our regular faculty and appropriations for our faculty with public health day jobs decline in tandem.

Our program is one of many programs in the UW School of Public Health, which admits nearly 200 MPH students each year (along with other master's degrees, such as health administration). Other MPHs include programs in social and behavioral sciences, maternal and child health, environmental health, epidemiology, global health, international health metrics and evaluation, genetics, nutrition, an executive MPH using distance learning, and even an occasional biostatistics MPH. We swim in that rich stew and benefit from much cross-fertilization and the elective courses generated by a school of this size. Some of our faculty teach in other programs as well. Our program is well known in the school, and other faculty have occasionally approached us about how to introduce some problem-based learning into their courses. Nonetheless, because our PBL classes are entirely self-contained, each of our students is surrounded by only 23 other students (in groups of 8) for all their core course time—about seven hours per week. This kind of insularity and intensity has contributed to a mixed reputation in the school. Our students are known for being intensely driven, hard-

working, and vigilantly focused on social justice concerns. They are popular with faculty offering electives in that our students are attentive and prepared, they contribute to class discussions, and they skillfully take on leadership roles in small group projects and discussions. They can also be overly focused on the process aspects of their classroom dynamics and when a problem arises can spend quite a bit of time and energy on what to an outsider can look like self-absorbed activity. It has also happened that a group of students will decide a faculty member is not sufficiently attentive to classroom dynamics and deferential to student-driven norms and expectations, which can be painful and discouraging for that faculty member. The student intensity has definite advantages for a strong, well-regarded faculty member, but can lead to burnout and loss of some faculty members where there is a teaching style and cultural mismatch with the program.

One of the goals we set for ourselves was to make available our model to international universities. One of the clear advantages of U.S. higher education is that it nourishes creativity, curiosity, questioning and well, just sassiness. In many places, especially in low and lower-middle income countries, higher education is still stuck in more traditional models of lecturing and memorization for exams. Ideally, our program could attract international students who could then return to their home countries to teach in their universities using this approach. The fiscal reality, however, is that because COPHP is so expensive, and has so little public funding support, we cannot make it available to international students at a price they can afford.

This price issue has other negative consequences. Our high tuition and lack of publicly funded scholarship opportunities limits our ability to attract first generation and other low-income students. We have considered ways to “scale” the program to make it more affordable; all scenarios include increasing the class size or leaving students to manage PBL class sessions without faculty presence. This year, we are experimenting with a 30-student public health skills class for MPH students in other programs where students will select projects from among several offerings proposed by community-based partner organizations.

We believe we have reached a maximum program size at 24 students per year. This puts some practical limits on any academic or social event involving all

students along with faculty and others. Our capstone presentations are now structured to have parallel sessions, because a single session would require more than five continuous hours, at 13 minutes per presentation for 24 students.

As program directors, the most important task we faced was to attract, orient, and retain faculty who were well-suited for our pedagogy. The traditional MPH core courses required to meet accreditation-required competencies at the UW include epidemiology, biostatistics, health systems, social determinants of health and environmental health. Each of these five courses enrolls more than 100 students. Long-standing senior faculty typically teach them, and department chairs rarely have difficulty filling these teaching spots. By contrast, recruiting 26 suitable faculty to staff nine core courses (times three sections each) is a substantial challenge.

In a similar vein, attracting 24 well-matched students to the program each year is also challenging. Students must be PBL-ready and know exactly what they're getting into. We have to carefully monitor the admissions process to be sure we don't admit too many or too few, and we don't want any drop-outs because the class size is optimal at 8. We've been fortunate to have very few drop-outs over the years because we pay a lot of attention in the admissions process to ensuring enrollees are fully aware of what they are getting into and will fit into COPHP culture. In addition, one of our recruitment goals is to identify a cohort of students whose diversity contributes to the group knowledge base. This means our admissions process considers factors far outside the usual GRE and GPA numbers, resulting in the acceptance of students who sometimes require more academic support than traditional programs would be prepared to sustain. We believe our graduates are better public health professionals, although perhaps not all are academic powerhouses.

We have a strategic plan to guide our future. Our plan includes two important goals: "Build on our success to maintain an exciting, thriving, academic program to train practitioners who will improve the public's health", and "Improve our fiscal and administrative situation". The action steps for these goals are offered in Appendix K.

CONCLUSION

We know we can manage and overcome several challenges discussed above in this chapter. COPHP is succeeding in training the next generation of public health practitioners. Problem-based learning can be arduous for students and faculty alike, but, in the end, it can be done and it really works. Our graduates think critically; they are skilled in all forms of communication; they know how to find, manage, and evaluate information; and they are skilled facilitators and team players. Our cases change yearly, which means that our graduates are knowledgeable about the current issues and contents of public health practice. And, importantly, our graduates are finding meaningful and rewarding employment, and they are active in their communities.

The intent of this book is to educate and build enthusiasm about the power of case-based and problem-based learning in public health, and the importance of creating a tightly-knit program that emphasizes social justice and anti-racist principles. If you are reading this as an academic leader with an interest in learning from our approach, we would like to encourage you to visit us, borrow from our cases, and experiment in your own school of public health. The world needs new public health professionals who are ready to take on ambiguous and daunting situations, fearless about tackling emerging challenges, highly skilled (especially with regard to systems thinking, written and oral communication and working in teams), and who are driven by progressive public health values.

CONFLICT OF INTEREST

The authors confirm that they have no conflict of interest to declare for this publication.

ACKNOWLEDGMENTS

Declared none.



Appendix A-List of Online Resources

1. **COPHP website**
<http://www.mphpublichealthpractice.uw.edu/>
2. **Capstone titles, sorted by general topic areas, or in a matrix by international, quantitative, schools-based, environment, vulnerable populations, population health, health departments**
<http://www.mphpublichealthpractice.uw.edu/overview/capstone/>
3. **Faculty handbook**
<http://www.mphpublichealthpractice.uw.edu/pdfs/faculty-handbook.pdf>
4. **Student handbook**
<http://www.mphpublichealthpractice.uw.edu/pdfs/student-handbook.pdf>
5. **Capstone handbook**
<http://www.mphpublichealthpractice.uw.edu/pdfs/capstone-handbook.pdf>
6. **COPHP faculty and alumni/alumnae publications**
<https://catalyst.uw.edu/workspace/uwcophp/51028/376367>
7. **Selected alumni and employer job placements**
<http://www.mphpublichealthpractice.uw.edu/alumni/>



Appendix B-COPHP Peer Review Process

Community Oriented Public Health Practice Program
Faculty Peer Review for 2014 - 2016
(Revised May 2014)

Background and purpose:

- We want to improve our teaching through an informal peer review process.
- We want to be careful that this process does not add a significant time commitment for faculty.
- Feedback will be in conversation. There will be no written reports with this process unless the observed faculty requests it.

Process:

1. The program director will pair faculty by having the facilitator in each block be observed by the facilitator of the block that is three blocks following the one being reviewed.
2. The observed faculty will work with the observer to chose a day in the block and a time within that day. Criteria to consider are:
 - What day of the block will allow the most variety of activities?
 - What day (and time within the day) of the block will afford observations opportunities of most use to the observed faculty?
3. The paired faculty will meet before the class to go over what is planned for the class and to share ideas about the observation. (See the CIDR document on classroom observations).
4. The observer will attend all or part of the class session.
5. The paired faculty will meet (or talk on the phone) after the class to discuss the observation. (See the CIDR document on giving feedback).
6. The observer will chose (at random) two student postings from the block to review written feedback.
7. The paired faculty will meet (or talk on the phone) to discuss the review of written feedback. (See the CIDR document on giving feedback).



Appendix C-COPHP Learning Objectives Compared to University of Washington MPH Competencies

#	Generic MPH Competencies	Block	Learning Objectives
1	Describe the factors influencing the balance between individual susceptibility and population determinants of health.	Population Health Health behavior & promotion	Define population health. Compare mortality measures. Critique the role of public health in producing a health nation. Compare female health status to that of men and draw conclusions that could apply to other comparative health status analyses. Synthesis the theoretical basis for health related behaviors. Apply sound judgment when making decisions about problem identification, audience segmentation, and intervention selection. Apply sequenced planning models to design communication campaigns.
2	Demonstrate creativity, inquisitiveness, and evidence-based rigor in the application of public health problem-solving skills .	All blocks	Write and post for reading by fellow students and faculty two 5-page research paper per week on learning objectives assigned. Question conventional wisdom. Identify potential solutions to a community problem within a short time frame.
3	Critically read and evaluate quantitative and qualitative research findings contained in medical, public health, and social science literature.	Community Development Quantitative block	Explore community development literature and leading thinkers in relation to community development knowledge, skills and practices for public health practitioners. Participate in an epidemiology journal club. Explain and interpret biostatistical concepts in journal articles. Interpret methods, results and limitations of statistical analyses found in public health reports.

Appendix C contd.....

#	Generic MPH Competencies	Block	Learning Objectives
4	Work effectively in and with diverse cultures and communities (cultural competency).	Population Health Community Development Health Behavior	<p>Define concepts of community.</p> <p>Develop reasons why evidence-based ideas about population health are not mainstream in the U.S.</p> <p>Demonstrate an understanding of community processes necessary for mediating and negotiating with political stakeholders.</p> <p>Demonstrate community competence.</p> <p>Describe the role of societal hierarchy in determining health.</p> <p>Define cultural competence frameworks and how they relate to health promotion and disease prevention practice.</p>
5	Apply appropriate analytic tools and emerging technologies to defining, describing, and intervening public health problems.	Population Health Community Development Quantitative skills block (biostat & epi) Evaluation	<p>Describe health disparities, health inequities, social determinants of health.</p> <p>Demonstrate how to observe and assess a community.</p> <p>Demonstrate skills in infectious disease epidemiology (outbreak investigation, prevention and control of infections).</p> <p>Measure disease prevalence and incidence and other ways of assessing the burden of disease.</p> <p>Apply biostatistical principles and methods to the analysis of epidemiologic data.</p> <p>Demonstrate an understanding of the concepts surrounding variables—their various types and ways to analyze them.</p> <p>Select and interpret appropriate graphical displays of data.</p> <p>Describe and interpret measures of association.</p> <p>Make predictions with simple regression models, and use contextual knowledge about potential confounding factors to interpret these.</p> <p>Demonstrate an understanding of how to use a statistical program for the computer.</p> <p>Identify the various evaluation designs, the types of data required for each, and their strengths and weaknesses.</p>

Appendix C contd.....

#	Generic MPH Competencies	Block	Learning Objectives
6	Describe major quantitative, qualitative, and mixed methods research study designs and their advantages and limitations.	Quantitative skills block (biostat & epi) Evaluation	Investigate real public health problems using analytic epidemiology study designs. Design a study, create data collection protocols, collect and analyze data, and write a report about a selected public health problem. Design an appropriate analytic plan and apply appropriate descriptive and inferential biostatistical approaches to executing that plan. Design an evaluation to answer a specific evaluation question for a program or policy.
7	Identify and respond with integrity to ethical and social issues in diverse contexts and promote accountability for the impact of policy decisions upon public health practice at local, national, and international levels.	All blocks	Investigate the role of income disparity in health inequities. Define how rural and urban health problems and solutions may differ. Evaluate the ethical factors in public health screening programs. Demonstrate an understanding of principles involved in ethical and sensitive conduct of health promotion and disease prevention practice and research. Create a working definition of social justice, and test various community perspectives on this concept. Demonstrate an ability to apply ethical principles in leadership and management challenges. Balance competing interests in weighing environmental health permitting decisions. Design evaluation designs that respect stakeholder interests while producing independent results.
8	Demonstrate professional and ethical behaviors within the appropriate management structure (academic, governmental, or other), including ability to work effectively with professionals from other disciplines.	Community Development Policy	Demonstrate ethical means for gathering data on communities and populations. Describe the various ways in which public agencies are beholden to private sector interests as they develop financing policy.



Appendix D-Student Feedback Form

3/15 Revised COPHP Block Feedback -- Sample Survey

Page 1 of 4

Your instructor and COPHP are interested in your learning experience in this block. Please take 5 to 10 minutes to respond to the following questions. Your feedback will be helpful both to your instructor and to the program in ongoing program improvement. All responses will be kept anonymous.

Note: The first three pages are for feedback on the block as a whole, and the fourth page is for feedback to the instructor.

Question A.

	Excellent	Very Good	Good	Fair	Poor	Very Poor
A1. The course as a whole was:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A2. Amount you learned in the course was:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A3. Use of class time was:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A4. Interest level of class sessions was:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A5. Reasonableness of assigned work was:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question B.

Relative to non-PBL courses you have taken:

	Much higher	About the same	Much lower
B1. The intellectual challenge presented was:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B2. The amount of effort you put into this course was:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

://catalyst.uw.edu/webq/survey/kfreisem/263677?solstice_selected_button=btn_047615767a60f0de4fdce447ec1c53c4_1&sol_button_data_btn_047615767a6... 1/2

2016

Catalyst WebQ

B3. Your involvement in this course (doing assignments, attending class, etc.) was:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B4. Your confidence in having mastered the material was:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Next >>

3/15 Revised COPHP Block Feedback -- Sample Survey

Question C.

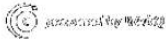
COPHP Progress Towards Becoming an Anti-racist Organization

	Strongly Agree					Strongly Disagree
C1. I felt heard by other students in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C2. I felt heard by faculty in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C3. Faculty fostered an environment where microaggressions could be addressed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C4. The cases and the classroom discussion included accurate representations of different cultural perspectives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C4. Other comments?						

[<< Previous](#) [Next >>](#)

Questions or Comments?

Contact Karen Freisem at kfreisem@uw.edu



3/15 Revised COPHP Block Feedback -- Sample Survey

Page 3 of 4

Question D.

D1a. On average, how many hours per week have you spent on this course, including attending classes, doing readings, reviewing notes, writing papers, and any other course-related work?

Hours:

D1b. From the total average hours above, how many do you consider were valuable in advancing your education?

Hours:

D2. What aspects of this block (including the PBL process and the cases) were especially helpful to your learning?

D3. What aspects of this block (including the PBL process and the cases) hindered learning or could be improved?

D4. Other comments?

3/3/2016

Catalyst WebQ

3/15 Revised COPHP Block Feedback -- Sample Survey

Page 4 of 4

Question E.

	Excellent	Very Good	Good	Fair	Poor	Very Poor
E1. The instructor's effectiveness in facilitating my learning was:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E2. Instructor's openness to student views was:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E3. Instructor's interest in whether students learned was:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

D4. What did this instructor do that was especially helpful to your learning?

D5. What did this instructor do that may have hindered learning or could be improved?

Thank you for providing your feedback!

[<< Previous](#)

<https://catalyst.uw.edu/webq/survey/kfreisem/263677>

1/2



Appendix E-Orientation Week Schedule

 SCHOOL OF PUBLIC HEALTH

2014 COPHP ORIENTATION

Thursday (9.18.14)	Friday (9.19.14) School of Public Health New Student Orientation 2014	Saturday (9.20.14)	Monday (9.22.14)	Tuesday (9.23.14)
<p>1:30 PM- 3:00 PM <i>Faculty Meet & Greet</i> UW Tower T-22 Boardroom (4333 Brooklyn Ave NE, Seattle, WA 98105)</p> <p>Special Note: If you have your Husky card, you can tap in, if not sign-in at the front desk.</p>	<p>11:00-11:30 AM HOGNESS LANDING <i>SPH Incoming Graduate Student Orientation Check-In</i></p> <p>11:30-12:40 PM HOGNESS AUDITORIUM <i>Welcome from the Dean Introduction from the Office of Student Affairs</i> <i>Tips for Graduate Students from the Student Public Health Association Union Presentation</i></p> <p><i>Transition: Hogness to Portage Bay Event Area</i></p>	<p>6:00 PM- 9:00 PM <i>Potlucks at "Amy's"</i> 1606 E Columbia St. Seattle, WA 98122 Amy's #: 206-706-0989</p> <p>Please sign-up to bring a dish at: Perfect Potluck</p> <p>Find a Meal (enter) Last Name: COPHP Password: e_14</p>	<p>10:00 AM- 12:00 PM <i>CASE 0</i> Meet in South Campus Center</p> <p>Hagopian (Group A) L meets in SCC 350 Bezruchka (Group B) L meets in SCC 224 Krishnaswamy (Group C) L meets in SCC 308</p> <p>12:15 PM-1:15 PM Brown Bag Lunch (Bring your own, or visit the South Campus Center Café) Meet at SCC Terrace</p>	<p>10:30 AM- 1:00 PM <i>Library Resources</i> Health Science Library Classroom C</p> <p>Tentative Schedule: Overview Mendeley- Ross Howell & Sarah Mitchell</p> <p>PubMed Research & Systemic Review Research- Ariel, Heather and Ryan</p>
<p>3:10 PM- 4:20 PM <i>Second Year Tips & Tricks</i> Facilitated by CORE members Stay in UW Tower T-22 Boardroom</p>	<p>12:40-2PM PORTAGE BAY EVENT AREA <i>Lunch; Health Sciences Common Book discussions with faculty, alumni, & current students</i></p> <p><i>Transition: Portage Bay Event Area to SCC 300-Lobby</i></p>			
<p>3:10 PM-4:20 PM Faculty Meeting* UW Tower Cafeteria North (4th)</p>	<p>SOCC 300 <i>Round Robin Resource Fair</i> <i>Transition: SOCC 300 to Portage Bay Event Area</i></p> <p>3:00-5:00 pm PORTAGE BAY EVENT AREA <i>Student Public Health Association Happy Hour</i></p> <p>Be sure to confirm schedule of activities at: http://sph.washington.edu/students/orientation/</p>		<p>1:15 PM-2:30 PM Campus Tour Tour guide: Hannah Calas Meet at George Washington Statue uw.edu/maps/?indmk-5</p>	
<p>4:30 PM- 6:00 PM <i>COPHP Faculty & all Student Reception</i> UW Tower Cafeteria North (4th Floor)</p> <p>Students, if you are consuming alcohol please bring you STATE ID.</p>				

ONLY COPHP FACULTY NOT A STUDENT ACTIVITY



Appendix F-Sample Practicum Project Description

MPH in Community Oriented Public Health Practice
Practicum Placement Request Form
Public Health—Seattle & King County

1. Project Name

Jail Health Services Diabetes Project

- Describing the Population of Patients with Diabetes
- Examining the Linkages Between Corrections and Public Health Clinics in King County

2. Practicum Site Location/Address

Jail Health Services, King County Correctional Facility, 500 Fifth Avenue, Seattle.

3. Briefly describe the section or program that will house the practicum project (*e.g.* Family Planning/CHS). What are the overall goals of the section or program? Provide link to additional information about your section.

Jail Health Services is responsible for the provision of medical, dental and mental health services provided to the inmate-patients in the King County Jails. This includes the two facilities: King County Correctional Facility in downtown Seattle and the Maleng Regional Justice Center in Kent.

The Jail Health Services Mission Statement is as follows:

To assess and stabilize serious health problems for the detained population of the King County Correctional Facility and the Maleng Regional Justice Center with a focus on transition from jail.

The mission of Jail Health Services is carried out through the following commitments:

Foundation

1. Maintain a professional workforce
2. Use sound operational principles & maintain essential infrastructure
3. Unity of practice across sites
4. Work as an interdisciplinary team

Understanding

1. Monitor performance and conduct QA/QI activities
2. Be responsive to unique characteristics of our population
3. Use best information in making care and business decisions

Clinical Services

1. Identify patients with serious health problems
2. Assess the condition of all individuals entering the jail and be aware of changes in a person's condition
3. Evaluate risk and initiate interventions

Outcomes

1. Facilitate stabilization and continuity of care for our patients
4. Describe the practicum project in 1–2 paragraphs. Please address these points:

What is the purpose of the project?

- What activities would the student engage in (*e.g.*, developing brochures, attending community meetings, conducting surveys or interviews, doing data analysis)?
- What are the specific deliverables associated with this practicum (*e.g.*, production of a brochure, a needs assessment report, a policy analysis)?
- What do you think the student will learn during this practicum?
- How many students would you like for this project (maximum of two)?

The purpose of this project would be to assist Jail Health Services in better understanding the characteristics of the incarcerated diabetic population and to examine possible strategies for developing stronger linkages with the Public Health clinics for this patient population. The project would ultimately aim to improve provider follow-up at the clinic visits and track key indicators for the care of diabetic patients. This project would align with several of the commitments in the JHS strategic framework, including responsiveness to the characteristics of our population, identification of patients with serious health problems and stabilization and continuity of care for our patients.

The student activities would include helping to determine key diabetes indicators. Data sources would include existing data from the electronic health record and from patient interviews using a student-developed data collection tool. This data would be used to create a descriptive report on the diabetic patient population in the two King County correctional facilities. The student would be involved in the dissemination of this data to the JHS clinical

staff and developing associated recommendations. Strategies for improving linkages with King County Public Health clinics for continuity of care will be explored.

The specific deliverables would include a data-collection tool and a descriptive report with recommendations. The student would learn how to use existing data and determine how to obtain additional data to thoroughly describe a specific at-risk population. The student would develop skill in compiling the data, analyzing it for recommendations, and sharing it with the health professionals that provide the direct patient care to the population studied. The student will learn about the challenges and opportunities for public health interventions in a correctional setting. The scope of this project would be appropriate for one student.

5. Please estimate the percentage of time students will engage in the following activities:

Internet or Library Research (~10%)

Website development (N/A)

Observing public health staff (~5%)

Analyzing Data (~50%)

Field activities (*e.g.* trainings, focus groups) (~15%)

Preparing written materials (~20%)

6. List any essential skills students must have (*e.g.* SPSS, epidemiology skills, materials development, foreign language) as well as:

- Ability to work in a correctional environment.
- Some basic knowledge of diabetes.
- Some understanding of population-based approaches to chronic disease care.

7. List any desirable skills you would like your student to have.

8. Practicum students work 6 hours per week. How much of the practicum work should be done on-site or in the field? How much can be done off-site (*e.g.* UW library)?

On-site ~approximately 50% of the time, with on-site time more concentrated at the beginning and the end of the project

Off-site ~ approximately 50% of the time, particularly when analyzing the data

9. Work Hours/Schedule Requirements (please note if you have special requirements):

The expected student practicum hours would be during regular business hours, Monday through Friday.

10. Other Comments:

Must pass background check.



Appendix G-Practicum Self-Assessment Survey

What kind of job do you see yourself in after you graduate? What setting (e.g. local public health, state, federal, community-based agency, hospital)?

Think about yourself as a public health student and intern. What do you see as your greatest strengths? What do you think you have to offer a public health department?

Think about yourself as a public health student and intern. What do you see as your weaknesses? What do you need to learn?

Do you speak any languages other than English? Which ones? How fluent?

The following are typical public health practicum skill areas. Please circle the ones you've had experience with:

Questionnaire Development	Literature Reviews
Interviewing	Grant Writing
Coding	Curriculum Development
Data Entry	Educational Materials Development
Data Analysis	Media Campaign Development
SAS Statistical Analysis	Community Organizing
SPSS Statistical Analysis	Public Speaking
Website Development	Focus Group Facilitation

Circle the computer programs you can use:

Desktop Publishing	SPSS
Excel	Stata
PowerPoint	Word
SAS	

What areas of public health are you most interested in? Circle up to 3.

- Adolescent Health/School Health
- Asthma

Cancer Prevention
Chronic Disease Prevention
Emergency Preparedness
Environmental Health
Epidemiology
Health Education
Health Disparities
HIV/STD Prevention
Immunizations
Injury Prevention
International Health
Nutrition/Physical Activity
Rural Health

Anything else I should know:



Appendix H-Service Learning Contract

Agency/University/Student Practicum Agreement

(University of Washington School of Public Health)

ODIR 1604

The Practicum Field Experience is based on an agreement between the University, the student and Public Health – Seattle & King County. Each has specific responsibilities that are necessary to make Field Experience an effective service learning experience. Those responsibilities are:

The University

The University will:

- Select students capable of providing service to the field agency and its clients while engaged in field experience
- Provide students with classroom and assigned learning activities that will enable them to function in their field experience assignments
- Develop and conduct field experience orientation activities for students and agency supervisors
- Provide regular advising to students in collaboration with agency supervisors
- Develop and conduct regular student/faculty and student/supervisor/advisor learning conferences
- Organize and conduct special seminars in response to specific educational needs identified by students, the agency and the university
- Evaluate the student's performance in collaboration with agency supervisors
- Evaluate the quality of the service-learning associated with field experience in collaboration with the agency supervisors and the students
- Make modifications in future curricula to address educational problems identified in evaluations of fieldwork experiences

The Agency

The agency providing the fieldwork experience will:

- Designate a work unit or project within which the student will conduct service-learning activities during field work
- Develop outcome objectives for the field experience assignment to guide the student team in their activities
- Designate a project site supervisor for each student or student team
- Provide regular supervision to students in collaboration with university advisors
- Provide adequate work space, support and supplies to enable the student to function effectively as a field work student in the agency
- Participate in student/supervisor/advisor learning conferences
- Evaluate the student's performance in collaboration with university advisors
- Evaluate the quality of the service-learning associated with field experience in collaboration with the university advisors and the students

- Negotiate modifications in agency systems to address service-learning problems identified in evaluations of field work experiences

The Student

The student will:

- Actively participate in classroom seminars and assignment activities to develop knowledge and skills to enhance effective participation in field experience activities
- Carry out duties assigned by the agency supervisor in the Practicum Field Experience
- Participate in student/supervisor/advisor learning conferences
- Evaluate the quality of the service-learning associated with the Practicum Field Experience in collaboration with the university advisors and agency supervisors
- Make recommendations regarding opportunities for improvement of the Practicum Seminars and Field Experience
- Make recommendations regarding opportunities for improvement of university support of the Practicum Field Experience student activities

**Practicum Field Experience
Service Learning Agreement
January 3, 2012 – June 1, 2012**

This form should be completed after your interview with your site supervisor.

Student Name

[REDACTED]

Phone/e mail

[REDACTED]

Name of Agency/Project/Site Supervisor:

[REDACTED]

Public Health-Seattle & King County
HIV/STD Program
Health Education Team

Address

[REDACTED]

Your Primary Service Deliverables

A written summary report with references, as well as an oral presentation. Both should outline a user friendly definition of sexual health, best practice interventions, and recommendations for addressing sexual health in health departments.

Your Primary Learning Objectives

This project is a first step on the part of Public Health's HIV/STD Program to address that strategic goal. It aims to:

- Define sexual health and public health's role in promoting sexual health.
- Identify best practice interventions.
- Develop recommendations for addressing sexual health in public health departments, community based organizations and partnering systems.

Your Primary Responsibilities and Duties

- Review sexual health articles and develop a user friendly definition of sexual health.
- Review State MSM HIV Prevention Planning Committee document(s).
- Identify UW faculty with an interest in this issue and include key informant interviews.
- Conduct key informant interviews (including David Fleming, Charissa Fotinos, MSM providers, MSM community members, Dave Kern, Kari Kesler, Ron Stall, Rae Larson, Kari Lerum and others) to get feedback on sexual health definition, identify sexual health priorities, explore public health's role in sexual health promotion.

- Survey local health departments to determine how they are addressing sexual health, and what they think they should be doing.
- Identify international efforts in the promotion of sexual health for the purpose of HIV prevention.
- Identify key target populations.
- Identify partners who can promote sexual health (e.g. school systems, faith).
- Participate as a member of the HIV/STD health education team.
- Attend health education team meetings. And when necessary or interested, attend Community Health Outreach Worker meetings and the MSM Provider Salon meetings.

READ CAREFULLY

As a service learner, you are given the opportunity for a unique and valuable experience. To undertake this assignment as a representative of the University of Washington School of Public Health, your instructor and yourself, you must agree to

- 1 Fulfill your agreement as to your duties, hours and responsibilities to the best of your ability.
- 2 Be professional-- punctual, polite, and respectful of agency policies, rules and regulations.
- 3 Respect the confidentiality of clients and staff of the agency.
- 4 Give notification in advance if you must miss or be late for an agency appointment. If advance notification is impossible, call as soon as possible thereafter.

I have read and agree to the agreement and the guidelines as outlined above.

[Redacted Signature]

Student Signature

1/3/2012

Date

I have read the agreement and agree to supervise or provide supervision for the student above.

[Redacted Signature]

Agency Supervisor

[Redacted Signature]

1/3/12

Date

I have read the agreement and agree to provide consultation to the site supervisor and academic supervision to the student.

Amy Halperin

Faculty Advisor

University of Washington

3 January 2012

Date



Appendix I-Sample Daily Learning Objectives

Following are daily learning objectives from the NeighborCare–LARC case in the Evaluation block:

Day 1

1. How are school-based clinics currently funded and governed in Seattle? How are they structured, organized, managed, and staffed? Describe the relationship in Seattle between Public Health, the Families and Education Levy, and the sponsoring medical entities.
2. What are the laws concerning confidential care for minors?
3. What are long-acting reversible contraceptives? How do they work? How are they promoted or discouraged for teens?
4. What is the political and economic history of school-based clinics in the U.S.? In Seattle? How does this differ from other areas? How do contraceptives play a part in the politics of school-based clinics, in Seattle and elsewhere?
5. What is the typical scope of services in school-based clinics? Are clinics associated with improved behaviors and school performance? How do services vary by the sponsoring medical entity, and is this fair?
6. How does NeighborCare operate its high school clinics in West Seattle? How are other clinic sponsors different in other schools?
7. What data do school-based health clinics generate? What variables might be available for assessing the uptake of contraceptive services in teen clinics?
8. What is the role of the privately funded health educator/outreach worker in relation to contraceptive uptake in the school-based health centers? Why is it privately funded instead of part of the levy program?
9. What is the link between early or unplanned pregnancy and school completion? What disadvantages do the children of teens face?

Day 2

1. What is an evaluation approach, model, or design? What types of evaluation exist, and why is each conducted? Which types are stronger (that is, more likely to point to cause and effect)?
2. How do you go about developing an evaluation question? What are the variety of methods you would have to employ to answer different types of questions? How are

the two related? What might some questions be for this case?

3. Taxonomy of Evaluation: What do the terms “outcomes and outputs” mean in evaluations? How about “formative” and “summative?” What is a “participatory” evaluation and how is it different from traditional evaluation? How are monitoring and evaluation different from each other?
4. What is a logic model and program theory? What would those look like for this case? Explain how the “program theory” is used in designing and conducting a program evaluation.
5. What are the common threats to evaluation validity and reliability, and how can you protect your evaluation from these?
6. What kinds of approaches are appropriate for conducting evaluations with minority or chronically underserved populations? What are some common class, gender, or culturally based barriers to good program evaluation?
7. What data need to be available in an evaluation, and what are variables?
8. Because outcomes are much harder to measure than amount of effort expended, is it okay to just measure level of effort? When programs address proximate issues (*e.g.*, hunger, need for a mat to sleep on) rather than underlying causes of health problems (*e.g.*, structural economic problems), how do evaluators address that? Do they simply decide whether the proximate problems were effectively addressed by the program, or do they have an obligation to address the underlying issues?



Appendix J-Sample Case Facilitator Notes

Since we have three faculty for each “block,” or course topic area, the writing of cases is typically distributed among the faculty. The case writer is encouraged to write “facilitator notes” for fellow faculty, to guide them in how they work through the case with students. The following facilitator notes from one case within the Policy block provide some insights into the ways facilitators prompt students to grasp issues in particular ways.

The first set of notes concern the case “You Never Die of Just One Thing,” which takes place in Ghana.

Day 1

1. I like them to frame their Learning Objectives for each case as questions, but not all faculty share my appreciation for the well-framed research question. Others like statements, such as, “Describe the role of the Ministry of Health in Ghana.” We can thumb-wrestle about this some time.
2. COPHP student will be tempted to start getting into the macro-political questions right away. Try to restrain them, promising this will come in Day 2.
3. Another tendency is to try to lump all the diseases into a single LO. I always nudge them away from that, by saying things like, “Hm. You’re enrolled in a public health master’s degree program. These are the biggest public health diseases in the world, even though you won’t see them at Seattle’s Swedish Hospital very often. Aren’t they worth spending a little undivided attention on? You won’t get them anywhere else in the program.” One reason to encourage them to separate out these diseases is that it will help them in the assignment. But we don’t tell them that.
4. They may have trouble lumping the things they *should* lump, though, through sheer ignorance of what goes with what. PMTCT goes with HIV into a single LO. Malaria and bednets go together. How anemia affects the economy doesn’t have to be its own LO, that can go with anemia. DHS is the Demographic and Health Survey, it’s simply a source of data for the diseases. In this case, it’s not worthy of its own LO.

Day 2

1. Notes: This is a wide-ranging day, and you should encourage students to think broadly about global health aid and whose interests are served. We plant seeds to lead them to two critics in the field. The key thing I want them to get from Amartya Sen is that it’s not enough to make more food (or food fortification) available. There’s rarely a

shortage of food that's the problem. The problem is people can't afford to buy it because they're poor. This gets them to the economics of importing and exporting food.

2. Don't let them skip the attributable risk assignment. Cross your fingers that someone with attention to detail and an eagerness for quantitative methods takes it on, because how efficiently they grasp this concept will depend on how well this LO is written. And the concept is critical to the assignment on Day 3.
3. I like it when the discussion of food insecurity in Ghana starts to wander into the territory of pre-colonial history. Were Ghanaians hungry before the Portuguese, Dutch and British colonialists arrived? What happened to introduce food insecurity to these populations?
4. The footnote takes them to Anthony Ofori, who was once a Population Leadership Fellow at the UW (2001-2002). He's now Deputy Director in charge of Monitoring and Evaluation in the Ghana Health Service. We always alert him to be available to respond to student questions should they reach out to him.
5. The "good evaluation question" is a little prelude to next quarter's class. Not critical, but nice.

Day 3: Assignment

1. We bring all the groups together to debrief the assignment the Monday morning after it's due. You may be able to shorten your afternoon class that day, as a result.
2. The point of the attributable risk assignment is to illustrate that the causes of anemia (or any problem you're trying to solve) matter. If you aim your resources at trivial causes, thus ignoring the main cause, you're wasting time and money. The GAIN people want Ghana to focus on food fortification for obvious reasons—some nefarious, some simply because it's easier than tackling malaria.
3. Once they understand the important thing, they should be able to write a persuasive, informed memo to the Minister.
4. I usually encourage them to start brainstorming in class how they will tackle the numbers, starting with the worksheet. They're rusty by fall quarter of 2nd year—they haven't had epi or biostat since winter quarter. A little panic sets in. They'll go scurrying for their sources.
5. If you're coaching the facilitator for the day, don't show the assignment, but emphasize that students will benefit from a good understanding of attributable risk, if they'd like to bring some resources to class.

The second set of notes concerns a case addressing minimum wage policy in Seattle.

Day 1 and 2

The purpose of the LOs on Days 1 and 2 is to get them immersed in the issues surrounding the minimum wage as a public health issue. We want to be sure they have a sufficient grasp of the issues to write smart products.

This is one of the few cases where we address **economic issues**, and students have requested more of this. Some concepts: effects on unemployment of higher wages; surplus value; whether higher wages contribute to or detract from the strength of the economy.

Students should be encouraged to **connect dots**: For example, the proportion of FTE employment is related to health benefits.

We don't discuss **campaigns** anywhere else in this course, so if we want to spend some time discussing how the Fight for Fifteen occurred, that wouldn't be a bad thing. Marilyn Watkins will be coming to seminar to talk about the initial statewide initiative campaign.

At the same time they are chasing down content knowledge on minimum wage, they should be conscious of developing specific skills related to policy analysis.

- What are reliable research methods for connecting policy to outcomes? We hope they'll find Jennifer Otten (Health Services faculty), who is part of the evaluation effort at the Evans School
- Defining terms matters. For example, whether tips are included in the minimum wage definition. Phasing in targets is another feature of policy development.
- Policy and law are one thing. Enforcing them is another.
- Unintended consequences: If the goal is to improve the lives of people with low incomes, does the proposed policy (raising minimum wage) have any effects we wouldn't want, such as making people ineligible for important health-related benefits because their incomes rise a tiny bit?
- The role of "think tank" organizations in relation to policy development has evolved over time and is rather important to understand



Appendix K-Strategic Plan Excerpts

1. BUILD ON OUR SUCCESS TO MAINTAIN AN EXCITING, THRIVING, ACADEMIC PROGRAM TO TRAIN PRACTITIONERS WHO WILL IMPROVE THE PUBLIC'S HEALTH

1. Encourage cases address real public health problems and engage community partners; ensure cases are engaging, timely, social justice focused, and updated regularly. Integrate subject matter and skills broadly across all our courses to mimic real public health practice—for example, use quantitative skills in policy course
2. Stay current with national developments on case-based and problem-based pedagogy
3. Globalize our curriculum to include more global health cases
4. Continue to regularly improve our courses through peer and student evaluation
5. Improve clarity and consistency by using checklists for syllabi, posting best practices, case numbering and other tools of our trade; ensure our cases are consistently formatted, include both daily case questions and final case learning objectives, and have facilitator notes
6. Ensure our practicum program is tightly aligned with Public Health Seattle King County to ensure our students are learning about real-world public health practice and PHSKC maintains satisfaction with student work
7. Encourage our students to do strong, academically rigorous capstone projects; help our students connect with community-based organizations and public health agencies where they can learn practical applications of public health knowledge and skills while developing useful capstone products
8. Develop strong group work and teambuilding skills in our students, including the ability to recognize and avoid micro-aggressions
9. Improve our cases to ensure they align with the UW School of Public Health's competencies for accreditation purposes
10. Maintain our great record of graduating students on time
11. Support the transition of our students to the paid workforce post-graduation by circulating job opportunity notices, writing letters of recommendation that explain the advantages of the pedagogy, and tracking graduate placements.

2. IMPROVE OUR FISCAL AND ADMINISTRATIVE SITUATION

1. With grave concerns about the adequacy of funding for graduate education, we will continually re-evaluate our program's "privatized education" relationship to the UW. We propose a formal faculty/administration joint review of both activity-based

budgeting (ABB) and Professional and Continuing Education (PCE) models.

We seek principled alternatives to the current arrangement, in which COPHP students pay the fully-loaded costs of their MPH education. All UW graduate students should expect State of Washington investment their education.

2. Gain deeper understanding of the fiscal situation of our program and Department of Health Services; maintain faculty governance control of our budget.
3. To keep tuition low, ensure overhead charges by PCE, the school, the UW and department of Health Services are as low as possible.
4. Attract and retain Health Services staff who are deeply committed to COPHP values and student success.
5. Ensure we are spending a respectable portion of our budget on faculty salaries. More than half the budget should go to compensate faculty for their time, attention to and investment in the learning process.



Appendix L-COPHP Case Subscription Information

In the near future, annual subscriptions to all of COPHP PBL cases will be available (approximately 30 over a two year curriculum). Cases will cover the entire syllabus of COPHP MPH curriculum with each block represented. PBL cases in the COPHP program are revised and replaced on an annual basis. **Please contact cophp@uw.edu if you are interested for more information.**



SUBJECT INDEX**A**

Accreditation 10, 12, 20, 60, 101, 149, 177
 Administration 4, 5, 31, 57, 147, 177
 Admissions 6, 35, 40, 41, 44, 45, 50, 54, 55, 58, 143, 144, 147, 149
 Adult learning principles 22, 23, 29
 Adult learning theory iii, 3, 4, 41, 46
 Advising 17, 31, 34, 50, 53, 66, 147
 Advocacy 4, 80, 119, 128, 129, 132, 136
 Alumni iv, 39, 40, 45, 46, 50, 51, 53, 55, 62, 130, 151
 Analytic tools 128, 154
 Anti-racism iv, 31, 32, 34, 39, 41, 140, 141, 143
 Anti-racist education 140, 141
 Anti-racist principles 140, 150
 Assessment i, 15, 19, 44, 65, 69, 71, 72, 74, 111, 120, 124, 137, 162, 165

B

Barriers 20, 39, 49, 94, 123, 131, 142, 173
 Biostatistics iv, 4, 6, 12, 28, 58, 70, 103, 106, 123, 147, 149
 Built environments 109, 110

C

Capstone i, 8, 23, 34, 38, 50, 51, 53, 54, 57, 58, 71, 80, 92, 138, 147, 149, 151, 177
 Case editing 31, 36
 Case learning 10, 22, 177
 Case subscription i, 179
 Case writing 7, 52, 97
 Classroom culture 41, 46, 47, 140
 Cognitive distortions 89, 96

Collaboration 8, 16, 28, 41, 43, 87, 100, 136
 Communication 12, 13, 94, 109, 111, 113, 116, 117, 119, 121, 132, 134, 150, 153
 Community i, 3, 4, 7, 8, 10, 22, 23, 28, 38, 46, 48, 56, 57, 60, 61, 73, 74, 84, 86, 87, 100, 114, 126, 128, 129, 132, 134, 148, 161, 162, 165, 177
 Competencies i, 3, 22, 28, 43, 44, 47, 60, 61, 78, 100, 107, 122, 135, 142, 149, 177
 Conflict 8, 20, 29, 40, 42, 50, 52, 53, 59, 67, 77, 81, 82, 88, 96, 107, 115, 122, 127, 128, 139, 145, 150
 Context 11, 17, 42, 85, 91, 93, 95, 99, 104, 129, 132, 138, 146, 147
 Coordinators 29, 51, 96
 Critical thinking 3, 4, 16, 25, 101, 131
 Culminating project 8, 60, 61
 Cultural competency 116, 154
 Cultural framework 128
 Curriculum iv, 3, 4, 6, 8, 10, 12, 13, 23, 24, 29, 31, 35, 41, 42, 48, 70, 74, 75, 78, 83, 88, 89, 107, 142, 143, 165, 177, 179

D

Data i, 15, 24, 26, 28, 62, 63, 66, 74, 76, 97, 119, 123, 125, 126, 136, 154, 155, 162, 163, 165, 172-174
 Delivery 128, 137

E

Educational evaluation 31, 32, 37, 38
 Employment 69, 71, 112, 124, 147, 150, 176
 Environmental contamination 109, 110

Environmental epidemiology 109
Environmental health i, iv, 4, 12, 28, 74,
117, 147, 149, 155, 166
Environmental racism 114
Ethics 116
Executive briefing 109, 113
Expectations 34, 41, 43, 44, 46, 58, 60,
76, 91, 148
Experience i, iii, iv, 6, 7, 27, 31, 33, 38,
39, 42, 43, 45, 46, 49, 50, 52, 66, 90,
93, 95, 97, 98, 101, 105, 114, 122, 125,
128, 132, 135, 137, 138, 146, 165
Experiential instruction 97

F

Facilitated learning 22
Facilitator i, 36, 38, 46, 47, 80, 99, 122,
131, 152, 174, 175, 177
Faculty ix, 3, 10, 22, 23, 41, 42, 69, 71,
73, 74, 89, 93, 95, 96, 100, 114, 121,
124, 130, 132, 139, 174, 176-178
Financial management 15, 134
Financing 128, 155

G

Graduation 35, 39, 41, 44, 49, 55, 61, 64,
70, 71, 147, 177
Group dynamics 22, 26, 42, 46
Group skills 41

H

Handbooks i, 51-53
Hazard analysis 109, 111, 114
Health behavior i, iv, 6, 28, 153, 154
Health disparities 109, 114, 140, 142, 154,
166
Health equity 125, 140, 142
Health policy 6, 28, 48, 49, 80, 87, 101,
128, 130, 132
Health promotion i, iv, 6, 65, 129, 154,
155

I

Inequality 84, 86, 87, 142
Inequities 39, 57, 109, 137, 154, 155
Institutional change 140, 141
Institutional racism 39, 41, 46, 49, 79,
109, 140
Instructional technology 27, 31, 32, 36
Internalized racial inferiority 140
Internalized racial superiority 140

L

Leadership i, iv, 5, 8, 13, 14, 20, 28, 41,
44, 55, 134, 135, 137, 138, 148, 155,
175
Leading change 134
Learner-centered education 22
Learning contract i, 69, 73, 167
Learning cycle 22, 27
Learning environment 47, 48, 97, 100,
141
Learning objectives i, 13, 14, 16, 20, 24,
26, 27, 46, 47, 72, 73, 79, 80, 83, 84,
89, 92, 97, 104, 106, 110, 111, 114,
129, 135, 138, 143, 172, 174
Lecture 16, 78, 97
Literacy 94, 116, 119
Literature review 5, 60, 64, 66

M

Marketing 56, 119, 136
Medical harm 84, 86
Micro-aggressions 43, 140, 141, 177
Morbidity 84, 85, 90, 110
Mortality 90, 98, 110, 153
MPH i, iii, 3, 4, 14, 18, 22, 28, 31, 32, 45,
55, 60, 62, 69, 70, 72, 78, 83, 84, 86,
89, 101, 109, 116, 131, 141, 161, 178,
179
Multi-cultural 41

N

Networking 65, 69, 70
 Norms 41, 43, 47, 48, 57, 58, 60, 67, 89, 148

O

Online i, 27, 28, 51, 54, 78, 104, 151
 Organizational equity 134
 Orientation i, 11, 26, 35, 39, 48, 55, 59, 92, 147, 160

P

Partnership 30, 75, 144
 PCE 51, 55, 178
 Pedagogy i, 20, 22, 28, 29, 35, 44, 97, 98, 132, 149, 177
 Peer mentors 31, 34
 Peer review i, 31, 37, 59, 152
 Personal awareness 134
 Personal Growth 41, 43
 Planning models 121, 153
 Policy analysis 74, 128, 129, 132, 162, 176
 Political framework 128
 Population health i, iv, 27, 28, 88, 91, 98, 117, 134, 151, 153, 154
 Practice i, iii, iv, vii, viii, 3, 4, 10, 11, 14, 16, 26, 27, 45, 46, 51, 60, 61, 64, 65, 73, 74, 76, 78, 81, 83, 84, 89, 90, 92, 93, 100, 101, 106, 107, 109, 110, 116, 118, 119, 125, 131, 134, 139, 140, 144, 150, 152, 154, 155, 161, 177
 Practicum i, 6, 8, 23, 34, 38, 50, 51, 54, 147, 165, 177
 Prevention iii, 6, 8, 70, 71, 74, 104, 112, 116, 118, 119, 154, 155, 166
 Primary prevention 116
 Program i, iii, iv, vii, viii, 3, 17, 61, 116, 117, 119, 132, 134, 138, 152, 154, 155, 161, 177-179
 Project planning 89, 96
 Projects 7, 8, 13, 15, 16, 42, 47, 48, 50,

54, 56, 67, 69, 80, 89, 114, 117, 128, 136, 148
 Prospective students 41, 51, 52
 Protection standards 109, 112
 Protective factors 116, 118
 Public health pedagogy 97
 Public health practice i, iii, vii, viii, 3, 4, 7, 10, 14, 26, 38, 45, 51, 60, 78, 81, 83, 84, 89, 90, 92, 93, 96, 97, 100, 106, 107, 109, 110, 116, 134, 140, 144, 150, 152, 155, 161, 177
 Public policy vii, 10, 81, 128, 129, 132

Q

Quantitative methods 101, 102, 104, 117, 123, 175

R

Recruitment 13, 32, 51, 149
 Regulations 109, 110, 112
 Research i, iii, iv, 4, 5, 13, 19, 41, 46, 54, 57, 58, 60, 61, 63, 64, 66, 73, 78, 79, 87, 89, 93, 95, 111, 112, 114, 116, 117, 119, 122, 130, 153, 155, 163, 174, 176
 Risk benefit analysis 109
 Risk mitigation 109

S

Secondary prevention 116, 118
 Self-assessment i, 69, 72, 137, 165
 Self-reflection 31, 37, 41, 46
 Seminars i, 31, 39, 54, 57, 59, 99, 116, 118, 124, 141
 Service i, ii, 8, 22, 23, 26, 29, 39, 41, 44, 48, 69, 71, 73, 74, 77, 96, 130, 167, 175
 Site supervisor 34, 63, 69, 72, 73, 75, 76
 Skill mastery 10, 15
 Skills seminars i, 78
 Social justice 3, 7, 8, 11, 14, 31, 32, 34, 39, 41, 42, 44, 45, 48, 57, 71, 92, 117, 148, 150, 155, 177
 Stakeholder 5, 53, 80, 128, 130, 132, 155

Subject Index

Strategic plan i, 25, 149, 177
Strategic planning 32, 134
Student-driven 41, 47, 140, 148
Student feedback i, 28, 31, 37, 38, 48, 59,
143, 156
Student presentations 89
Student support 6, 31, 32, 34
Systems of oppression 140

T

Teaching i, iii, iv, 5, 6, 19, 23, 25, 28, 31,
43, 57, 78, 83, 90, 104, 116, 117, 141,
148, 149, 152
Team dynamics 134
Tertiary prevention 116

***Experiential Teaching for Public Health Practice* 183**

Thesis 6, 8, 53, 66, 79
Town hall meeting 109, 113, 121
Toxicology 109, 111

U

Undoing institutional racism 49, 140

V

Values 11, 16, 42, 44, 48, 50, 51, 54, 57,
103, 128, 129, 131, 135, 137, 150, 178
Variables 66, 118, 123, 126, 154, 172, 173

W

Website 39, 51, 52, 58, 63, 65, 151, 163,
165
White privilege 39, 140

