

Developing A Public & Population Health Curriculum for Medical Students



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School of Medicine
UNIVERSITY OF COLORADO
ANSCHUTZ MEDICAL CAMPUS



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Background

- There is growing recognition of the importance of educating MD students on public health concepts^{1,2}
- The University of CO School of Medicine (CUSOM) is currently undergoing a curriculum reform process (Trek Curriculum)
 - All students will get exposure to public health concepts through Health & Society longitudinally
 - All students will get basic foundational public/population health content during the Trek LICs
 - Some students will participate in public/population health-focused Longitudinal Integrated Clerkships (LICs) in their foundational clinical year



Purpose

- Needs assessment to inform the development of public/population health curriculum for MD students in the new CUSOM Trek LIC curriculum
- Pilot program developed for implementation in the existing Denver Health Longitudinal Integrated Clerkship (DH-LIC)





Phase I

Needs Assessment



Phase II

Curriculum Development:
Pilot for Denver Health
LIC



Phase III

Pilot Curriculum
Implementation &
Evaluation



Phase I

Needs Assessment



Phase II

Curriculum Development:
Pilot for Denver Health
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Phase III

Pilot Curriculum
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Survey Methods



Developed a survey to gather input from a variety of key informants on priorities for public/population health curriculum



Pre-tested with 2 students and 1 faculty member

Survey Content



Rate importance of 12 competencies developed by the Regional Medicine-Public Health Education (RMPHE) Centers⁴



Identify additional priority public/population health concepts and topics



Identify gaps in CUSOM curriculum and MD knowledge related to public/population health



Identify motivation for MD students and clinicians to pursue public health degrees/work

Understand social determinants of health.

Appraise evidence/literature.

Apply prevention strategies.

Discuss ethical implications.

Identify community resources.

Identify quality improvement strategies.

Describe organization and financing of healthcare.

Discuss the function of public health.

Explain importance of community engagement.

Assess population health status.

Integrate information on biological risk with population factors in clinical care.

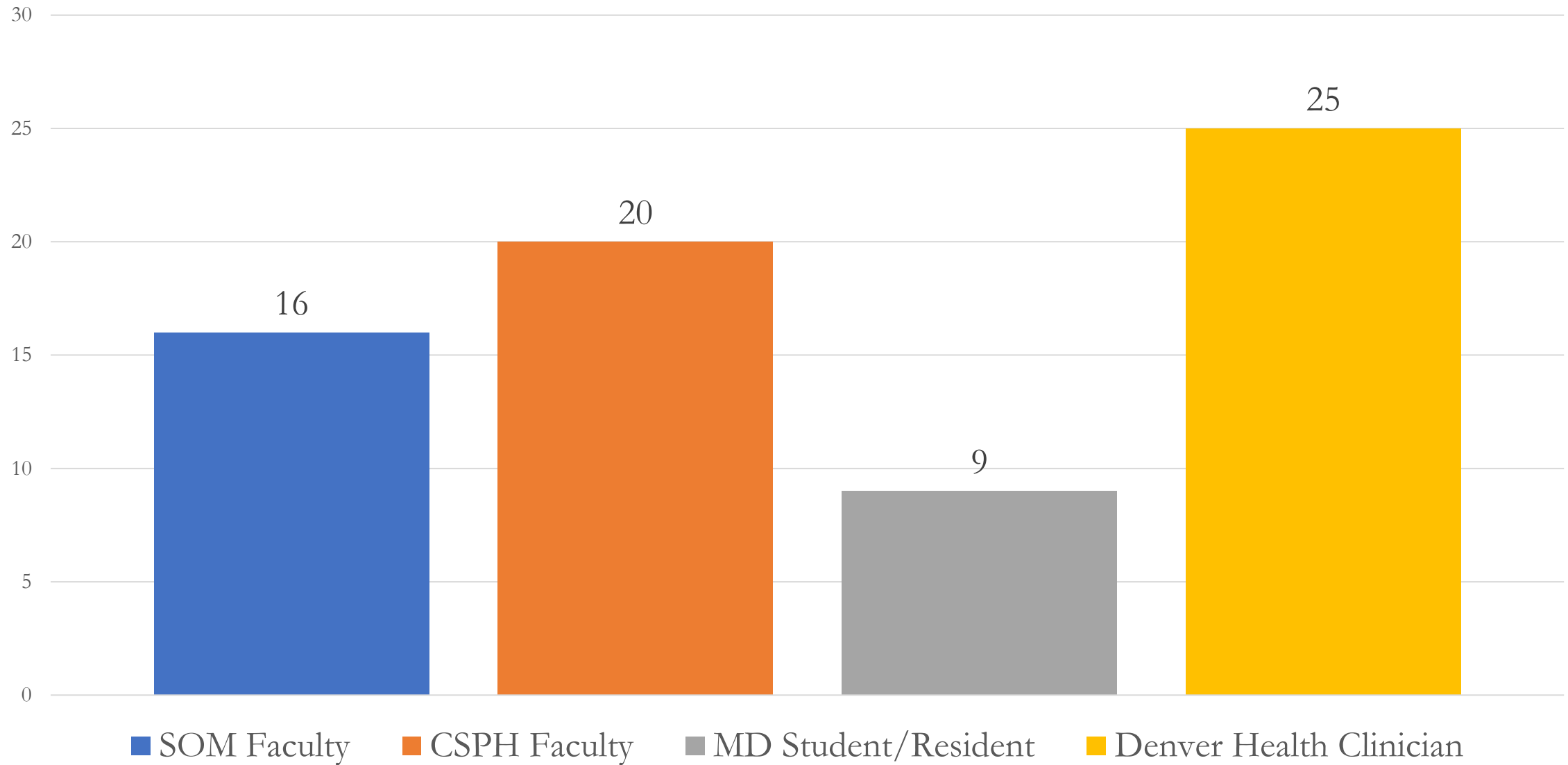
Participate in population health improvement initiatives.

Survey Methods

- Identification of key informants:
 - CUSOM Curricular Faculty
 - CSPH Faculty
 - Students/Residents
 - Denver Health Clinicians
- Competency Likert-scale scores averaged
 - Across all respondents
 - Across role subgroups – ANOVA testing to compare means
- Qualitative content analysis - coded responses to qualitative questions and deductively grouped into themes

Participants

Total n = 61 Response Rate = 50%



Results: Priority Scores for Competencies⁴

Abbreviated Competency ⁴	Average Score (SD)
Understand social determinants of health.	4.72 (0.52)
Appraise evidence/literature .	4.48 (0.72)
Apply prevention strategies.	4.41 (0.76)
Discuss ethical implications .	4.07 (0.86)
Identify community resources .	3.93 (0.85)
Identify quality improvement strategies.	3.93 (0.85)
Describe organization and financing of healthcare.	3.89 (1.00)
Discuss the function of public health.	3.80 (0.98)
Explain importance of community engagement .	3.72 (0.95)
Assess population health status.	3.64 (1.07)
Integrate information on biological risk with population factors in clinical care .	3.62 (0.93)
Participate in population health improvement initiatives .	3.52 (0.92)

Results: Priority Scores for Competencies by Role⁴

Abbreviated Competency ⁴	SOM Faculty Mean	SPH Faculty Mean	DH Mean	Student/ Resident Mean	ANOVA p-value
Understand social determinants of health.	4.88 (0.34)	4.80 (0.41)	4.52 (0.65)	4.89 (0.33)	0.07
Appraise evidence/literature.	4.50 (0.52)	4.16 (0.96)	4.64 (0.70)	4.44 (0.73)	0.22
Apply prevention strategies.	4.44 (0.73)	4.20 (0.77)	4.40 (0.76)	4.67 (1.00)	0.51
Discuss ethical implications.	4.13 (0.92)	4.15 (0.99)	3.88 (0.80)	4.11 (0.78)	0.71
Identify community resources.	3.94 (0.77)	3.65 (0.75)	3.88 (0.93)	4.56 (0.53)	0.05
Identify quality improvement strategies.	4.06 (0.68)	3.95 (0.89)	4.04 (0.84)	3.44 (0.88)	0.28

Results: Priority Scores for Competencies by Role⁴

Abbreviated Competency ⁴	SOM Faculty Mean	SPH Faculty Mean	DH Mean	Student/ Resident Mean	ANOVA p-value
Describe organization and financing of healthcare.	4.31 (0.70)	3.80 (1.01)	3.76 (0.97)	4.00 (1.32)	0.32
Discuss the function of public health.	3.94 (0.85)	4.15 (0.88)	3.76 (1.01)	2.89 (1.05)	0.01
Explain importance of community engagement.	3.81 (0.91)	3.60 (0.75)	3.76 (1.05)	4.11 (1.05)	0.60
Assess population health status.	3.56 (1.26)	4.10 (0.97)	3.36 (0.99)	3.44 (0.88)	0.12
Integrate information on biological risk with population factors in clinical care.	3.44 (1.09)	3.75 (0.97)	3.80 (0.71)	3.22 (0.97)	0.30
Participate in population health improvement initiatives.	3.50 (1.03)	3.50 (0.76)	3.56 (1.04)	3.67 (0.87)	0.97



Results: Most Important Public Health Concepts

Results: Themes



Most codes fell into themes based on existing competencies



Some codes not covered by existing competencies

Professional Humility

Interprofessionalism

Scope of Medical Care

Curricular Sessions

Competency Number & Summary	Session Titles
1. Understand social determinants of health.	<ul style="list-style-type: none">● Anti-Racism & Anti-Discrimination● Social Determinants of Substance Use & Stigma● Social Determinants of Mental Health: A Case Study● Introduction to Environmental Health● Climate Change & Health● Introduction to Trauma-Informed Care● Trauma-Informed Care Training
2. Appraise evidence/literature.	<ul style="list-style-type: none">● Introduction to Epidemiology● Introduction to Literature Evaluation● Statistical Tests & Measures of Association● Screening Guidelines● Clinical Decision Support
3. Apply prevention strategies.	<ul style="list-style-type: none">● Introduction to Population Health & Panel Management● Vaccinations & Public Health● Screening Guidelines

Competency Number & Summary	Session Titles
<p>4. Discuss ethical implications.</p> <p>5. Identify community resources.</p>	<ul style="list-style-type: none"> ● Introduction to Public Health Ethics ● Ethics in Public Health Emergencies ● Introduction to Community Health Assessment ● Community Resource Panel ● Student Presentations – Home/Community Visit & Assessment
<p>6. Identify quality improvement strategies.</p>	<p><i>Competency fully covered in Quality and Safety curriculum.</i></p>
<p>7. Describe organization and financing of healthcare.</p>	<ul style="list-style-type: none"> ● High Value Care & Basics of Cost-Effectiveness Analysis ● Health Insurance, Finance, & Care Delivery Models ● Innovations in Healthcare Funding and Delivery ● Healthcare Billing & Cost Implications
<p>8. Discuss the function of public health.</p>	<ul style="list-style-type: none"> ● Introduction to Public Health & Healthcare Scope ● Public Health Professionals Panel

Competency Number & Summary	Session Titles
9. Explain importance of community engagement.	<ul style="list-style-type: none"> • Community Engagement in the Real World • Community Engagement Panel
10. Assess population health status.	<ul style="list-style-type: none"> • Data Management
11. Integrate information on biological risk with population factors in clinical care.	<p><i>Competency fully covered in Evidence-Based Medicine curriculum.</i></p>
12. Participate in population health improvement initiatives.	<ul style="list-style-type: none"> • Introduction to Policy & Advocacy • Student Presentations – Public Health Longitudinal Projects
13. Describe limitations of healthcare.	<ul style="list-style-type: none"> • Introduction to Public Health & Healthcare Scope
14. Discuss professional humility and interprofessional collaboration.	<ul style="list-style-type: none"> • Professional Humility • Public Health Professionals Panel

Strengths & Limitations

- **Strengths:**

- Both public health and medicine perspective represented
- Tailored specifically to Denver Health for pilot
- Coordination with existing/planned future content

- **Limitations:**

- Convenience sample
- Only faculty in medicine and public health involved in needs assessment
- Denver Health focus may have limited input on topics relevant to rural, global communities
- No community members in needs assessment → will include in curricular elements
- Single coder



Conclusions

- COVID-19 pandemic and racial disparity public health crisis have highlighted the importance of including robust public/population health curricula that is tailored to local patient needs in MD curricula
- RMPHEC competencies are aligned with what local experts believe are important content areas for medical students
- The most prioritized areas are social determinants of health, literature evaluation, prevention, and ethics
- Experts at multiple levels of training within both public health and medical education are needed to inform the development public/population



Thank You!

Dr. Jennifer Adams

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Kayla Williamson

Venice Williams

Needs Assessment Participants

Pre-Testing Participants

And More!

Questions?

References

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