

Teaching Population Health

An Annotated Bibliography

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HOW THIS RELATES TO THE POPULATION HEALTH ASSESSMENT ENGINE (PHATE)

Delivering care to populations, as opposed to individuals, is an important strategy for reducing costs and improving quality. Developed by the American Board of Family Medicine, the Population Health Assessment Engine (PHATE) is a tool that allows users to assess and address population health by mapping both community and electronic health record data. The Robert Graham Center has developed a curriculum to teach trainees, providers, and staff how to use PHATE and incorporate population health concepts into the delivery of care. The following annotated bibliography informed the construction of the curriculum and can be used by educators and PHATE users interested in learning more about existing population health resources.

OBJECTIVE

The objective of this project was to assess the content and structure of published population health curricula targeting health care trainees.

METHODS

In this literature review, we entered the following search terms into PubMed: population health or community health or social determinants of health; residency or training or residents or trainees; curriculum or education; English; Humans; and Date 01/01/1980 to 11/04/2016. This search yielded 794 articles. Article relevance was evaluated in a tiered fashion. Title evaluation identified 298 relevant articles. Abstract evaluation narrowed this to 32, which were read in full. Nineteen provided sufficient detail to assess curriculum content and structure. Articles were excluded if they focused on evaluation, structure, or background without specifying content. Four additional articles were identified by the [project's advisory board](#).

Curricular Frameworks

Prior to developing curricula for specific institutions or audiences, educators have developed frameworks, competencies, and milestones relevant to teaching population health. The following papers describe the efforts of national organizations or groups of educators to guide population health curricula.

Paterson et al. Achieving the Triple Aim: A Curriculum Framework for Health Professions Education. AJPM 2015;49(2):294-296. (identified outside the PubMed search)

This is the third version of the [Clinical Prevention and Population Health \(CPPH\) Curriculum](#) by Allan et al. above. The paper describes the origins of the curriculum and offers updates:

- 1) *The component “Evidence-Based Practice” is now titled “Foundations of Population Health” encompassing the subsection “Descriptive Epidemiology” to prevent misinterpretation of the component as focused on one-on-one clinical interaction. This component newly references social determinants of health.*
- 2) *“Evaluation” is now its own topic, rather than subsumed under another section.*
- 3) *“Population Health Informatics” is a new section.*
- 4) *“Population Health” and “Community Aspects of Practice” are now “Incorporating Population Health into Clinical Care.”*

This category newly includes “Partnering with the Public to Improve Health” with an emphasis on community-engaged research and “Emergency Preparedness and Response Systems.” This new version also includes resources to show how CPPH has been used in different health professions programs.

Kaprielian et al. 2013. Teaching Population Health: A Competency Map Approach to Education. Academic Medicine, 2013;88(5):626-637.

This paper argues for increased integration of primary care and population health and its motivations and propose a competency map (CM). Core assumptions of the curriculum include:

- 1) *practice improvement via population health will become increasingly important in future payment systems,*
- 2) *population health education has not increased alongside prevention education in medical schools,*
- 3) *team-based care will continue to increase,*
- 4) *clinicians will remain practice leaders and therefore require additional skills such as program, personnel and financial management, interprofessional collaboration, conflict resolution, communication, consensus building, data analysis and critical thinking.*

The curriculum was developed over 15 years. **Critical concepts:** 1) Institute of Medicine’s definition of public health, 2) Kindig and Stoddart’s definition of population

health, 3) National Institutes of Health, Centers for Disease Control and Prevention and other agencies' definition of community engagement. The CM identifies **three levels of desired achievement across four domains**: foundational, applied and proficient. The four domains – public health, community engagement, critical thinking, team skills— contain specific learning objectives at each level of proficiency. Model evaluation is not included in the publication, though intention to evaluate is reported. Limitations include single institution application, newness of the map itself, absence of patient-engagement component, community organization engagement and these groups were not involved in educational design.

Brown. A new curriculum framework for clinical prevention and population health, with a review of clinical caries prevention teaching in U.S. and Canadian dental schools. J Dent Educ. 2007 May;71(5):572-8.

Healthy People 2010 goals included increasing the proportion of health professional programs that include health promotion and disease prevention. This paper **surveys US and Canadian dental schools** to evaluate how they perceive the Task Force framework and how their existing education on caries prevention compares to the framework. The Task Force **framework** has **four components** (evidence base for practice, clinical preventive services, health systems and policy, and community aspects of practice) and nineteen domains.

- 1) *Component 1: Evidence Base for Practice has five domains with respect to caries: epidemiology of caries, evaluation of caries literature, outcome measurement, health surveillance and determinants of health.*
- 2) *Component 2: Clinical Preventive Services contains four domains: screening, behavior change counseling, preventive procedures, and chemoprevention.*
- 3) *Component 3: Health Systems and Health Policy includes four domains: organization of clinical and public health systems, health services financing, workforce issues, and policy analysis and creation.*
- 4) *Component 4: Community Aspects of Practice contains six domains: communicating health information, environmental health, occupational health, global health, cultural dimensions of practice and health beliefs, and community services.*

Eighty-six of 88 US and Canadian dental schools responded to the survey. Twenty-six US dental schools generally evaluated the framework as highly relevant and useful for planning a preventive curriculum. However, the curriculum was perceived as too broad and a limiting factor in creating curricular change. Roughly 40% of responding dental schools had dentistry coursework devoted to prevention, while 86% integrated this material into other coursework. Faculty reported barriers to prevention education include insufficient knowledge of evidence and behavior change skills. Generally, dental schools agree on the value of preventive teaching and barriers to its education. How individual schools develop this material varies significantly.

Allan et al. Clinical Prevention and Population Health: Curriculum Framework for Health Professions. Am J Prev Med. 2004;27:471-476. (identified outside the PubMed search)

The authors present a curriculum framework based on the Health People Curriculum Task Force, Clinical Prevention and Population Health (CPPH), in which all health professions students should have competency. A similar framework was described 20 years prior to this publication (“Inventory of Knowledge and Skills Relating to Disease Prevention and Health Promotion” by the Association of Teachers of Preventive Medicine), but experienced poor uptake beyond medical education. The curriculum proposed in this article identifies four main components (evidence base of practice, clinical preventive services—health promotion, health systems and health policy, and community aspects of practice) with a total of 19 domains. Details are provided for each component:

- 1) *Evidence Base of Practice: the background needed to incorporate evidence into practice, i.e. quantitative and qualitative analysis and understanding study design.*
- 2) *Clinical Preventive Services—Health Promotion: evidence-based recommendations for intervention, screening and services, as well as the underlying science.*
- 3) *Health Systems and Health Policy: policies that affect practice and health, processes through which policies are developed and opportunities for engagement in the policymaking process.*
- 4) *Community Aspects of Practice: Public health and community-based learning experiences such as service learning, community-based participatory research, international health and community-based rotations.*

See <http://www.teachpopulationhealth.org> for extended explanation and resources to use this framework. The site also includes a link to the third revision of the CPPH framework, Achieving the Triple Aim: A Curriculum Framework for Health Professions Education by Paterson, et al., in *AJPM* 2015;49(2):294-296.

Description and Evaluation of Population Health Curricula

A wide range of institutions have developed population health curricula. These curricula target diverse learners and all stages of training, including medical students, residents, nurses, pharmacists, dentists, and public health students. The structure of these curricula is heterogeneous, encompassing longitudinal, episodic, classroom, and practicum-based experiences. Evaluations, thus far, are primarily pre and post intervention surveys.

McGrew et al. Health Policy and Advocacy for New Mexico Medical Students in the Family Medicine Clerkship. Fam Med 2015;47(10):799-802.

The University of New Mexico recently incorporated health policy and advocacy education into a family medicine clerkship. Existing components of an in-house masters of public health were transformed into 18 contact hours via one half-day of coursework weekly. Components: local, regional and national policy trends; avenues for physician engagement; education about state politics; comparative health systems; evolution of public health; adolescent health policy; social determinants of health; comparative medical education; single payer systems; health care finance and Centers for Medicare & Medicaid Services; and policy analysis overview. The course culminates in a brief policy analysis presentation by each student in which the presenter analyses a policy, identifies stakeholders, and presents policy alternatives. Voluntary pre- and post-clerkship surveys evaluated the program with respect to attitudes, knowledge and confidence about physicians' roles in policy and advocacy. Surveys demonstrated significant increase in knowledge and confidence over the clerkship. Participants identified networking, policy engagement, and policy analysis as important learned skills.

Chaudry et al. Teaching Integrative Medicine to Residents. Am J Prev Med 2015;49(5S3):S285-S289.

This paper describes efforts to teach internal medicine to preventive medicine residents at Johns Hopkins using population health methods. Curricular content was based on Berwick's principles of internal medicine: quality improvement; electronic health records; behavior change, health promotion and lifestyle medicine; complementary and alternative medicine; and project management. Residents also develop a population health project over a 2-year time period for their respective health centers. Year-end questionnaires to participants evaluated the curriculum. Overall, residents felt the curriculum provided useful knowledge and experiences to help them in both job searches and future careers. Program evaluation demonstrated statistically significant increase in knowledge, attitudes and self-reported confidence and selected domains.

Students were particularly interested in gaining skills for confronting health disparities in tandem with learning about them.

Gonzalez et al. The Evolution of an Elective in Health Disparities and Advocacy: Description of Instructional Strategies and Program Evaluation. Academic Medicine 2015;90:1636-1640.

This paper describes an elective for first year medical students aimed to provide education on health disparities, provider biases, and health advocacy skills. Specifically, the course included three sessions on the epidemiology of health disparities, three sessions on provider contributions to disparities (communication skills and implicit bias), six sessions on advocacy skills (strategic planning and grassroots organizing), and one session for wrap-up and posttest completion. More specifics with learning objectives for each session are published. The posttest involved open ended questions and a series of nine survey questions using Likert scales. Descriptive characteristics of participants are provided. Students reported that learning objectives were met either moderately or extremely well and received an overall rating of 4.3 out of 5.

Aung and Whittaker. Building health systems capacity: an introductory training course on health information systems. Pac Health Dialog. 2012 Apr;18(1):91-102.

[The Health Information Systems \(HIS\) Knowledge Hub at the School of Population Health, at the University of Queensland](#) developed a HIS curriculum to help enhance development capacity in Asia and the Pacific. The course targeted mid-level managers in state and federal departments or health institutions who are responsible for collecting or evaluating data designed to evaluate performance or guide policy and research. The program aimed to teach skills to:

- 1) *develop and maintain Health Information Systems and*
- 2) *evaluate and utilize data (collected through HIS) for monitoring health care systems.*

The course involves seven learning objectives addressed over 6 modules for a total of 20 sessions, one hour each. The 20 sessions covered the importance of HIS; components and standards of HIS; applying and communicating about basic statistical concepts; health indicators; management information systems; population and institution-based data sources; vital registration systems; health surveys and censuses; health services coverage; application of vital registration data; clinical management systems data; data quality and reliability; critical minimum data sets for health systems management; data presentation; data and policy; workforce training; HIS architecture and infrastructure; HIS players and agencies; advocacy and leadership; system evaluation.

In general, participants reported that the course was useful, that it would impact how their job performance, and that it exceeded their expectations.

Potts et al. Weaving public health education into the fabric of a family medicine residency. Am J Prev Med 2011;41(4S3):S256-S263.

This program attempted to strengthen its population health and prevention education via four fundamental features: vertically and horizontally integrated elements throughout the curriculum, an overarching framework based in public health, an emphasis on experiential learning, and faculty development. Through the [Regional Medicine-Public Health Education Center-Graduate Medical Education](#) (RMPHEC-GME) grant, the program established an interdisciplinary committee process to modify a preexisting curriculum. The group developed core competencies in areas of patient care, medical knowledge, practice-based learning and improvement, professionalism and systems-based practice; set up training sessions for residency-affiliated community-based faculty and developed concentrated and longitudinal experiences for residents. Concentrated experiences included a month one rotation for first year residents during which residents identify their longitudinal project, a community needs assessment over two weeks mid-year 1, and two afternoon workshops on home visits during year 2. These experiences included training using statistical tools and educational sessions on health disparities. The longitudinal experience primarily involved modifying an existing feature of the program – daily end-of-day Chart Rounds where residents and faculty gather to discuss challenging patient-cases. These sessions were restructured to include public health and prevention concepts. Finally, residents conduct a scholarly project and present at a poster session prior to graduation.

Stebbins et al. Public Health Area of Concentration: a model for integration into medical school curricula. Am J Prev Med 2011;41(4S3):S237-S241.

This publication describes the University of Pittsburgh, School of Medicine's new curriculum in public health for medical students. The program was in part developed in response to 2010 revisions in the Standards for Accreditation of Medical Education Programs recommending inclusion of public health science. The standard curriculum integrates public health and prevention into existing courses. Students can also participate in enough activities to complete an Area of Concentration (AOC). The program links the School of Medicine with the School of Public Health and the county health department. Learning occurs during 2 designated one-month rotations (one for research and the other for a Public Health Practicum), a day-long leadership training seminar, monthly lunchtime seminars in years 1 and 2 and a scholarly project. AOC students complete self-evaluations. Other evaluation methods include attendance tracking at seminars and journal clubs as well as post-evaluation on the Public Health Practicum using Likert scales. In general, participants have rated the program positively, and the collaboration between the health department and university have strengthened connections.

Long et al. Developing leadership and advocacy skills in medical students through service learning. J Public Health Manag Pract. 2011 Jul-Aug;17(4):369-72.

[Leadership Education Advocacy Development Scholarship \(LEADS\)](#) is an advocacy and leadership elective track using a service learning model at the University of Colorado School of Medicine. LEADS components: 9-week first year course (system, social determinants of health, health policy, local advocacy leaders, local issues, strategy overview); 8-week summer internship (service learning project with a weekly leadership educational session); 8-week second year course focused on a student-selected advocacy topic and SL project; quarterly discussion sessions throughout the third and fourth years; periodic seminars; longitudinal scholarly activity. Six core faculty and 3 support staff coordinate the program. Evaluation is comprised of focus groups as well as pre and post summer internship surveys regarding comfort, effectiveness and willingness to lead, and self-knowledge about leadership activities. Evaluation demonstrated significant improvement in these outcomes following completion of the internship.

Gregg et al. Health and disease in context: a community-based social medicine curriculum. Acad Med. 2008 Jan;83(1):14-9.

Oregon Health and Science University (OHSU) designed a community-based social medicine curriculum to help prepare residents for addressing social determinants of health in their practice. The curriculum is based in community-based participatory research. Specifically, OHSU partnered with an organization called [Central City Concern](#). The curriculum was designed with CCC needs and concerns in mind so that CCC could feel safe in creating space for residents to engage with their services. Curriculum goals:

- 1) to use academic-community partnership,
- 2) improve residents' understanding of social determinants of health, and
- 3) to achieve these goals within the confines of the preexisting curriculum.

Residents are exposed to social medicine curriculum materials one day per week during two specific ambulatory blocks as an intern and resident, respectively. There are three main components. During a one month block in year 1 and year 3, residents spend 1 day weekly engaged in the social medicine curriculum. Additionally, residents participate in Phase I learning activities as interns and Phase II activities as residents. Phase I: seminar series on health policy and the safety net, motivational interviewing, complementary and alternative care, addiction, homelessness and chronic pain management; Phase 2: two days per week in experiential learning along a pathway of the resident's choosing (addiction, primary care, or community outreach). See details about types of activities in each pathway. For evaluation, the authors used previously validated surveys, internally generated tools, qualitative interviews and anonymous reflection pieces.

Wolff et al. The Development and Evaluation of Community Health Competencies for Family Medicine. Wisconsin Medical Journal, 2007 Oct;106(7):397-401.

In response to calls for a stronger population health focus in medical education, the Department of Family and Community Medicine (DFCM) at the Medical College of

Wisconsin developed a core community health curriculum for its four family medicine resident programs. The purpose was to design a service-learning curriculum through which residents would learn about community needs and resources. The curriculum emerged from a collaborative relationship between the DCFM and the City of Milwaukee Health Department. First, the advisory committee identified a core set of competencies. Second, they conducted a needs assessment with respect to community health education at each program. Seven competencies were ultimately determined based on literature review, preexisting competencies from the American Academy of Family Physicians and American Board of Family Medicine guidelines, and conversations with residents, patient advisory councils, community members and program graduates: teamwork, knowledge and use of community resources, socio-cultural competency, community education, community partnership, population health, and research and evaluation. For each competency, the team developed a statement of objectives, learning activities, resources, evaluation methods, and time commitment. Each program selected one pertinent community health issue in order to ensure comprehensiveness across the objectives. Faculty evaluated residents at completion of the program with respect to the 7 domains using a 4-point Likert scale. At first evaluation of the program, residents performed best in areas of clinic-based teamwork and awareness and utilization of community resources, and generally performed worst in directly helping to coordinate community partnerships and community engagement. Presumed barriers to greater competence in community engagement include the overall clinical focus of residency and the isolated non-longitudinal nature of community health service-learning.

Smith et al. Educating to improve population health outcomes in chronic disease: an innovative workforce initiative across remote, rural and Indigenous communities in northern Australia. Rural Remote Health. 2006 Jul-Sep;6(3):606.

The Australian Government Department of Health and Aging funded an initiative to help health educators integrate chronic disease education into diverse health professions educational programs using a population health approach. The curriculum was developed by a collaboration including several research universities, industry partners and indigenous organizations. The final report includes an assessment of training needs, a curriculum framework, a list of targeted outcomes, an implementation model, an annotated bibliography, a resource list, and a self-assessment tool. Curricular domains include population health and remote practice; communication and cultural skills; system-level approaches; professional, legal and ethical issues; and clinical skills for remote areas. Key principles include a focus on population health; attention to core skills; based on needs; emphasis on indigenous communities; practice orientated; sustainable; feasibility; includes structured evaluation. The following briefly summarizes essential concepts within each domain (“expected core outcomes”). Population health: epidemiology, geography, social determinants of health, and public health infrastructure and programming. Communication and cultural skills: health literacy, using interpreters, patient empowerment, patient-centered care, health education. Systems: paper and

computer health information systems, coordination of care, longitudinal care, prevention and early detection across the life course. Professional, legal and ethical role: evidence based medicine, ethical conduct, health care legislation, self-care. Clinical skills: detection, diagnosis, referral, prescribing. The document provides suggestions for implementation as well as introductory reading on population health and the social determinants of health. An annotated bibliography and self-assessment tool are available at www.nt.gov.au/health/healthdev/health_promotion/publications/resource_database.shtml

Jakeway et al. Developing population health competencies among public health nurses in Georgia. Public Health Nurs. 2006 Mar-Apr;23(2):161-7.

This paper describes an online population health course for public health nurses. Major competencies of the course include community health assessment, translating health information to local and regional leaders and policy makers, computer technology and community coalitions.

Domain 1: analytic assessment skills.

Domain 2: Policy development and programming skills.

Domain 3: Communication skills.

Domain 4: Cultural competency skills.

Domain 5: Community dimensions of practice skills.

Domain 6: Basic public health sciences skills.

Course components included a semester of online sessions, a pre-course computer training session, support from the state Office of Nursing, available mentors, facilitated communication among faculty and students, and a community project. Further details of course content are not provided. Simple course evaluation demonstrated that 92% were satisfied or very satisfied, though 34% would not recommend the program or would do so only with changes due to time commitment and staff limitations. Barriers included organizational support for nurses to enroll and participate fully, limited basic computer skills among enrollees, varying processes and deadlines across schools of nursing, and the high-touch expectations of participants.

Unverzagt et al. Integrating population health into a family medicine clerkship: 7 years of evolution. Fam Med. 2003 Jan;35(1):45-51.

University of New Mexico's third year clerkship incorporated population health curriculum concepts using community-oriented primary care (COPC) methodologies in 1994. This evolution was accomplished through various curricular modifications. First, the project merged coursework and activities from preexisting aspects of the curriculum. Second, elements of the biopsychosocial model were incorporated into all didactic and problem-based learning educational activities during the clerkship. UNM also strengthened the emphasis on ambulatory care throughout the third-year. Finally,

the School of Medicine developed two new requirements – an immersion experience and a community project that created opportunity for self-generated learning. The population health curriculum was implemented through an 8-week third-year family medicine clerkship. Teaching material included presentation of COPC, basic epidemiology, and public health concepts. Evaluation occurred using student surveys based on Likert ratings. Course modifications evolved over several years in response to student and faculty feedback. Between 1997-1999, new faculty with expertise in community medicine and public health were hired. At the same time, clerkship project requirements were simplified. In 1999, a five-page paper was converted to a one-page paper with a poster presentation, and students' community projects were more regularly based on the ongoing projects of their preceptors. Subsequently, student perceptions of the overall clerkship improved while perceptions of the community project worsened. The evolution of the family medicine clerkship demonstrates important lessons. COPC work is very comprehensive and is difficult to implement in just 8 weeks. The program's organizational and structural success hinged on institutional assets and priorities. Identifying and hiring enthusiastic faculty significantly enhanced students' ability to engage with community projects in meaningful ways. Responding to student feedback increased their engagement. Long-term effects of curricular changes such as these are difficult but important outcomes to measure.

Fraser J. Evaluation of a general practice registrar training post in public health in rural New South Wales. Aust Fam Physician. 2002 Jul;31(7):685-8.

This paper describes a pilot program sponsoring a one-year half-time postgraduate position for general practitioners (GPs) in Australia to gain skills in population health. Fellowship components and learning goals included knowledge about population health, systemic literature review, project implementation and evaluation, data analysis, and communication skills. Semi-structured questionnaires were administered to the fellow and advisory board of the program at the beginning, middle and end of the project. The fellow reported gaining skills in epidemiology research, communication, and collaboration. Organizational benefits included collaborations and integration across involved units. Challenges included the cost of the clinical GP component. The post was successful and became formally recognized as a GP registrar post in population health affiliated with University of Newcastle.

Brill JR, Ohly S, Stearns MA. Training community-responsive physicians. Acad Med. 2002 Jul;77(7):747.

St. Luke's family practice residency program designed a longitudinal community medicine curriculum to encourage residents to develop a population health perspective and value community engagement. Their curriculum focuses on four domains: sociocultural aspects of patient care, awareness of community resources, relevant primary care skills, and community engagement. Curriculum elements include a driving tour of the communities served by the clinic, a four-week community medicine block for

interns, a community clinical site for longitudinal patient care, a service-learning project at the selected site, and a capstone presentation on the project. The presentations utilize required written reflections and a video journaling method. Residents' evolution in the curriculum were tracked across eight domains defined by an attribute-based progression matrix: communication, analysis, problem solving, aesthetic responsiveness, global perspectives, decision-making, social interaction and citizenship.

Brill JR, Jackson TC, Stearns MA. Community medicine in action: an integrated, fourth-year urban continuity preceptorship. Acad Med. 2002 Jul;77(7):739.

The University of Wisconsin-Madison, School of Medicine hosts a 34-week program for fourth year medical students in urban community medicine. The program responds to a call by the Medicine and Public Health Initiative to merge medicine and public health in medical education. The program is open to students who have selected a one-year continuity-based preceptorship in Milwaukee. The additional urban component includes a clerkship and a mentored scholarly project. Clerkship activities include an environmental survey, observation sessions in local agencies, focus group participation, and a resident and faculty development retreat. The scholarly project is facilitated by collaboration with faculty at the Center for Urban Population Health and includes a two-week intensive session. More specific curriculum content is not provided.

Porter et al. The Management Academy for Public Health: a new paradigm for public health management development. J Public Health Manag Pract. 2002 Mar;8(2):66-78.

In 1998, the Centers for Disease Control and Prevention (CDC), Health Resources and Services Administration, Robert Wood Johnson Foundation, and Kellogg Foundation jointly funded a pilot [Management Academy for Public Health](#) to focus on public health middle management capacity building. This program emerged out of the 1988 Institute of Medicine (IOM) report and several needs assessment studies sponsored by the CDC, Pew, and others (Table 1 lists the identified needs). The schools of business and public health at University of North Carolina was selected for the demonstration site. The curriculum aims to cover skills for management of money, people and data. Four fundamental principles of the program include recruiting managerial teams rather than individuals, utilization of action learning methods, the importance of career-long professional networks, and thorough program evaluation. The program involves initial short-term on-site classroom instruction (covering people management, strategic management, human resources, financial management, social marketing, civic entrepreneurship), a distance learning phase (covering project management and health law courses), two focused regional sessions (covering quality improvement, communication, diversity management, and data management), and a final on-site short-term negotiation course. Individual learning is emphasized through a performance assessment phase before starting the program (Individual Development Plan, IDP). This program specifically leaves out visioning and policy development. Evaluation involved pre- and post-skills evaluation, IDP assessment, surveys, and an organizational audit. See

paper for findings. In general, the program was affective in achieving its goals using these evaluation methods. More specific curricular details are not provided.

Thomas et al. Community-oriented primary care in a family practice residency program. Fam Med. 1996 May;28(5):326-30.

The biomedical model is inadequate to address chronic disease. Instead, providers need training in prevention, promotion, community health and epidemiology. Community-oriented primary care (COPC) blends these competencies with clinical medical training. University of Texas Medical Branch has created a COPC model for family medicine residents and health professions students. The program is led by an interdisciplinary team from clinical medicine, nursing, social work, epidemiology, sociology. This paper describes an intervention performed in 1993-1994 in which residents received 3 hours of community medicine education monthly. This time was split between lecture, discussion, and experiential learning. Curricular content areas included COPC principles, epidemiology, health education, preventive medicine, activism, and data collection. Program evaluation included a knowledge acquisition questionnaire and interviews with project leaders at residents' selected community sites. Conclusions: 1) family medicine residents and community representatives found value in collaboration; 2) family medicine residents valued the interdisciplinary nature of community work; 3) family medicine resident participants identified COPC as a useful model for future career work; 4) didactics alone fail to adequately train residents in the COPC model. Limitations included time and difficulty fully completing an effective project.

Trevena et al. 2005. Pop Health Integration within a Medical Curriculum: An Eight-Part Toolkit. Am J Prev Med. 2005 Oct; 29(3): 234-239. (identified outside the PubMed search)

This paper 1) describes a toolkit useful for teaching population health and prevention to medical students, and 2) discusses how the University of Sydney Medical Program used it in their problem-based learning, 4-year medical school. The toolkit is based on curricular components authored by the Health People Curriculum Taskforce in 2004. Toolkit advantages includes its simplicity, the obvious links between individual and population health, and adaptability to different settings since it includes rough guidelines as well as specific components for programs that want more guidance. The toolkit framework is based on Eight Essential Questions: distribution, cause, prevention, management, evidence base, personal effects, societal effects, societal response. Authors provide specific learning outcomes within each of these areas.

Liaw, Bazemore and Rankin. Teaching Population Health in the Digital Age: Community-Oriented Primary Care 2.0. J Comm Med Pub Health Care, 2015;1:1. (identified outside the PubMed search)

Presents the concept of Community-Oriented Primary Care (COPC) and links it to the principles outlined in the Folsom Report, a document released in 1967. COPC is a

“continuous process by which primary health care is provided to a defined community ...[via the]...integration of public health and primary care.” The four steps of COPC include defining community interest, identifying community health needs, implementing interventions and evaluating project outcomes. Three principles of COPC include expanding scope beyond the clinic panel, emphasis on the community over the patient, and community-engaged development and intervention. Recent rhetoric advocating for primary care expansion renews the relevance of the COPC model. Various digital innovations facilitate community-oriented intervention projects including electronic health records and public population level data sets. Briefly describes the [COPC curriculum](#), which includes four modules and a case study demonstrating application of the COPC concept to community health work.