The Population Health Milestone-Based Curriculum

Authors

Don Bradley, MD
Kathryn M. Andolsek, MD, MPH
Mina Silberberg, PhD
Gwendolyn Murphy, PhD
Donna Tuccero Sanders, MD
Viviana Martinez-Bianchi, MD, FAAFP
Justine Strand de Oliveira, DrPH, PA-C
Anna Hrovat
Sarah Weaver, MPH
J. Lloyd Michener, MD

INTRODUCTION

This section of the report provides a set of "generic" population health milestones for residency training. The goal of developing these milestones was to create a common set of goals for training medical professionals in the burgeoning field of population health, using the milestone framework recently developed by the Accreditation Council for Graduate Medical Education. Draft milestones were created based on the collective experience of the development team and the population health competency map published by Kaprielian et al in 2013, and refined through an iterative process of sharing these milestones and obtaining feedback from experts in the fields of population health and medical education, including many on the front lines of training physicians and residents.

We recognize that training programs will aspire to different levels of competency in population health for their learners. Some may only be concerned that their learners achieve level 1 or 2. Others may be seeking for their learners to reach level 4. Even for the programs most committed to population health, we consider level 5 to be aspirational, i.e., something to be achieved during the course of a career, not through a training program.

In addition to providing milestones for population health competency, the attached document provides sample materials and assessment tools that can be used in training learners in these competencies. We do not claim that these are the only or even the best materials and assessment tools for training programs to use. Rather, our goal in providing this information was to develop a curriculum that can be adopted wholesale, modified for use by a specific program, or inspire others to create new curricula. We hope you will find this work useful in supporting your own efforts to enhance training in population health and improve the health of the populations you and your residents serve.

The following tables suggest curricular resources and representative assessment strategies for each of the milestones. There are many materials available in the public domain. Program directors and faculty vary in their awareness of them, however. These tables are not meant to be comprehensive. A representative sample are included to provide a foundation upon which a program can further develop their own program specific materials.

Additional resources and strategies include:

- The Centers for Disease Control and Prevention
- Association of American Medical Colleges
- MedEdPORTAL
- iCollaborative (with its collection on Population Health)
- State and local Health Departments
- The Practical Playbook
- Organizations such as Association Teachers of Preventive Medicine
- Foundations such as Fullerton, Robert Wood Johnson

Population Health Milestones Materials and Assessment Tools

Population Health 1- *Applies principles of public health to improving the health of patients and populations.*

Level	Milestone	Materials	Activities/Assessment Tools
0	Does not understand the term "population health"; does not view patients as a population, and cannot define a population or determine its needs and assets. Lacks knowledge about the local public health system (including reporting requirements), or health-related community resources (including third party payers and other commercial resources) beyond his/her own clinical site. Does not understand how social factors (e.g., employment, education, neighborhood of residence), policies and programs influence health.		
1	Defines "population health." Describes and compares the essential functions and services of the local public health system and health-related community resources. Reports all required conditions to the local and state health departments. Provides appropriate high value preventive services to patients.	**Review your Health System/Hospital's most recent Community Health Needs Assessment.** **Check county rankings from RWJ.** http://www.rwjf.org/en/research-publications/find-rwjf-research/2010/02/county-health-rankings.html **Access CDC NCHHSTP Atlas** http://www.cdc.gov/nchhstp/atlas/index.htm?s_cid=bb-od-atlas_005 http://www.cdc.gov/nchhstp/atlas/index.htm?s_cid=bb-od-atlas_005	Multiple choice test; in-service exam

Population Health 1- *Applies principles of public health to improving the health of patients and populations. (continued)*

Level	Milestone	Materials	Activities/Assessment Tools
2	Identifies and appropriately refers individuals who may benefit from referral to public health services and community resources. Defines a population for health assessment and improvement, and lists benefits of a practice registry that includes data on social determinants of health. Analyzes how physical and social environments (including socioeconomic factors), policies and programs influence health and wellness of individuals and populations.	Review the Practical Playbook Section on **Integration of Primary Care and Public Health.** https://www.practicalplaybook.org/	Portfolio: describe one or more patients referred for community services Access materials pertinent to your state on social determinants of health http://www.cdc.gov/socialdeterminants/Resources.html
3	Uses an organized method, such as a registry, to understand the needs and assets of his/her patient population, including social determinants of health and health disparities. Reviews public health data and trends and integrates that knowledge into patient care, including attention to the special needs and assets of vulnerable populations. Regularly coordinates with public health department and other community resources to help his/her patient population meet their needs. Interprets the health needs, assets and determinants of health in the local community and among subgroups in the community, and describes how these are assessed	Review registry example: http://www.aafp.org/fpm/2006/0400/p47.html Read: Gliklich RE, Dreyer NA, eds. **Registries for Evaluating Patient Outcomes: A User's Guide.** (Prepared by Outcome DEcIDE Center [Outcome Sciences, Inc. dba Outcome] under Contract No. HHSA29020050035I TO1.) AHRQ Publication No. 07- EHC001-1. Rockville, MD: Agency for Healthcare Research and Quality. April 2007. **iCollaborative** https://www.mededportal.org/icollaborative/resource/168 https://www.mededportal.org/icollaborative/resource/944	Chart audit: compare referral rates, follow-up, and outcomes to those within the same office/practice/clinic/health system/region/state/nation.

Population Health 1- *Applies principles of public health to improving the health of patients and populations. (continued)*

Level	Milestone	Materials	Activities/Assessment Tools
4	Participates with public health and other stakeholders in community health needs and assets assessment. Participates with public health department and others from outside his/her clinical site to improve health of a defined population beyond the patients at his/her clinical site. Participate in disaster/epidemic management.	**iCollaborative** *Case Study* https://www.mededportal.org/icollaborative/resource/768 iCollaborative https://www.mededportal.org/icollaborative/resource/2325	360°/multisource evaluation from community health partners.
5	Leads and initiates collaborations with partners from outside his/her clinical site to improve health of a defined population beyond the patients at the clinical site; identifies likely implications of those efforts for sub-communities and disparities within the population. Collaborates with partners from outside the clinical site to advocate for public health, integrated population health improvement, and improvements to the determinants of health. Coordinates disaster/epidemic management.	**iCollaborative** https://www.mededportal.org/icollaborative/resource/2325	Publication, poster, abstract or dissemination from outcome/impact from initiative/intervention

Population Health 2- *Applies principles of community engagement to improving the health of populations.*

Level	Milestone	Materials	Activities/Assessment Tools
0	Does not understand how to define or identify a community, the role of communities in shaping population health, or the importance of engaging community partners in improving population health. Does not recognize that clinical practices are communities containing sub-communities. Cannot list stakeholders for community health issues.		
1	Provides a working definition of community. Identifies communities with shared health needs. Lists stakeholders for key community health issues. Provides a working definition of community engagement. Lists multiple communities to which a specific patient belongs.	**Principles of Community Engagement**- 2nd edition (2011). www.atsdr,cdc,gov/communityengagement or Amazon- $49	Multiple choice test
2	Describes the benefits of community engagement in population health improvement. Describes how the clinical practice is itself a community and contains practice sub-communities with their own language, interests, biases, areas of expertise, and processes for doing things.	**Principles of Community Engagement**- 2nd edition (2011). www.atsdr,cdc,gov/communityengagement or Amazon- $49 Braveman P, Gottlieb L. **The Social Determinants of Health: It's Time to Consider the Causes of the Causes.** Public Health Reports. 2014; 129(Suppl 12), 19-31. Overview: What is Community **Engagement?** www.health.mn.us/communityeng/	Multiple choice test Portfolio: reflection on working with the community and how experience could be enhanced with implementation of these principles.

Population Health 2- *Applies principles of community engagement to improving the health of populations. (continued)*

Level	Milestone	Materials	Activities/Assessment Tools
3	Engages effectively with practice communities and sub-communities on practice improvement efforts. Engages with the patient advisory committee or integrates other public input in implementing practice improvement efforts.	**Principles of Community Engagement**- 2nd edition (2011). www.atsdr,cdc,gov/communityengagement or Amazon- $49	360°/multisource 360/multi-rater feedback from clinical setting
4	Partners effectively with others from outside the clinical setting to improve health of a defined population beyond the patients at the clinical site. Initiates contact with community partners and stakeholders with appropriate supervision and feedback from mentors.	**Principles of Community Engagement**- 2nd edition (2011). www.atsdr,cdc,gov/communityengagement or Amazon- $49	360°/multisource 360 feedback from partner organization; Written summary describing of population health initiative
5	Collaborates effectively with interprofessional team and outside partners to address preventable conditions through systems redesign and attention to social determinants of health; and evaluates these efforts. Participates in and promotes sustainable community partnerships. Communicates effectively with media and local/state/regional and national stakeholders. Leads and initiates collaborations with partners from outside the practice/office/clinic to improve health of a defined population beyond the patients at his/her clinical site.	Mittler JN, Mertsolf GR, Talenko SJ, Scanlon DP. **Making Sense of "Consumer Engagement" Initiatives to Improve Health and Healthcare: A Conceptual Framework to Guide Policy and Practice.** The Milbank Quarterly. 2013; 91(1):37-77. doi:10.1111/ncilq.12002	Publication, poster, abstract or other "artifact" documenting dissemination from outcome/impact from initiative/intervention

Population Health 3- *Utilizes critical thinking to improve the health of populations.*

Level	Milestone	Materials	Activities/Assessment Tools
0	Unaware of information sources to measure population health. Does not understand basic principles or tools of critical thinking. Cannot correctly utilize key population health statistical or analytical terms. Unfamiliar with standard quality metrics or available benchmarks.		
1	Identifies and accesses quantitative and qualitative data and information (e.g., vital statistics, electronic health records, transportation patterns) that can be used to understand the health of a community. Identifies a relevant population for health assessment from the patients for whom s/he provides care. Lists quality metrics and available benchmarks related to his/her patient population.	**Population Health: Creating a Culture of Wellness**, Sudbury,MA: 2011. Jones & Bartlett Learning. (Chapter 9) **Measuring *Vital* Signs: An IOM Report on Core Metrics for Health and Health Care Progress** David Blumenthal, MD, Michael McGinnis, MD, *JAMA*. 2015;313(19):1901-1902 Institute of Medicine. **Vital Signs: Core Metrics for Health and Health Care Progress.** Washington, DC: National Academies Press; 2015. http://www.iom.edu/coremetrics.	Faculty-learner review report on practice population identified, sources of data and metrics to be assessed. Together determine an action plan and re-evaluate after defined time frame.
2	Compares and contrasts data sources available for population health, including strengths and weaknesses for specific tasks. Understands basic principles of critical thinking and role of basic tools of critical thinking including literature review, QI, research, evaluation, systems-based thinking and other analytic tools (e.g. segmentation, predictive modeling, and prioritization). Correctly utilizes key population health statistical and analytical terms. Able to access practice- specific data regarding a patient population, identify benchmarks for assessment of care or health status, analyze results of data analysis and identify appropriate plan(s) for improvements.	**Metrics for the Second Curve of Health Care.** Health Research & Educational Trust, Chicago: April 2013. Accessed at www.hpoe.org Accessible at: www.hpoe.org/future-metrics-1to4 http://www.countyhealthrankings.org http://kff.org http://www.commonwealthfund.org	Faculty –learner review report on practice population identified, sources of data and metrics to be assessed. Together determine an action plan and re-evaluate after defined time frame.

Population Health 3- *Utilizes critical thinking to improve the health of populations. (continued)*

Level	Milestone	Materials	Activities/Assessment Tools
3	Applies critical inquiry and systems-based thinking to identify population health needs (including health disparities and particular needs and assets of vulnerable populations) and opportunities to address these, building on community assets. Compares quality metrics for his/her population to appropriate comparison groups and available benchmarks. Plans and/or implements plan(s) to evaluate initiatives to improve health of practice population.	**Principles of Community Engagement**, 2nd ed., NIH Publication No. 11-7782 Printed June 2011 (Chapter 5) AAMC Toolkit: Communities, Social Justice and Academic Medical Centers https://www.aamc.org/initiatives/research/healthequity/	Faculty advisor and learner presentation to colleagues on relevant population health improvement project Reflection sheet (for Communities, Social Justice and Academic Medical Centers) https://www.aamc.org/download/449096/data/socialjustice-reflectionsheet.pdf
4	Uses tools of critical thinking *together with* community engagement in the design and monitoring/evaluation of population health improvement initiatives beyond his/her practice. Disseminates lessons learned from these initiatives to affected stakeholders and the practice and research communities.	**Principles of Community Engagement**, 2nd ed., NIH Publication No. 11-7782 Printed June 2011	360°/multisource from the Community on work with them
5	Provides leadership on the use of critical thinking *together with* community engagement in designing, implementing, and evaluating population health improvement initiatives, and disseminating lessons learned. Applies more sophisticated analytical approaches and new tools to support critical thinking for population health.		Feedback on paper, poster, abstract or presentation submitted from event organizer and/or faculty

Population Health 4- *Utilizes team and leadership skills to improve the health of populations*

Level	Milestone	Materials	Activities/Assessment Tools
0	Fails to recognize the importance of the team in providing care for a population. Does not incorporate feedback on working with populations/communities into practice. Does not recognize the need to defer to others to assume leadership. Does not effectively participate in, manage, or lead teams.		
1	Recognizes importance of working in teams to address needs of a population. Lists and compares the sub-communities that comprise the interprofessional clinical care team (e.g., doctors, nurses, admin staff, interpreters, case managers, students, social workers, pharmacists, CMAs). Compares the value and roles of interprofessional and intersectoral team members in working with individual patients and addressing population health. Effectively receives feedback on working with populations/communities/teams and incorporates into practice improvements.	Resident orientation	Multiple choice test or "reflection" exercise.
2	Respects and honors unique contributions of team members. Demonstrates basic team skills such as work planning, time management in practice improvement. Demonstrates basic team skills in carrying out practice-based population health management, e.g., transitions of care. Critically inventories personal leadership and interpersonal styles, and creates a personal development plan.	Royeen CB, Jensen GM, Harvan RA. **Leadership in Interprofessional Health Education and Practice**, Boston, MA; Jones and Bartlett Publishers;2009. [book for purchase] **Interprofessional collaboration: three best practice models of interprofessional education:** Medical Education Online 2011, 16: 6035 - DOI: 10.3402/meo.v16i0.6035	In practice 360°/multisource evaluation of team and leadership behaviors

Population Health 4- *Utilizes team and leadership skills to improve the health of populations (continued)*

Level	Milestone	Materials	Activities/Assessment Tools
3	Demonstrates leadership skills in working with clinic-based teams and patient advisory committees on population health improvement. Anticipates and engages with partners' perspectives both inside and outside of clinic to identify collective goals and strategies. Participates effectively in teams that are diverse in terms of culture, socioeconomic status, or other salient attributes.	Shirley D. **Project Management for Healthcare**, Boca Raton, FL; CRC Press; 2011. [book for purchase]	Faculty review of project plan and post-implementation debrief
4	Engages with complex community teams. Evaluates team dynamics and intentionally improves team function in practice-based teams. Leverages team diversity to more effectively accomplish practice-based team goals. Effectively manages crucial conversations, conflicts, and celebrates successes. Effectively participates in multi-sectoral teams from outside the clinic to improve population health beyond the clinic.	http://www.kenblanchard.com/img/pub/pdf_critical_leadership_skills.pdf http://www.forbes.com/sites/tomaspremuzic/2014/10/26/social-skills-leadership-in-healthcare-the-case-for-boosting-doctors-eq/ Tom Rath, Strength Finders 2.0;New York; Gallup Press,; 2007 (Available on Amazon- $15)	360°/multisource evaluation for team and leadership behaviors in an external setting.

Population Health 4- *Utilizes team and leadership skills to improve the health of populations (continued)*

Level	Milestone	Materials	Activities/Assessment Tools
5	Facilitates both individual and team growth and development. Builds diverse teams. Demonstrates vision and strategic thinking to accomplish population health goals. Effectively leads and initiatives multi-sectoral teams from outside the clinic to improve population health beyond the clinic. Defers to others to assume leadership in community teams when appropriate; fluidly negotiates roles. Effectively provides feedback to others on working with community teams. Effectively participates in collective processes to confront the implications of race, class, and power for team dynamics.	Daniel Pink; **Drive**; New York; Riverhead Books; 2009 Participate in a leadership development activity through your community (e.g. Leadership Durham), your medical society (e.g. NC Medical Society Leadership College), or your medical school. (At Duke, LEAD curriculum, Feagin Scholars)	360°/multisource evaluation for team and leadership behaviors in an external setting. Completion of any number of potential leadership tools with debrief by faculty following by personal action plan. Myers Briggs, http://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/ LIME http://deepblue.lib.umich.edu/bitstream/handle/2027.42/115886/AAMC2015-LIME-poster.pdf?sequence=3&isAllowed=y EQ http://www.emotionalintelligence.net/products/?gclid=CjwKEAiAws20BRCs

REFERENCES

Frieden, T. R. (2010). A framework for public health action: the health impact pyramid. American journal of public health, 100(4), 590-595.

Kaprielian, V. S., Silberberg, M., McDonald, M. A., Koo, D., Hull, S. K., Murphy, G., ... & Michener, J. L.(2013). Teaching population health: a competency map approach to education. Academic medicine: journal of the Association of American Medical Colleges, 88(5), 626.

Kindig, D., & Stoddart, G. (2003). What is population health?. American Journal of Public Health, 93(3),380-383.

Wagner, E. H. (2010). Academia, chronic care, and the future of primary care. Journal of general internalmedicine, 25(4), 636-638.