Advancing Population Health: The Role of Schools

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School Health Interdisciplinary Program

Maryland State School Health Council Pre-Conference Session

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What is Population Health vs Public Health?

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"Public health is what we, as a society, do collectively to assure the conditions in which (all) people can be healthy."

-Institute of Medicine (1988), *Future of Public Health*

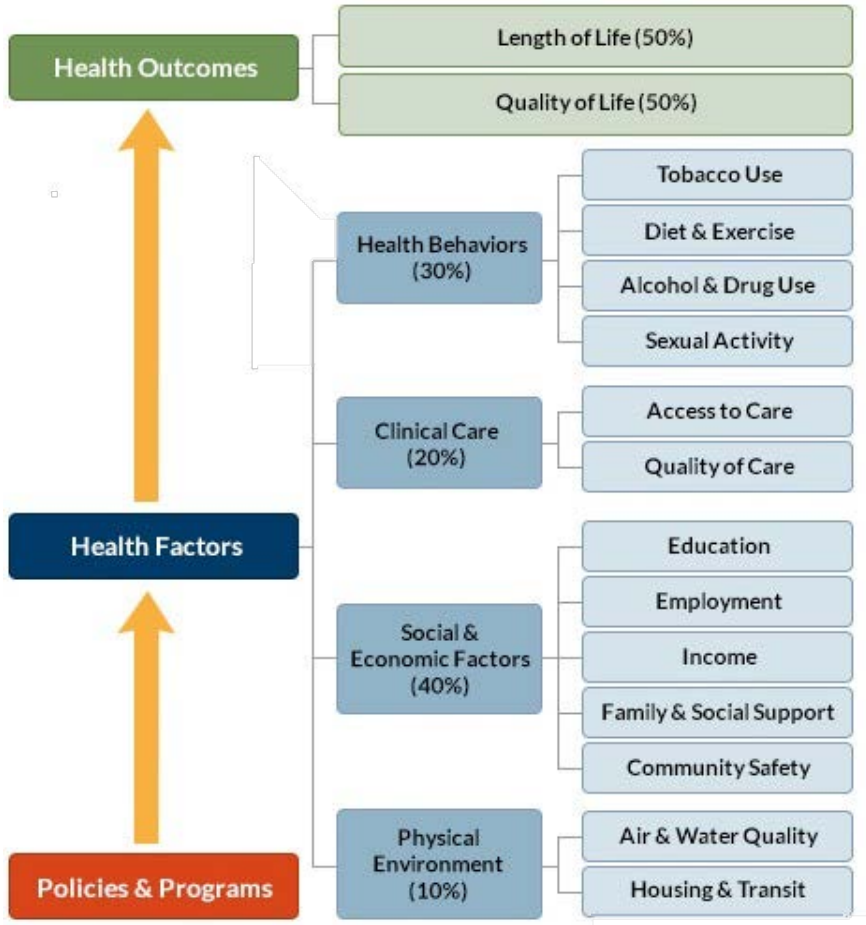
Population Health

Population health is <u>both</u>:

- The health outcomes of a group of individuals (health outcomes)
- <u>and</u> the distribution of such outcomes within the group

Improving population health requires <u>both:</u>

- Clinical management of individuals in the group, and addressing underlying determinants of health status across the group



Sources: https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model
D Kindig, G Stoddart. What is population health? Am J Public Health. 2003;93: 380–383. Accessed at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1447747/pdf/0930380.pdf (8/14/2019)

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Overview of Maryland Population Health Context

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Overview of Maryland Population Health Context

Office of Population Health Improvement (OPHI) Overview

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OPHI Overview

Mission

To transform public health through stewardship of **data, partnerships, and funding initiatives** to develop innovative health policy and improve the health infrastructure of Maryland.

Health Care Transformation
Population Health Quality Measurement, Health Equity & Social Determinants, Community Health Workers

Workforce Development for Healthcare Professionals
Maryland and State Loan Assistance Repayment Program, J-1 Visa Waiver, Preceptor Tax Credit, National Health Service Corps

Primary Care Improvement
Health Professional Shortage Area designations (Primary Care/Dental/Mental Health, MUA/P

Rural Health Improvement
Maryland's Rural Health Plan, Mid-Shore Rural Collaborative

Local Health
Core Funding, Local Health Improvement Coalitions

Quality Improvement
Public Health Accreditation, Public Health Services Training Needs

School Health
Naloxone/Opioids and SUD, Disaster Preparedness, Immunization, School Telehealth, Health Services, Guidelines, TA & professional development

Substance Abuse/Use Prevention
Underage binge drinking, opioid misuse, strategic prevention framework, local planning

State Health Improvement Process/Plan (SHIP)
MDH Dashboard for 39 population health measures by jurisdiction

Public Health Workforce Development
TRAIN, PHWINS

Community Health Worker Certification
Training; Advisory Board, Regulations,

$63 **Million Budget**

24 **Staff Positions**

39 Measures For **State Health Improvement Process**

24 Core Funding For **Local Health Departments**

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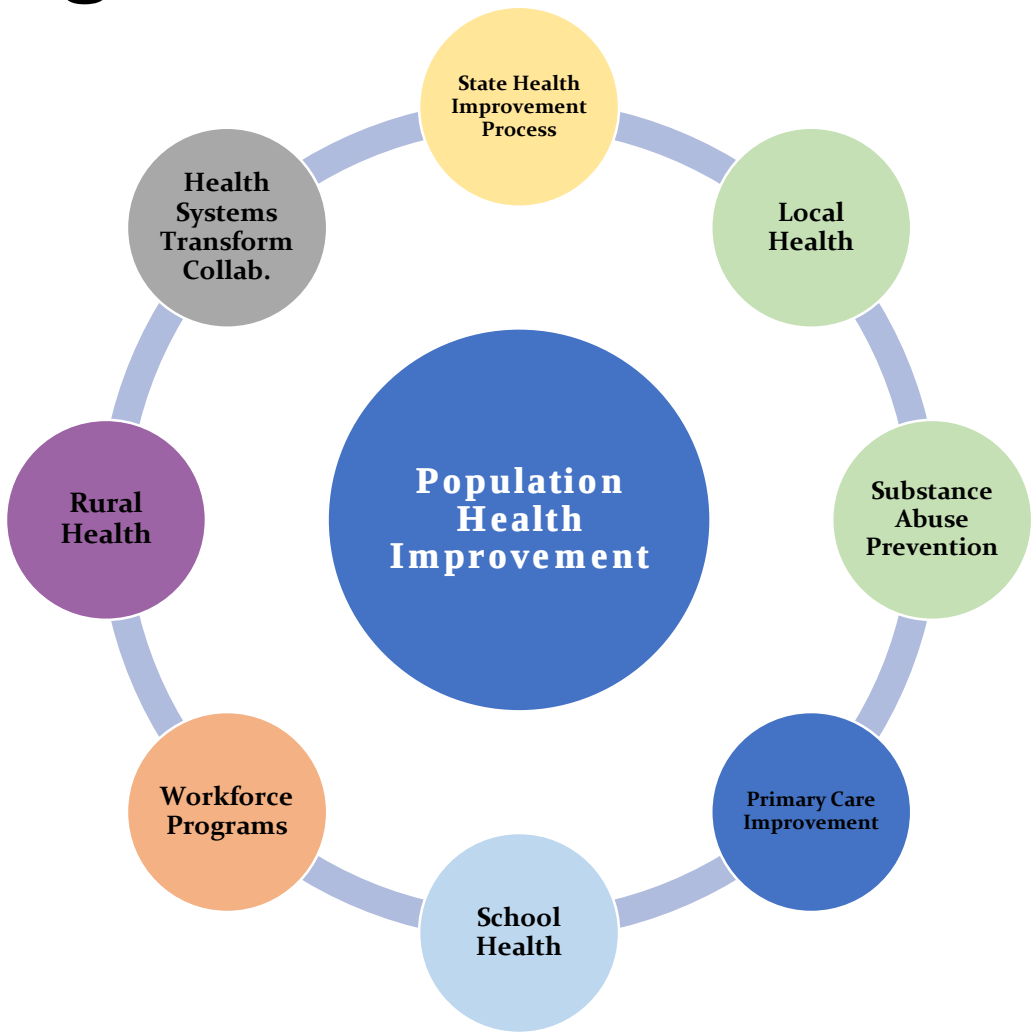
Office of Population Health Improvement Programs and Strategies



Strategies

- ✓ Surveillance
- ✓ Communication
- ✓ Partnerships
- ✓ Local engagement
- ✓ Innovation
- ✓ Health care system investments

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Overview of Maryland Population Health Context

Population Health Framework

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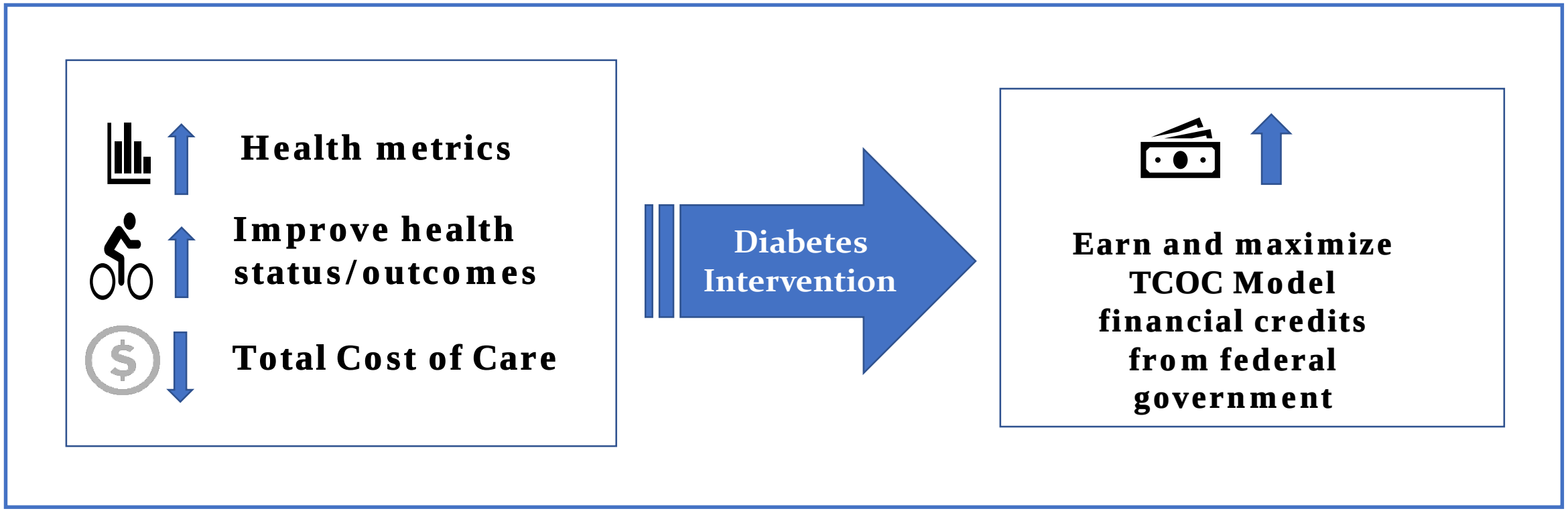
Objective

Improving Health Status while Reducing Total Cost of Care



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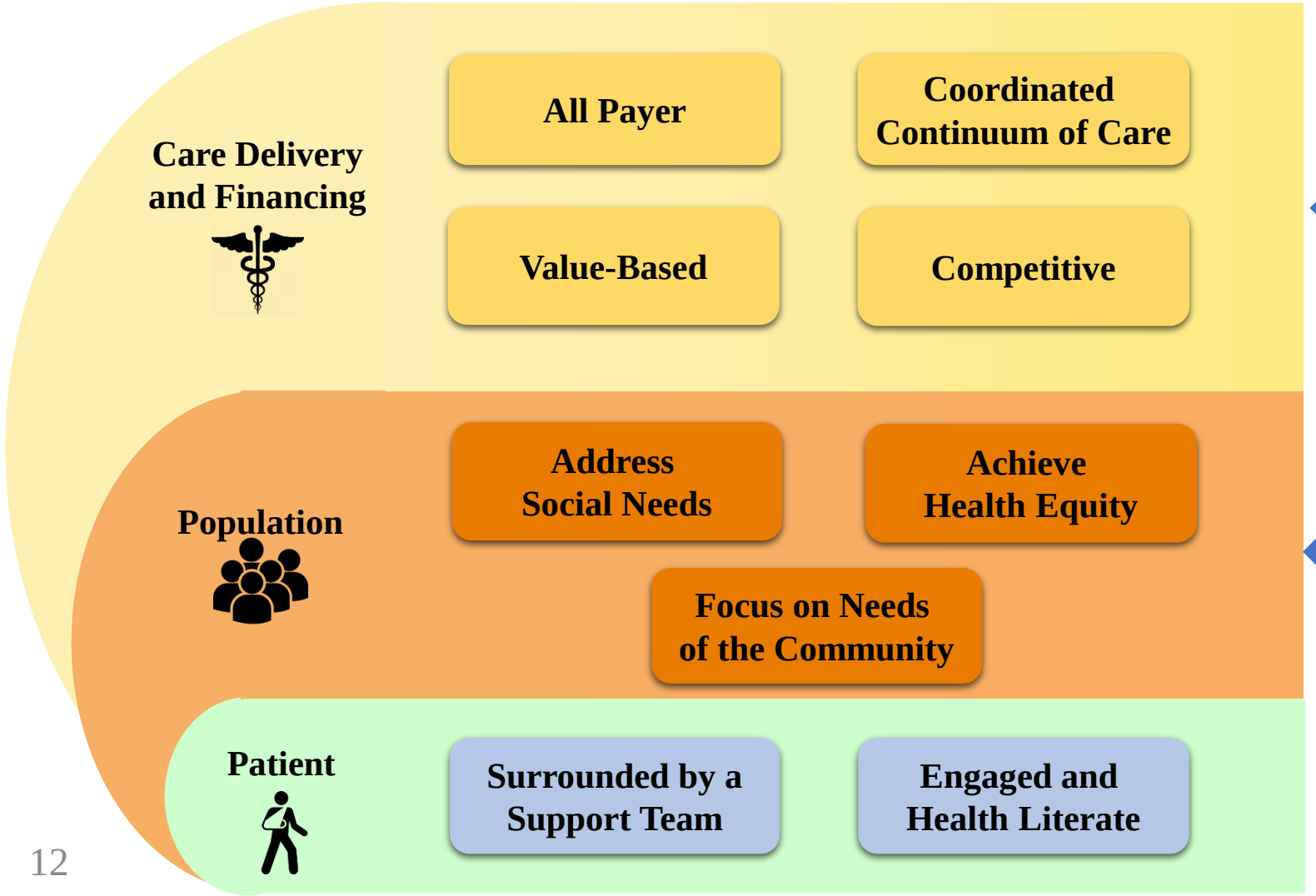
Vision for Maryland Health System



Opportunities for Schools

Current push for growth and innovation

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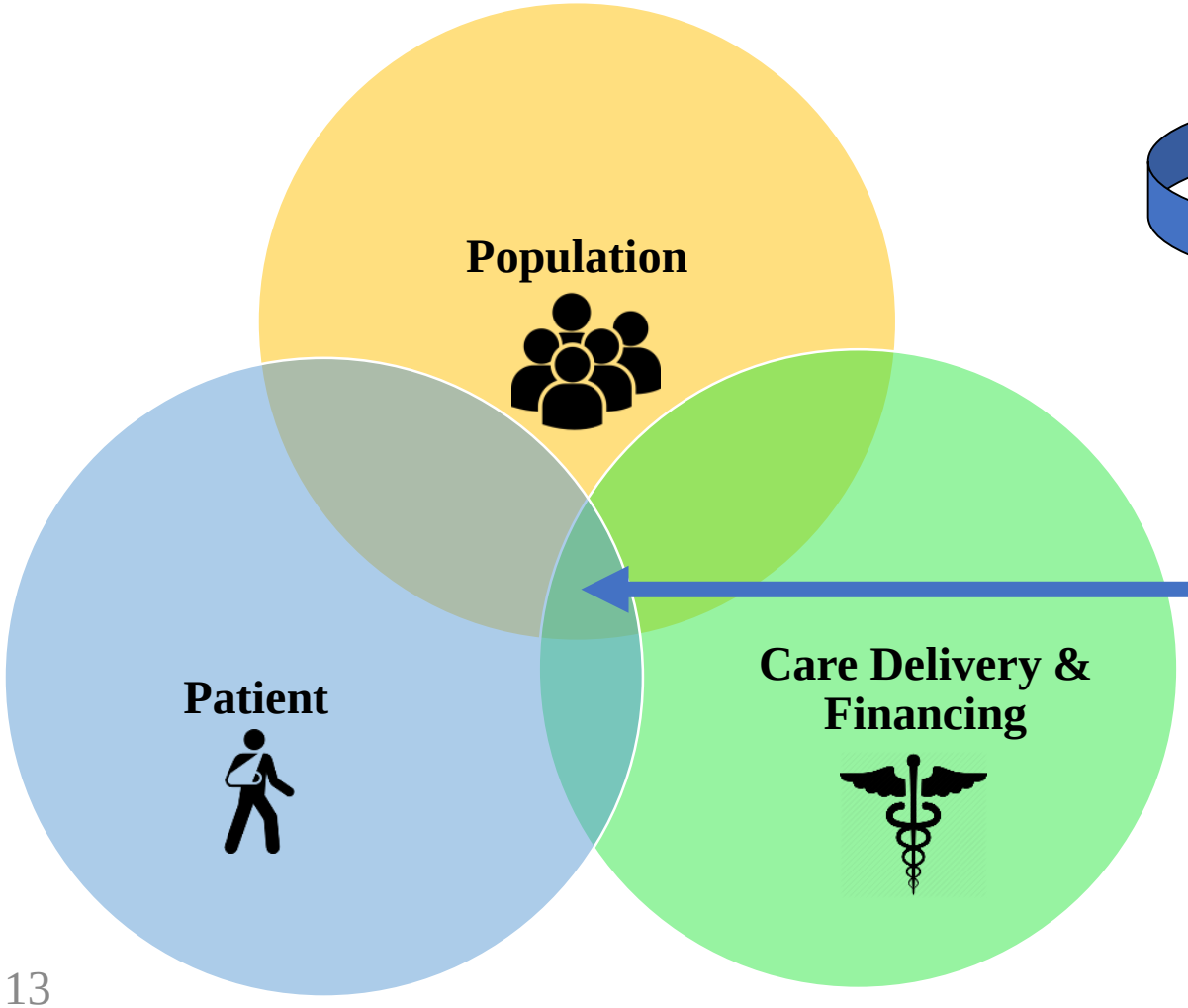
Planning and Transformation



Clinical Care

Public Health System

<u>Population Health Management</u>
Population Health Improvement

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Key Elements of Population Health

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Key Elements of Population Health Improvement

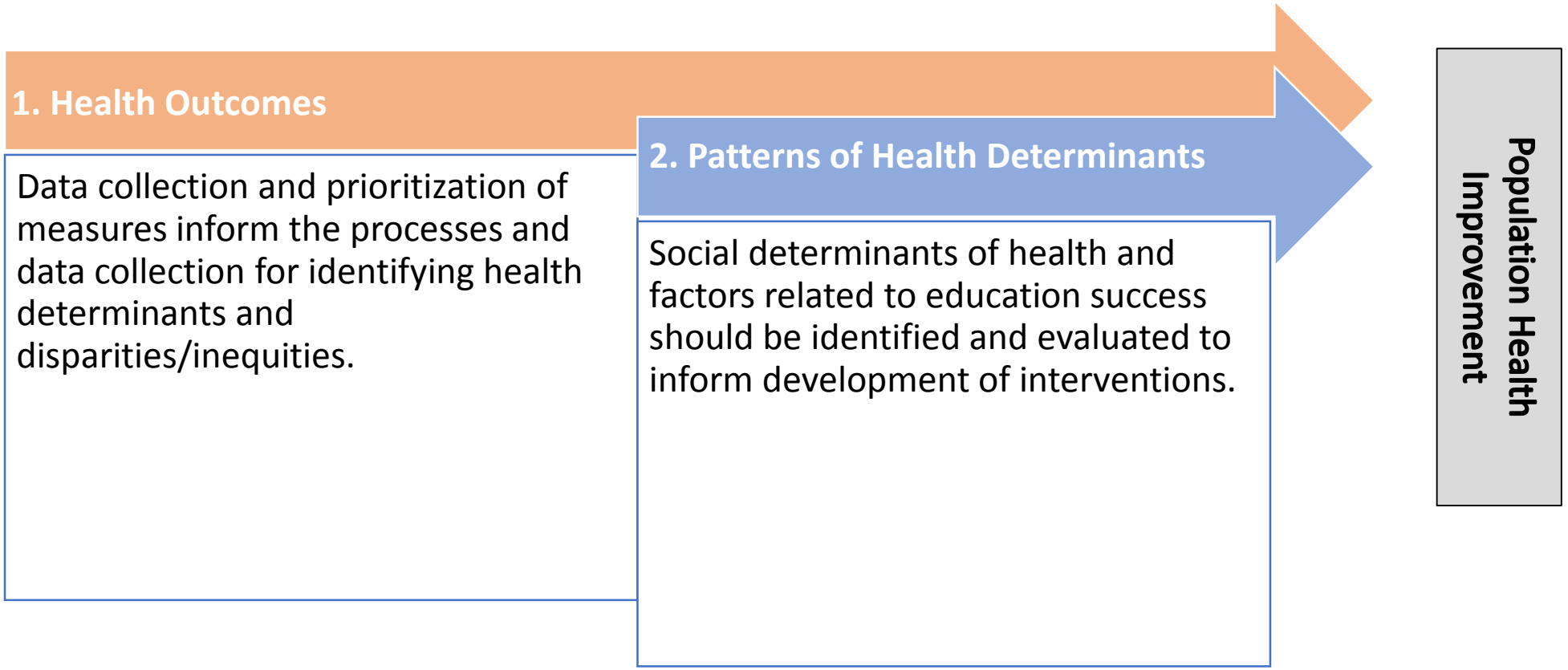
1. Health Outcomes

Data collection and prioritization of measures inform the processes and data collection for identifying health determinants and disparities/inequities.

Population Health Improvement

Source: https://cbpp-pcpe.phac-aspc.gc.ca/population-health-approach-organizing-framework/ (accessed 8/4/2-19)

Key Elements of Population Health Improvement



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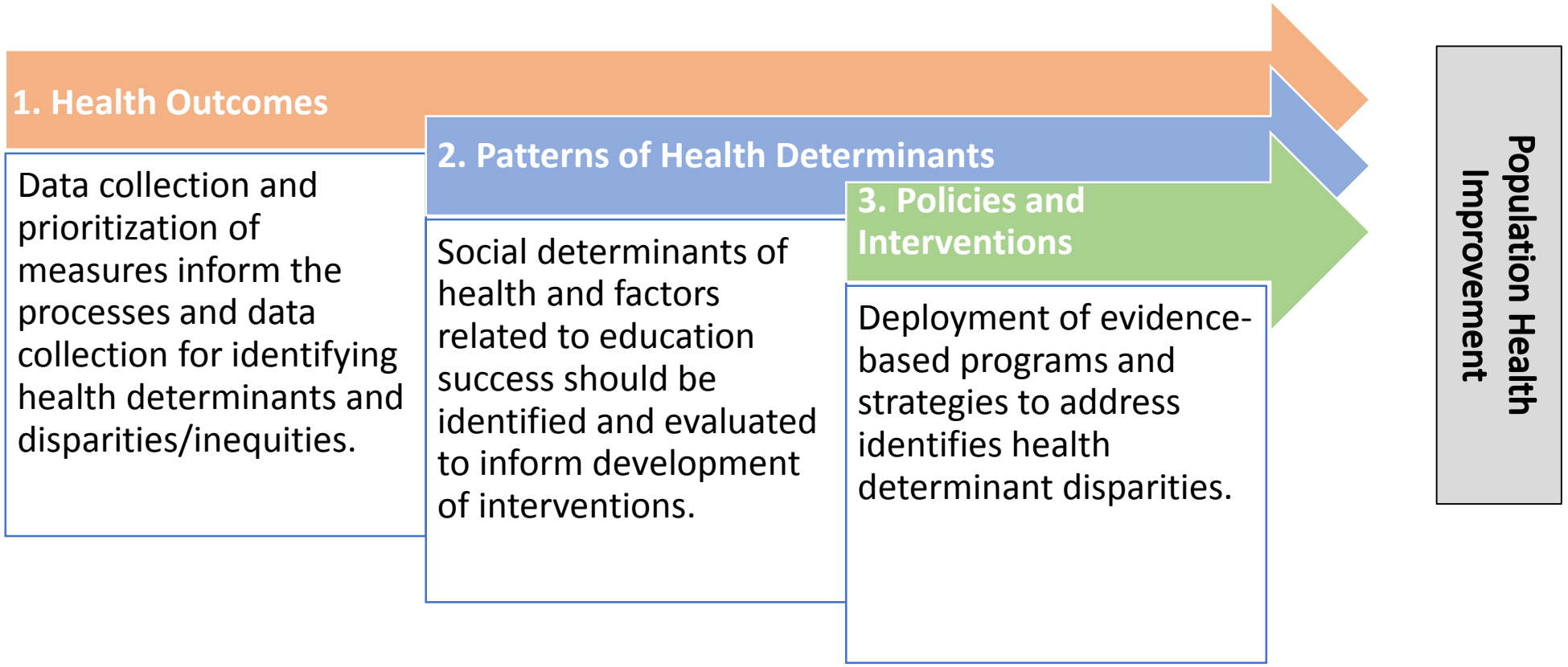
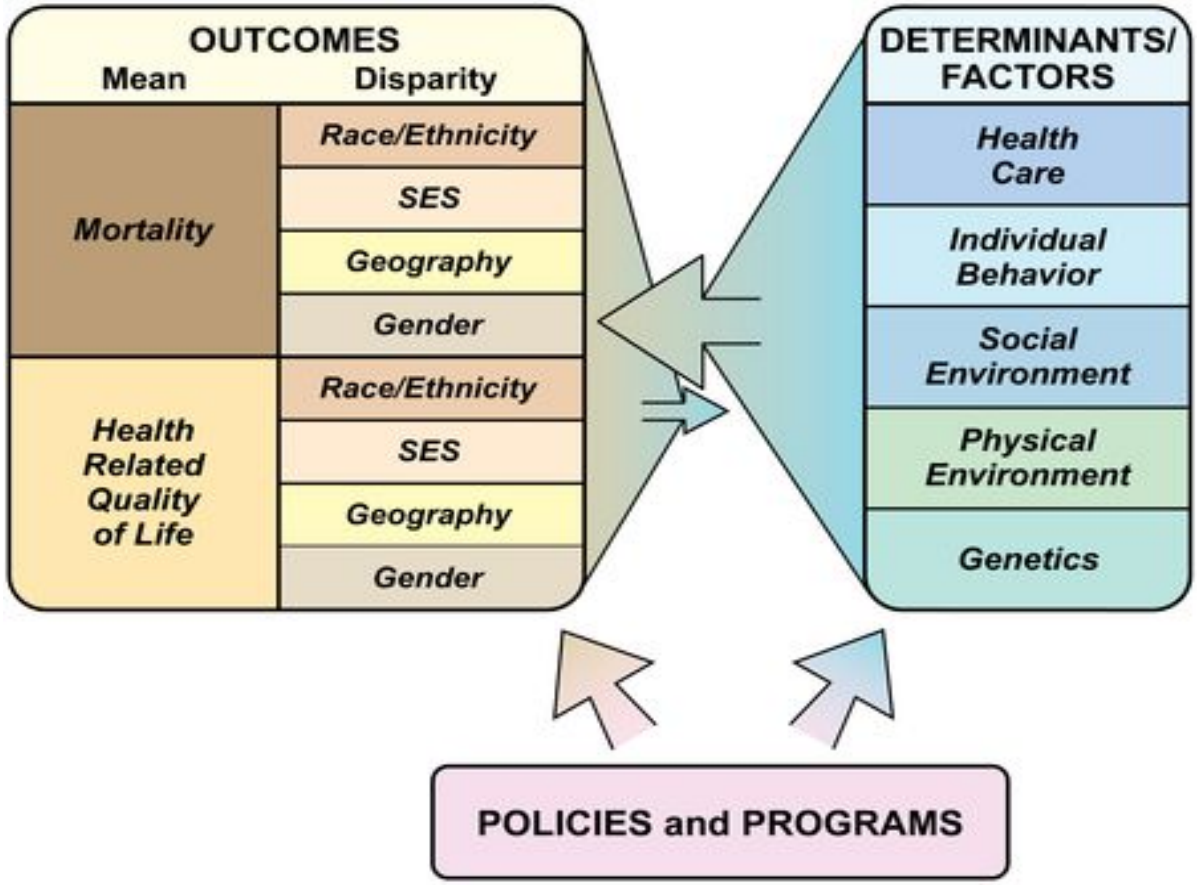
Key Elements of Population Health Improvement



Source: https://cbpp-pcpe.phac-aspc.gc.ca/population-health-approach-organizing-framework/ (accessed 8/4/2-19)

Key Elements of Population Health



Source: https://www.improvingpopulationhealth.org/blog/2011/02/which_outcomes_improve.html

Key Elements of Population Health

School Health in a Population Health Framework

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WHOLE SCHOOL, WHOLE COMMUNITY, WHOLE CHILD

A Collaborative Approach to Learning and Health

- ✓ 10 components
- ✓ Reflects the integration of health and education roles/goals
- ✓ Strong public health/population health foundation
- ✓ Supported and collaborates with the community
- ✓ Both health and education goals supported by policy, process and practice

Source: ASCD and CDC. http://www.ascd.org/programs/learning-and-health/wscc-model.aspx

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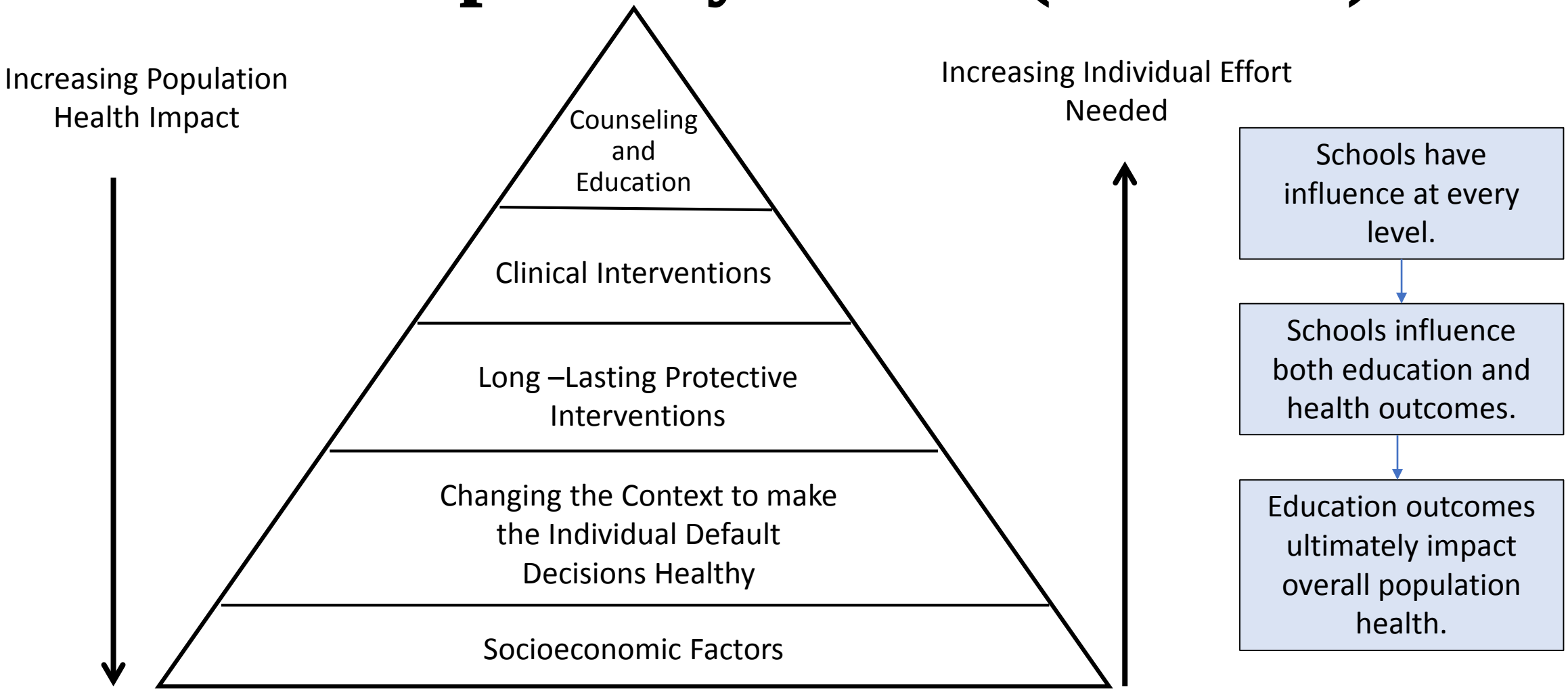
Health Impact Pyramid (5-Tiers)



Source: Frieden TR. A Framework for Public Health Action: The Health Impact Pyramid. Am J Public Health. 2010; 100:590-595

Key Element of Population Health

1. Health Outcomes

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National Survey

According to the National Survey of Children's Health (2017), children with special health care needs (CSHCN):

- 28 percent of households had one or more CSHCN
- Approximately 19 percent of children had one or more special health care need
- Prevalence of chronic conditions nearly doubled between five and six years of age
- Children of lower socioeconomic status had more chronic conditions
- 10 percent of CSHCN missed 11 or more days of school vs. 2 percent for those without a health condition

Source: https://mchb.hrsa.gov/sites/default/files/mchb/Data/data-speak-nsch-2016-slides.pdf (accessed 5/10/2019)
https://www.nschdata.org/browse/survey/results?q=6546&r=1&g=645 (accessed 5/11/2019)

School Health Data

Chronic Conditions and Special Health and Support Services: Maryland, SY17-18

Top 4 Diagnoses*	Number+
Asthma	87,179
Anaphylaxis	58,295
ADHD	46,620
Mental Health Diagnoses	32,637

Nursing Interventions	Number+
Individual Health Plan	15,938
Emergency Care Plan	19,534
IEP w/ Health Goal	4,130
504 Plan	11,339

* DM is least prevalent of all specified diagnoses: 2,730
+ Not all Jurisdictions reported

Source: MSDE/MDH Annual SHS Survey SY 2017-2018

Total Public School Enrollment = 893,689

State Health Improvement Process (SHIP)

https://pophealth.health.maryland.gov/Pages/SHIP.aspx

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State Health Improvement Process (SHIP)

39 population health measures from 13 data sources

MDH:	BRFSS	Vital Stats	HSCRC	Infec. Disease	Medicaid	YRBS
State Police	Highway	CDC	DHR	Planning	Environment	Education

Physical activity	Suicide Rate	ED Hypertension	Chlamydia infection rate
Prim. Care Provider	SUIDs Mort	ED Mental Health	HIV incidence rate
Adults Who Smoke	Teen Birth Rate	ED Uninsured	Children Lead Screening
Flu Vaccinations	Infant Death Rate	ED Diabetes	Children Dental Care
Adults not overweight	Life Expectancy	Domestic Violence	Adolescents Checkup
Prenatal Care	Low Birth Weight	Pedestrian injury	Kindergarten Readiness
Cancer Mortality	ED Alzheimer's	Children – Vaccines	High School Graduation
Drug-Induced Mort	ED Addictions	Child maltreatment	Adolescents Tobacco
Heart disease Mort	ED Asthma	Affordable Housing	Adolescents Obesity
Fall-Related Mort	ED Dental	Children Lead Levels	

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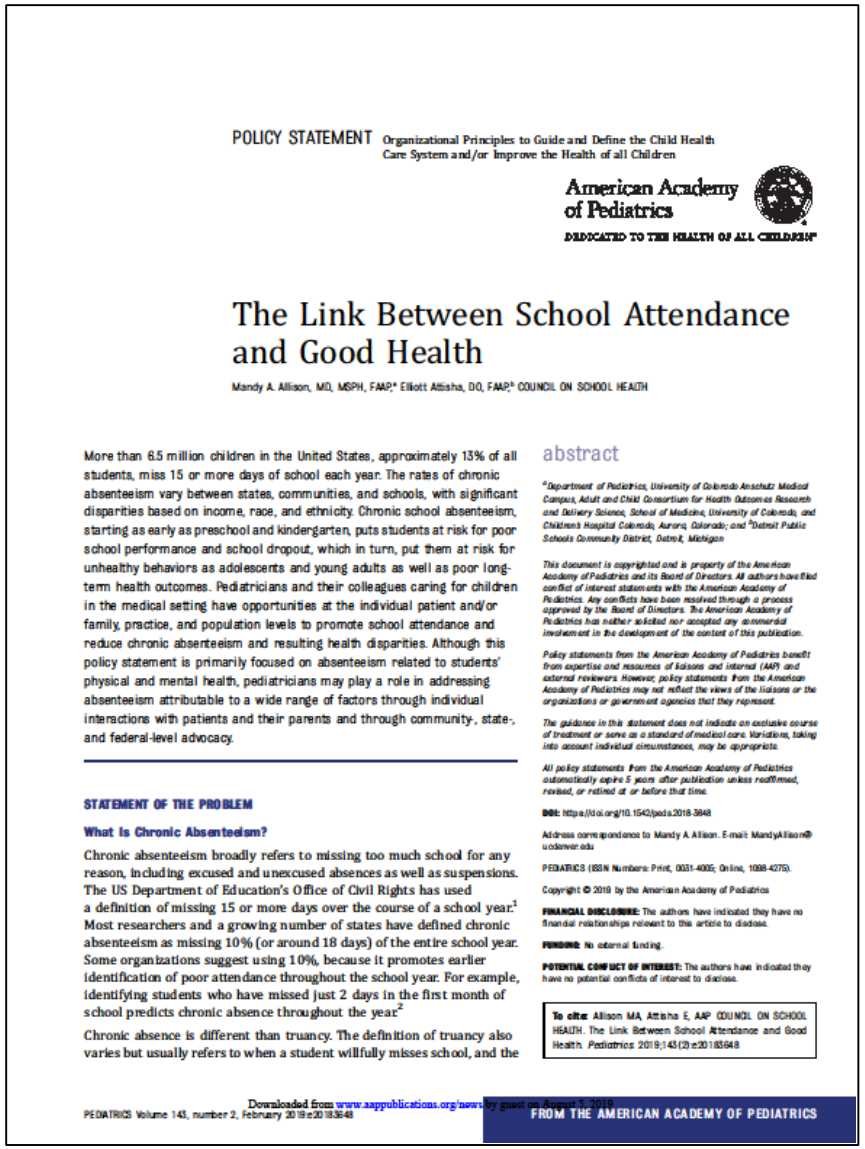
Chronic Absenteeism

- Often due to health/mental health conditions
- Often recognized late
- Partnerships with community service providers is required
- LSHCs can facilitate this collaboration



POLICY STATEMENT Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

The Link Between School Attendance and Good Health

Mandy A. Allison, MD, MSPH, FAAP,[a] Elliott Attisha, DO, FAAP,[b] COUNCIL ON SCHOOL HEALTH

More than 6.5 million children in the United States, approximately 13% of all students, miss 15 or more days of school each year. The rates of chronic absenteeism vary between states, communities, and schools, with significant disparities based on income, race, and ethnicity. Chronic school absenteeism, starting as early as preschool and kindergarten, puts students at risk for poor school performance and school dropout, which in turn, put them at risk for unhealthy behaviors as adolescents and young adults as well as poor long-term health outcomes. Pediatricians and their colleagues caring for children in the medical setting have opportunities at the individual patient and/or family, practice, and population levels to promote school attendance and reduce chronic absenteeism and resulting health disparities. Although this policy statement is primarily focused on absenteeism related to students' physical and mental health, pediatricians may play a role in addressing absenteeism attributable to a wide range of factors through individual interactions with patients and their parents and through community-, state-, and federal-level advocacy.

STATEMENT OF THE PROBLEM

What Is Chronic Absenteeism?

Chronic absenteeism broadly refers to missing too much school for any reason, including excused and unexcused absences as well as suspensions. The US Department of Education's Office of Civil Rights has used a definition of missing 15 or more days over the course of a school year.[1] Most researchers and a growing number of states have defined chronic absenteeism as missing 10% (or around 18 days) of the entire school year. Some organizations suggest using 10%, because it promotes earlier identification of poor attendance throughout the school year. For example, identifying students who have missed just 2 days in the first month of school predicts chronic absence throughout the year.[2]

Chronic absence is different than truancy. The definition of truancy also varies but usually refers to when a student willfully misses school, and the

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High School Graduation: HP2020

LHI

Healthy People 2020 Leading Health Indicators:
Social Determinants

Overview

The concept of social determinants recognizes the critical role of home, school, workplace, neighborhood, and community in improving health. Social determinants are in part responsible for the unequal and avoidable differences in health status within and between communities. Individual and population health are affected by a range of personal, social, economic, and environmental factors. For example, people with a quality education, stable employment, safe homes and neighborhoods, and access to preventive services tend to be healthier throughout their lives.

Progress in Numbers*

✓ Target met[1] | + Improving[2] | ○ Little or no detectable change[3] | − Getting worse[4]

Status	Leading Health Topic and Indicator: Social Determinants	Baseline (Year)	Most Recent (Year)	Target	Progress Toward Target[5]	Movement Away From Baseline[6]
+	AH-5.1 Students awarded a high school diploma 4 years after starting 9th grade (percent)	74.9% (2007–08)	78.2% (2009–10)	82.4%	44.0%	—

Progress in Words

AH-5.1: Students awarded a high school diploma 4 years after starting 9th grade

- The on-time graduation rate, measured as students awarded a high school diploma 4 years after starting 9th grade, has increased by about 4 percent, from 74.9 percent in 2007–2008 to 78.2 percent in 2009–2010, moving toward the Healthy People 2020 target of 82.4 percent.
- This objective has achieved more than two-fifths of the targeted change.

* Discrepancies between healthypeople.gov and data in this report may exist due to the timing of data uploads. Data for the measures shown in this report are current as of May 2014.

www.healthypeople.gov

Healthy People 2020 Leading Health Indicators:
Social Determinants

Progress in Pictures

Health starts in our homes, schools, workplaces, neighborhoods, and communities. Social determinants of health are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. A key social determinant of health is access to educational, economic, and job opportunities.

On-time High School Graduation Rates by Race/Ethnicity, 2009–10

On-time graduation rates varied among racial and ethnic groups in the 2009–10 school year.

93.1% Asian or Pacific Islander, non-Hispanic
82.8% White, non-Hispanic
71.4% Hispanic or Latino
69.1% American Indian or Alaska Native, non-Hispanic
66.1% Black or African American, non-Hispanic

Data source: Common Core of Data (CCD), ED/NCES.

HEALTHY PEOPLE 2020 TARGETS

Students Awarded a High School Diploma 4 Years After Starting 9th Grade

78.2% of students attending public schools graduated with a regular diploma 4 years after starting 9th grade for the 2009–10 school year.

78.2% 2009–10 → 82.4% 2020 TARGET

5.4% increase needed

Data source: Common Core of Data (CCD), ED/NCES.

NOTES (from page 1)

[1] Target met or exceeded
[2] Movement is toward the target and is:
– Statistically significant when measures of variability are available** – OR –
– 10% or more of the targeted change when measures of variability are unavailable**
[3] Objective demonstrates little or no detectable change, because either:
– Movement toward/away from the target is not statistically significant when measures of variability are available** – OR –
– Movement is toward the target but the objective has achieved less than 10% of the targeted change when measures of variability are unavailable** – OR –
– Movement is away from the target but the objective has moved less than 10% relative to its baseline when measures of variability are unavailable** – OR –
– No change between baseline and most recent data point
[4] Movement is away from the target and is:
– Statistically significant when measures of variability are available** – OR –
– 10% or more relative to the baseline when measures of variability are unavailable**
[5] For objectives moving toward their targets, progress is measured as the percent of targeted change achieved, quantified as follows:

$$\text{Percent of targeted change achieved} = \frac{\text{Most recent value} - \text{Baseline value}}{\text{HP2020 target} - \text{Baseline value}} \times 100.$$

[6] For objectives moving away from their baselines (and, therefore, their targets), progress is measured as the magnitude of the percent change from baseline, quantified as follows:

$$\text{Magnitude of percent change from baseline} = \frac{|\text{Most recent value} - \text{Baseline value}|}{\text{Baseline value}} \times 100.$$

** When measures of variability are available, statistical significance of the percent of targeted change achieved or the magnitude of the percent change from baseline is assessed at the 0.05 level using a one-sided test. When measures of variability are unavailable, the percent of targeted change achieved and the percent change from baseline are assessed only for their magnitude (e.g., <10% or ≥10%).

DATA SOURCES

AH-5.1 Common Core of Data (CCD), ED/NCES

May 2014

U.S. Department of Health and Human Services
Office of Disease Prevention and Health Promotion

Source: https://www.healthypeople.gov/sites/default/files/HP2020_LHI_Soc_Determ.pdf

Health Outcomes and LSHCs

- Advocacy tool to a diversity of sectors
  - Data can facilitate info requests from state agencies and legislators
- Grant applications to fund LSHC initiatives
- Contribute to innovation in state programs
- Advance data collection and sharing (community and school level)

- ACTION:
  - Expand council membership
  - Identify resources to better assess needs and disparities

Key Elements of Population Health

2. Patterns of Health Determinants

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Social Determinants of Health

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Discrimination	Quality of care
Medical bills	Playgrounds	Higher education			
Support	Walkability				

Source: *Adapted from Kaiser Family Foundation https://kaiserfamilyfoundation.files.wordpress.com/2015/11/8802-figure-2.png (Accessed September 19, 2018)*

Key Element: Patterns of Health Determinants

Community Health Needs Assessments

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Community Health Needs Assessments

- Required for hospitals
- Children and youth data is used
- Varying types of participation
  - SBHC can be at the table when planning
- May allow more efficient use of funding
  - Can build on these assessments and use for SBHC application
  - Local decision making for SBHC site and service planning
- Assessments can be found on the MDH/OPHI web page under "Resources"

https://pophealth.health.maryland.gov/Pages/Resources.aspx

CHNAs and LSHCs

- Know the population health planning activities for children
- Get child health and school health a seat at the table
  - Advocacy opportunity (bring child/school health data)
  - Broaden participation from school health professionals
  - Process is sustainable as a mandated assessment
  - Allows consensus priority setting
- Conduct LSHC assessments (in collaboration with other local coalitions
  - New local opioid prevention plans will need to be implemented with LSHCs. TA on partnership will be provided
  - Some partners may bring funding
- Create unified approaches to implementation of solutions
- Create political will

Key Elements of Population Health

3. Policies and Interventions

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Key Element: Policies and Intervention

Access to Care

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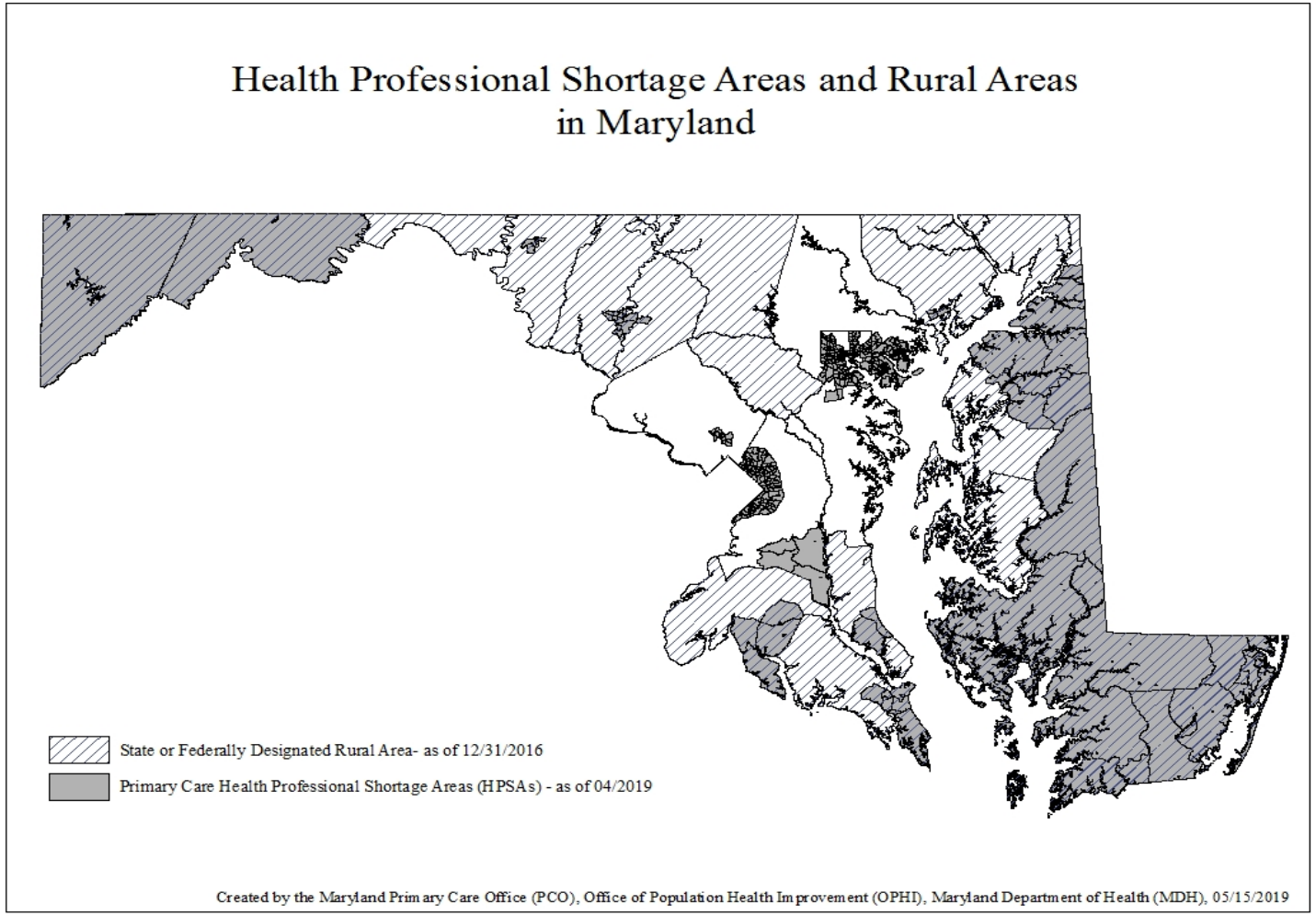
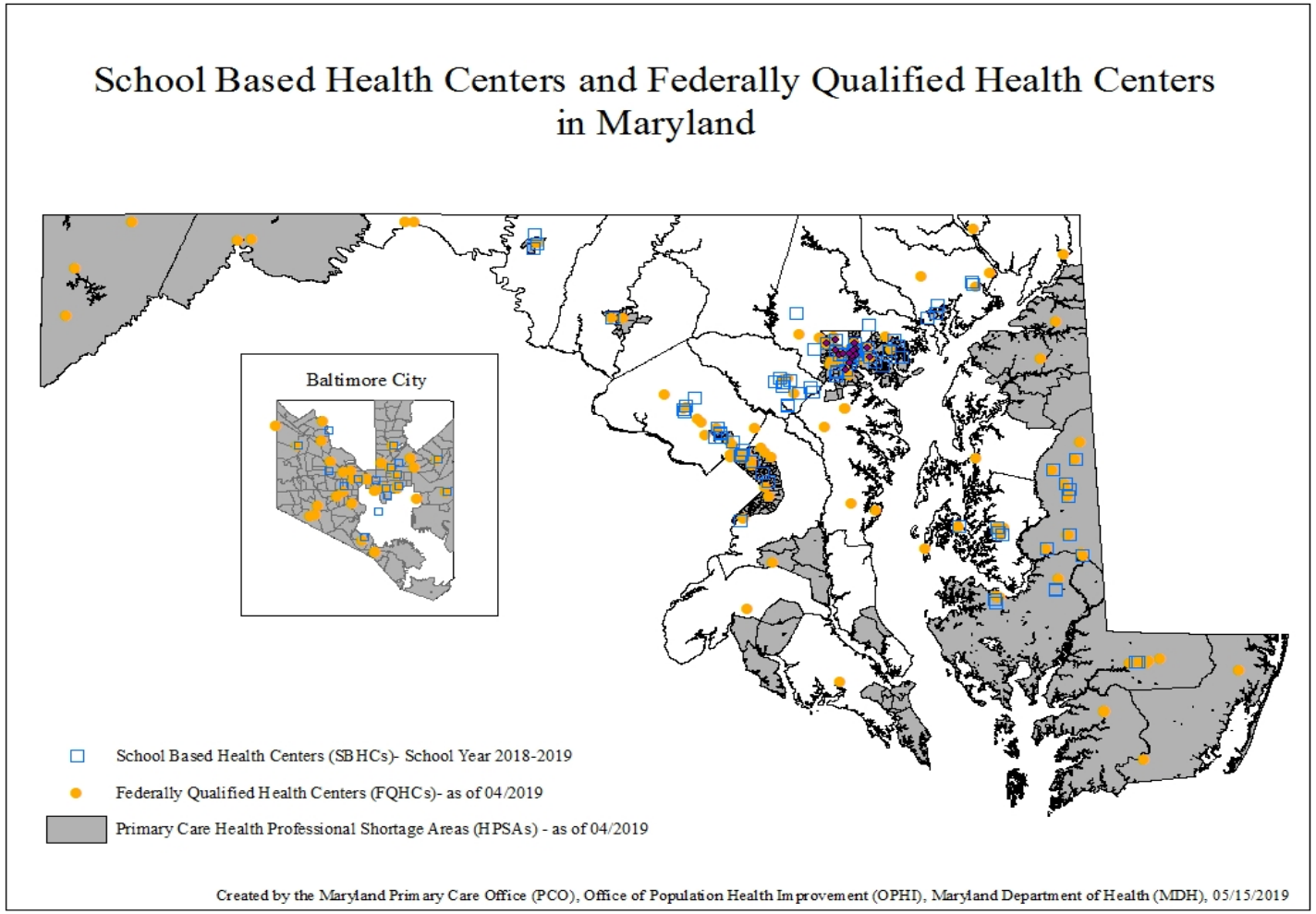
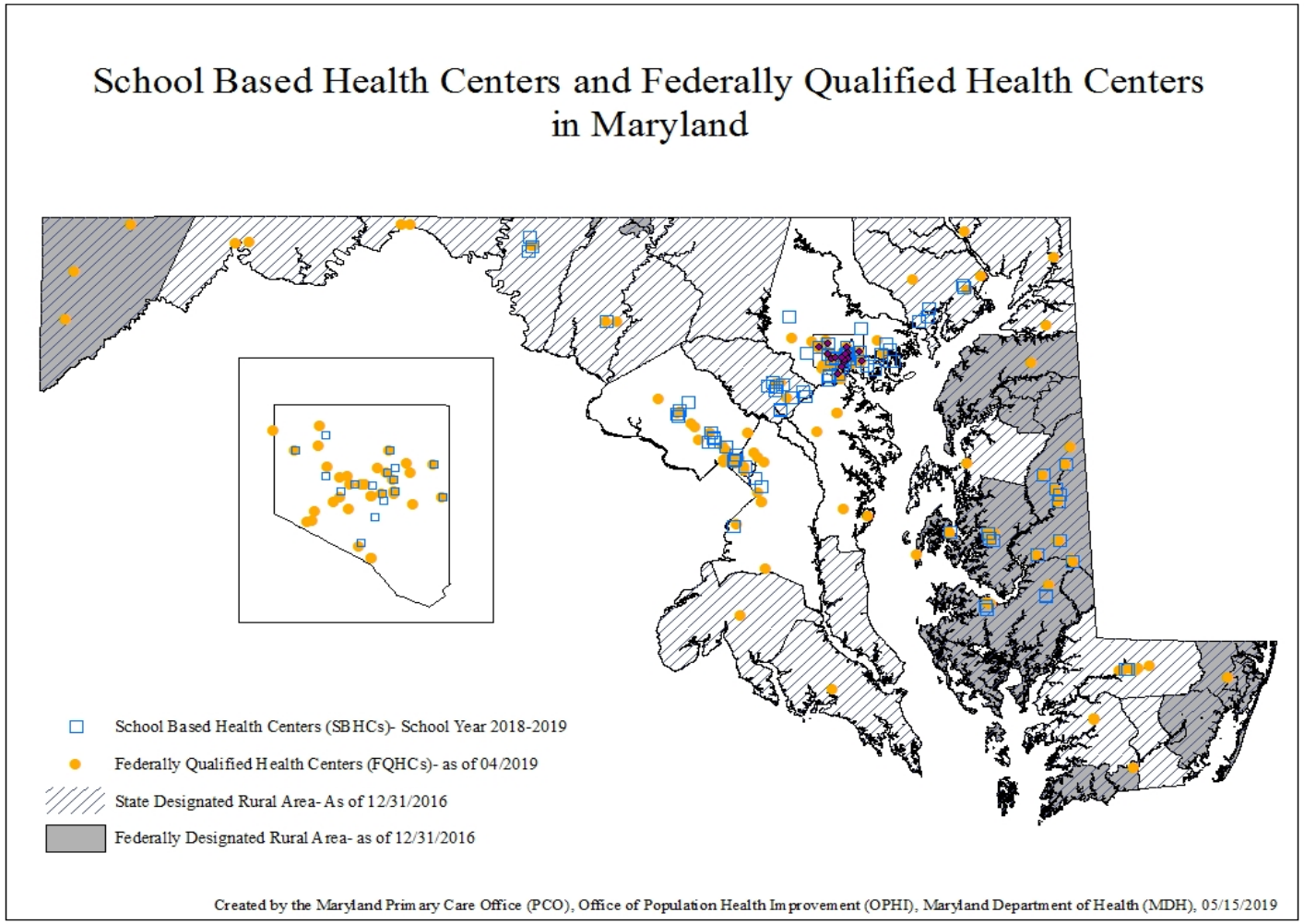
Primary Care Shortage Areas and Rural Areas



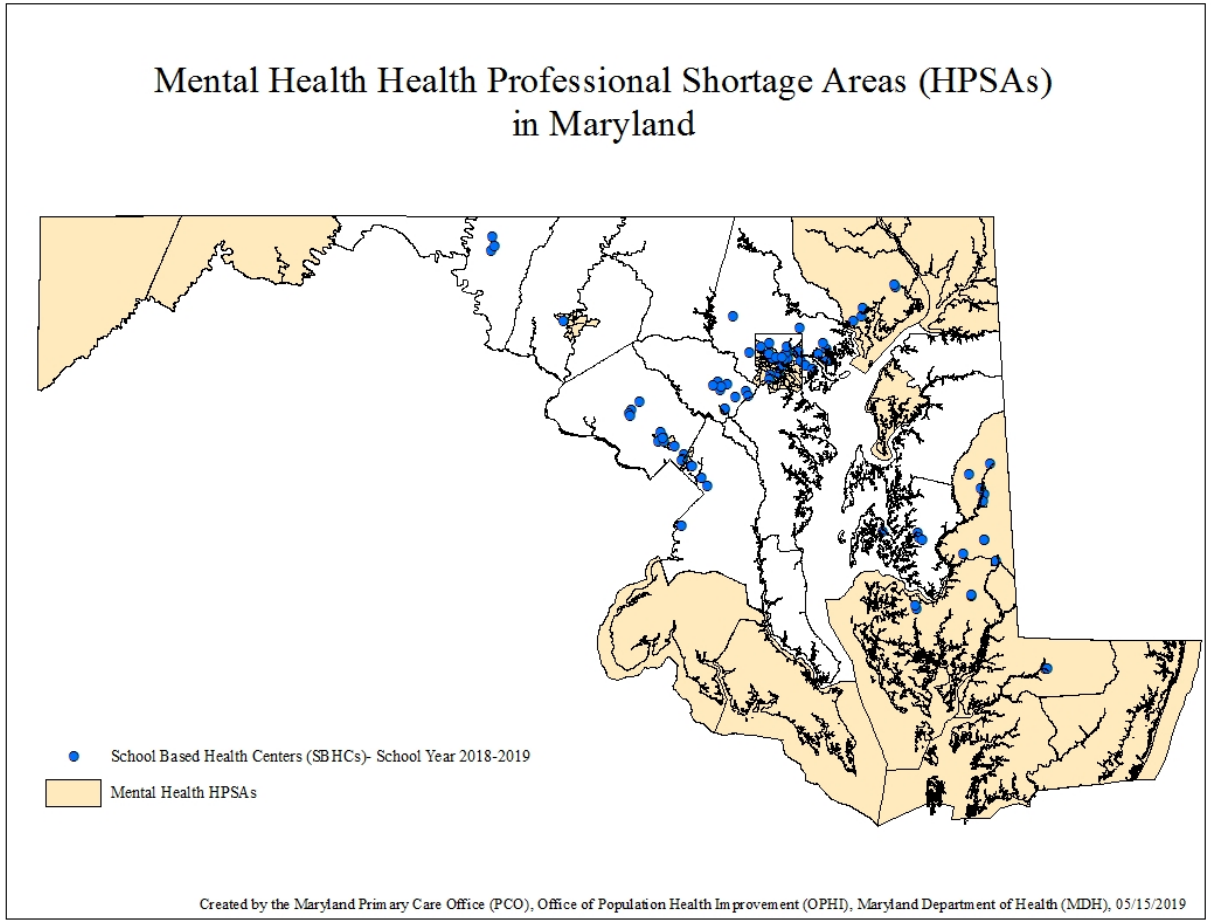
Primary Care Shortage Areas, SBHCs and FQHCs

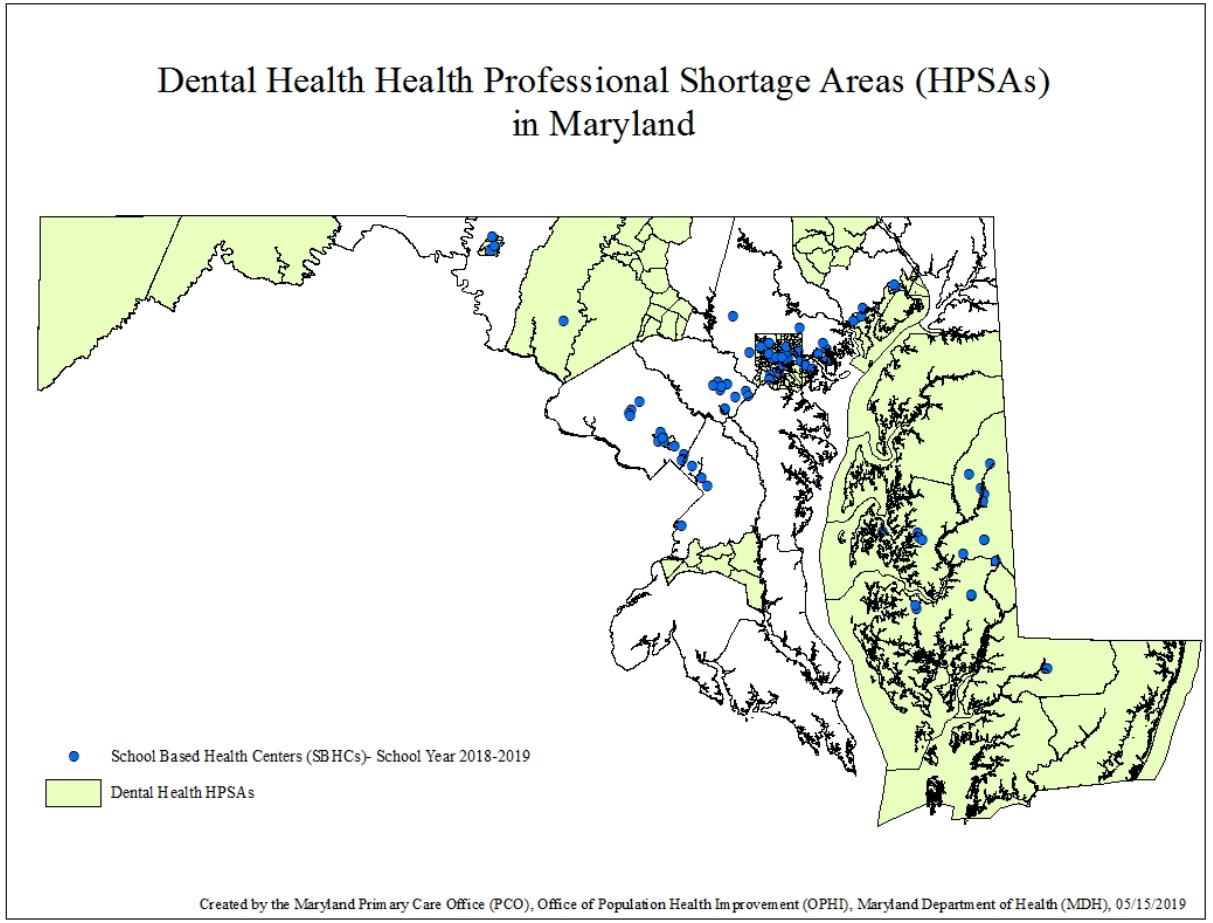


Rural Areas, SBHCs and FQHCs



Mental Health and Dental Health





Key Element: Policies and Intervention

School Telehealth

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School-Based Telehealth Services

- Seven centers in two jurisdictions
  - Acute primary care
  - Chronic disease/medication management
- Tele-mental health services
- Teletherapy
- Referrals
- New policy and guidelines under development
- Significant opportunity for innovation and growth

Key Element: Policies and Interventions

Screening, Brief Intervention and Referral to Treatment (SBIRT)

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SBIRT

- Supported by funding from the Conrad N. Hilton Foundation
- Phase I:
  - Timeframe: three year grant
  - Target: adolescents
  - Setting: variety of organizations and clinical practice settings
    - Included 15 SBHCs across three Jurisdictions (28 percent of sites were public schools)
    - Community practices and clinics
    - University health centers
- Overarching goal:
  - Integrate SBIRT into clinic operations to achieve universal SBIRT screening

Results

- Full implementation in 33 sites
- 19,435 youth screened over three years
    - 4,585 screened in SBHCs (655 percent of goal)

	% Positive Screens	% BI	%RT
Large Jurisdiction:	16	96	1
Eastern Rural Jurisdiction:	14	82	1
Western Rural Jurisdiction:	4	100	3
Large Jurisdiction:	16	96	1

Source: Center for School Mental Health. Report to the Hilton Foundation (2018)

SBIRT

- **Phase I results:** positive and enabled securing Phase II funding
- **Phase II:**
  - Timeframe: two year grant
  - Target: adolescents
  - Setting: public schools
    - 10 additional SBHCs
    - Three school health services programs (nurses and/or school counselors)
  - Overarching goal:
    - Expand and innovate application of SBIRT process into school health services programs
  - Collaborate with current SBIRT processes is needed

Key Element: Policies and Interventions

Community Schools

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Senate Bill 1030

SB1030: The Blueprint for Maryland's Future (2019)

- Enhanced supports and services for students with disabilities
- School based resources, supports and services for children living in communities with great needs (e.g., access to care)
- Wraparound vision and dental services
- Establishment or expansion of school-based health centers
- Each eligible school shall provide full-time coverage by at least one professional healthcare practitioner (MD, PA, or RN) incl. SBHC
- Professional development program including assessments of learning challenges and methods to meet the needs of students with disabilities, IEPs and 504 Plans

Policies and Programs and LSHCs

- Expand Council "footprint" in the community
- Be part of the "Blueprint" community school implementation process
- Be aware of the innovative programs in the community and emerging best practice
- Promote evidence-based practice implementation
  - SBIRT in schools
  - School Nurses
- Evaluate programs and maintain a "business case"
- Align priorities with current/established/mandated activities

Summary

- Data on health outcomes (and other data), addressing the determinants of health, and development of policies and interventions are foundational principles for LSHCs to incorporate into local planning efforts.
- There are many opportunities for schools and LSHCs within these three key elements of population health.
- LSHCs can not do the work of improving health and wellness of school age children alone; reach out to other population health.

Questions?

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