THE EVOLUTION OF POPULATION HEALTH

J. Lloyd Michener, MD

Professor of Family Medicine & Community Health, Duke School of Medicine
Professor of Clinical Nursing, Duke School of Nursing
Adjunct Professor, UNC School of Public Health
PI, The Practical Playbook
Nothing To Disclose
Department of Family Medicine & Community Health

More than 30 years of improving outcomes, lowering costs for diverse NC communities and across the U.S.
Goals

• Briefly review the drivers of the shift from health care to population health.
• Describe the rapid growth and types of collaborations now underway.
• Discuss the evolving partners and their roles
• Describe tools and strategies for health improvement
• **Population Health**: the health outcomes of a group of individuals, including the distribution of such outcomes within the group.

  • Source: Kindig D, Stoddart G. What is Population Health?

• **The Goal**: “from Health Care to Health”
I. Cost

Exhibit 1. Health Care Spending as a Percentage of GDP, 1980–2013

Notes: GDP refers to gross domestic product. Dutch and Swiss data are for current spending only, and exclude spending on capital formation of health care providers.
Source: OECD Health Data 2015.
2. Value

Life expectancy vs. health expenditure, 1970 to 2015

Health financing is reported as the annual per capita health expenditure and is adjusted for inflation and price level differences between countries (measured in 2010 international dollars).


OurWorldInData.org: the link between life expectancy and health spending us-focus - CC BY-SA

Red dashes depict data for the United States. Grey circles depict data for the other high-income countries

Source: The World Bank
Probability of survival to age 50 for females in 21 high-income countries, 1980-2006.

Red circles depict data for the United States. Grey circles depict data for the other high-income countries.

Source: National Research Council, 2011
3. Availability of Actionable Data

Change in Female Mortality Rates from 1992–96 to 2002–06 in U.S. Counties.


©2013 by Project HOPE - The People-to-People Health Foundation, Inc.
Where Can Colorectal Screening Have the Most Impact?

Published Online July 8, 2015: DOI: 10.1158/1055-9965.EPI-15-0082
Virginia
Hot Spot Analysis ~ Relative Risk
Arterial Ischemic Stroke (AIS)
Hospitalization (Primary Diagnosis) Discharged Data
Ages 35 Years & Over by ZIP Code
State Standard - (Adjusting for Age)
2005~2009

Data Source: Virginia Health Information, Hospital Discharged Data
Density of asthma visits among Medicaid patients in catchment area

More red areas have higher density of asthma visits

Some mismatch between “areas” with more asthma visits and “buildings” with most asthma

Notes: Visits are from 2012-7/2016. Does not include visits to non-Bronx Montefiore Health System locations.
Health outcomes and behavior data is now available for all urban communities

https://www.cdc.gov/500cities/
Data is Now Available for Targeted Interventions
4. Things are going to get worse

Prevalence\(^{\dagger}\) of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2017

\(^{\dagger}\) Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.
Most illness and care occurs in the community.

Factors That Affect Health

- **Socioeconomic Factors**
  - Poverty, education, housing, inequality

- **Changing the Context to Make Individuals' Default Decisions Healthy**
  - Fluoridation, 0g trans fat, iodization, smoke-free laws, tobacco tax

- **Long-Lasting Protective Interventions**
  - Immunizations, brief intervention, cessation treatment, colonoscopy

- **Clinical Interventions**
  - Rx for high blood pressure, high cholesterol

- **Counseling and Education**
  - Condoms, eat healthy, be physically active

- **Smallest Impact**

Time for a new model of targeted data driven care that prevents progression of disease

Three Buckets of Prevention

1. Increase the use of evidence-based services
2. Provide services outside the clinical setting
3. Implement interventions that reach whole populations

Duke Family Medicine & Community Health
Duke University School of Medicine

PRACTICAL PLAYBOOK
Examples of Coalition Building-in Durham, NC

Walltown and Lyon Park Clinics

Duke-Durham Neighborhood Partnership

- Population: African-American, new Latino population, low-income, transient, uninsured
- High ED use, high-risk health behaviors, substance abuse, depression/anxiety
- 37% of patients surveyed would have gone to ED
- High patient satisfaction – 4.7/5.0
Just For Us

- 350 patients since 2000
- Average age 70, multiple chronic conditions
- 44% have mental illness
- All are home-bound
- 84% African-American; many with low to no family support
- Low literacy or illiterate

Community Partners
City of Durham, Housing Authority
Lincoln Community Health Center
Durham Council on Seniors
Area Mental Health Agency
Durham County Health Department
Durham County Department of Social Services

Practice Partners
Duke CFM, SON, DUH, DRH, Center for Aging,
Department of Psychiatry
Just For Us

Outcomes

- Ambulance costs ↓ 49%
- ER costs ↓ 41%
- Inpatient costs ↓ 68%
- Prescription costs ↑ 25%
- Home health costs ↑ 52%

All patients with hypertension 79% ≤ 140/90
Diabetics with hypertension 84% ≤ 140/90

The Community Asthma Initiative works to improve the health and quality of life for children with asthma. Boston Children’s Hospital designed the program to focus on medical interventions rather than environmental influences.

Since its establishment, the program has worked in tandem with partners at every level, including the individual, family, and larger community.

As a result, the Community Asthma Initiative helped reduce the percent of emergency department visits by 58 percent, the number of asthma-related hospitalizations, the number of school absences for children, and the number of work absences for their parents.

**CAI Outcomes:**
Decrease in % patients with any ED Visits or Admissions due to Asthma
N=1470 (through March 31, 2015)

- **ED Visits:**
  - Baseline: 53.3%
  - 6 Month: 64.3%
  - 12 Month: 15.5%
  - **p<0.001**

- **Admissions:**
  - Baseline: 23.3%
  - 6 Month: 23.3%
  - 12 Month: 12.8%
  - **p<0.001**

56% decrease at 12 Months  80% decrease at 12 Months

Scaling Up-IOM

Degrees of Integration:

Isolation  Mutual Awareness  Collaboration  Merger

Cooperation  Partnership
Principles of Partnerships Between Public Health and Health Care

• A shared goal of population health
• Community engagement
• Aligned leadership
• Sustainable systems
• Shared and collaborative use of data and analysis
The Model
Multi-Sector, Multi-Stakeholder Partnerships are Developed
NC Resource Platform

- A series of over 80 stakeholder interviews shed light on the desire to better connect the healthcare and human services sectors to better serve all North Carolinians, but also referenced numerous barriers to doing so.

- The NC Resource Platform is envisioned to provide the infrastructure needed to unite healthcare, human services and community-based organizations in a person-centered way.
NC Resource Platform Goals

- One statewide, shared public utility
  - Program of Foundation for Health Leadership and Innovation
  - Operationalized through NCCARE360

- Open to all communities, providers, care managers, social service agencies

- Across all players, systems, population health organizations

- Create a Coordinated Network to knit together healthcare and community services to create a Health System

- Initial Domains
  - Food Security, Housing Stability, Transportation, Interpersonal Safety, Employment

NCDHHS NC Population Health Collaborative November 16, 2018
Foundations are Supporting Local Coalitions

National awards program designed to support community collaborations in cities experiencing health disparities that are working to give everyone a fair chance to be healthy. BUILD 1.0 awarded $8.5M in August 2015 to support 18 community-driven projects, and has committed another $5.25M for a second cohort (BUILD 2.0) of 19 projects in September 2017. BUILD 3.0 community selections in process now.

**Bold**
Partnerships that aspire toward a fundamental shift beyond short-term programmatic work to longer-term influences over policy, regulation, and systems-level change.

**Upstream**
Partnerships that focus on the social, environmental and economic factors that have the greatest influence on the health of a community, rather than on access or care delivery.

**Integrated**
Partnerships that align the practices and perspectives of communities, health systems and public health under a shared vision, establishing new roles while continuing to draw upon the strengths of each partner.

**Local**
Partnerships that engage neighborhood residents and community leaders as key voices and thought leaders throughout all stages of planning and implementation.

**Data-Driven**
Partnerships that use data from both clinical and community sources as a tool to identify key needs, measure meaningful change, and facilitate transparency amongst stakeholders to generate actionable insights.
A brief overview of all 19 award sites and their project will be shared in advance of the September convening.
Scaling Up-CDC

INVEST IN YOUR COMMUNITY  4 Considerations to Improve Health & Well-Being for All

WHAT Know What Affects Health

WHERE Focus on Areas of Greatest Need

WHO Collaborate with Others to Maximize Efforts

HOW Use a Balanced Portfolio of Interventions for Greatest Impact

- Action in one area may produce positive outcomes in another.
- Start by using interventions that work across all four action areas.
- Over time, increase investment in socioeconomic factors for the greatest impact on health and well-being for all.

www.cdc.gov/CHInav FOR TOOLS AND RESOURCES TO IMPROVE YOUR COMMUNITY’S HEALTH AND WELL-BEING

Duke Family Medicine & Community Health
Duke University School of Medicine

PRACTICAL PLAYBOOK®
The movement is growing

A New “Movement”: Nearly 600 local initiatives awarded or soon to be awarded

Program Duration: 8 months to 5 years

Spread and Scale: Neighborhoods, counties, Multicounty, cities

Find a Partnership: www.practicalplaybook.org/page/find-partner
www.practicalplaybook.org
Users: 78,797   Pageviews: 358,877

Find a Partnership
www.practicalplaybook.org/page/find-partner

Order online at:
oup.com/us and enter promo code ampromd9 at checkout to save 30%
The Practical Playbook II: Making Multisector Partnerships that Work

- This new version focuses on cross sector partnerships that improve community health
- Authors contributed from a wide range of sectors: transportation, business, community organizations, education, etc.
- Available May 21, 2019


Discount code: AMPROMD9
The Practical Playbook - Content

1. Introduction: Accelerating Partnerships for Health
   (including roles of the different sectors)
2. Collaboration
   (including role of PC in Pop Health, Accountable Health Communities)
3. Data
   (including where to find it, how to use it)
4. Innovation
   (including addressing SDOH in PC)
5. Sustainability & Finance
   (including role of ties with business)
6. Policy
   (including roles of PH and PC)
7. Training & Workforce
   (including rural health, voices of the next generation)
8. Conclusion: The Next Steps Toward Population Health

All chapters will be online (and free) at www.practicalplaybook.org
The End – and more!

For copies of the PPB II book, please contact
PPBAdmin@dm.duke.edu

Faculty can also request inspection copies via the Oxford Press website

Thanks!!
Additional slides about the NC Resource Platform
The NC Resource Platform Planning Group

- NC DHHS
- FHLI
- Blue Cross and Blue Shield of North Carolina Foundation
- Aetna Foundation
- United Health Group
- Gateway Health
- North Carolina Medical Society
- North Carolina Health Care Association
- North Carolina Community Health Center Association
- North Carolina Academy of Family Physicians
- North Carolina Pediatric Society
- Community Care of North Carolina
- North Carolina Association of Local Health Directors
- North Carolina Association of Free & Charitable Clinics
- No Kid Hungry NC, an initiative of the UNC Center for Health Promotion and Disease Prevention
- North Carolina Coalition to End Homelessness
- North Carolina Coalition Against Domestic Violence
- NC Alliance of YMCAs
- North Carolina Department of Health and Human Services

Who is missing?
Automated Workflows with Partners

- **Configurable Screening**
  - Will include statewide screening tool
  - Can add additional screening questions/tools as needed

- **Electronic Referral Management**
  - Seamless referral workflow sends the right data to the right provider(s) to address specific needs

- **Assessment/Care Plan Management**
  - Custom care plans for each service that are attached to referrals so receiving providers get a head start

- **Bi-Directional Communication/Alerts**
  - Automated notifications keep all organizations up to date, while care team members can securely communicate with each other

- **Outcomes**
  - You get to know exactly what services were delivered, and the entire history for every intervention by your external partners
Screening Questions

- Goals
  - Routine identification of unmet health-related resource needs
  - Statewide collection of data

- Development
  - Technical Advisory Group
  - Released April 2018 for Public Comment
  - Field testing in 18 clinical sites

- Implementation
  - Recommended to be used across settings and populations
  - Launch of Managed Care: PHPs Required to Include in Care Needs Assessment

Health Screening

We believe everyone should have the opportunity for health. Some things like not having enough food or reliable transportation or a safe place to live can make it hard to be healthy. Please answer the following questions to help us better understand you and your current situation. We may not be able to find resources for all your needs, but we will try and help as much as we can.

Food
1. Within the past 12 months, did you worry that your food would run out before you got money to buy more? (Y/N)
2. Within the past 12 months, did the food you bought just not last and you didn’t have money to get more? (Y/N)

Housing
3. Within the past 12 months, have you ever stayed: outside, in a car, in a tent, in an overnight shelter, or temporarily in someone else’s home (i.e. couch-surfing)? (Y/N)
4. Are you worried about losing your housing? (Y/N)
5. Within the past 12 months, have you been unable to get utilities (heat, electricity) when it was really needed? (Y/N)

Transportation
6. Within the past 12 months, has a lack of transportation kept you from medical appointments or from doing things needed for daily living? (Y/N)

Interpersonal Safety
7. Do you feel physically and emotionally unsafe where you currently live? (Y/N)
8. Within the past 12 months, have you been hit, slapped, kicked or otherwise physically hurt by anyone? (Y/N)
9. Within the past 12 months, have you been humiliated or emotionally abused by anyone? (Y/N)