Life’s Simple 7
RHP9&10 Learning Collaborative
February 9, 2016

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Chief Medical Officer for Prevention
American Heart Association
2012 Leading Causes of Death in the Texas

1. Diseases of the Heart
2. Malignant Neoplasms (Cancer)
3. Chronic Lower Respiratory Diseases
4. Cerebrovascular Disease (Stroke)
5. Accidents (Injuries)
6. Alzheimer's Disease
7. Diabetes Mellitus
8. Septicemia (Blood Poisoning)
9. Nephritis, Nephrotic Syndrome, Nephrosis
10. Influenza and Pneumonia

The Health Status of Texas 2014
Burden of disease attributable to leading risk factors, 2013

1. Dietary risks
2. High body mass index
3. Tobacco smoke
4. High blood pressure
5. Alcohol and drug use
6. High fasting plasma glucose
7. High total cholesterol
8. Low physical inactivity
9. Low glomerular filtration rate
10. Occupational Risks

http://www.healthdata.org/united-states
Rates of premature death in United States versus comparison locations, 2013

1. Ischemic heart disease  Higher
2. Lung cancer  Higher
3. Road injuries  Higher
4. Self-harm  Same
5. COPD  Higher
6. Cerebrovascular disease  Lower
7. Alzheimer disease  Higher
8. Drug use disorders  Higher
9. Diabetes  Higher
10. Congenital anomalies  Higher

http://www.healthdata.org/united-states
Multiple Chronic Conditions (MCC)

• One in four (25%) Americans has multiple chronic conditions (MCC), including one in 15 children.
• Among Americans aged 65 years and older, as many as three out of four persons (75%) have MCC.
• People with MCC are at increased risk for mortality and poorer day-to-day functioning.
• Approximately 66 percent (66%) of total health care spending in the U.S. is associated with care for Americans with MCC.

HHS Initiative on Multiple Chronic Conditions, hhs.gov
American Heart Association 2020 Impact Goal

"By 2020, to improve the cardiovascular health of all Americans by 20% while reducing deaths from cardiovascular diseases and stroke by 20%."

20% 2020
Ideal Cardiovascular Health: Life’s Simple 7

- Smoking Status
- Physical Activity
- Healthy Diet
- Healthy Weight
- Blood Pressure
- Cholesterol
- Blood Glucose
# A Framework for Producing Health

## Life's Simple 7

<table>
<thead>
<tr>
<th>Smoking Status</th>
<th>Current Smoker Tied prior 30 days</th>
<th>Former ≤ 12 mos</th>
<th>Never /quit ≥ 12 mos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults &gt;20 years of age</td>
<td>Children (12–19)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical Activity</th>
<th>None</th>
<th>1-149 min/wk mod or 1-74 min/wk vig or 1-149 min/wk mod + vig</th>
<th>150+ min/wk mod or 75+ min/wk vig or 150+ min/wk mod + vig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults &gt; 20 years of age</td>
<td>Children 12-19 years of age</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Healthy Diet</th>
<th>0-1 components</th>
<th>2-3 components</th>
<th>4-5 components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults &gt;20 years of age</td>
<td>Children 5-19 years of age</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Healthy Weight</th>
<th>≥30 kg/m² &gt;95th percentile</th>
<th>25-29.9 kg/m² 85th-95th percentile</th>
<th>&lt;25 kg/m² &lt;85th percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults &gt; 20 years of age</td>
<td>Children 2-19 years of age</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Blood Glucose</th>
<th>126 mg/dL or more</th>
<th>100-125 mg/dL or treated to goal</th>
<th>Less than 100 mg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults &gt;20 years of age</td>
<td>Children 12-19 years of age</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cholesterol</th>
<th>≥240 mg/dL</th>
<th>200-239 mg/dL or treated to goal</th>
<th>&lt;170 mg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults &gt;20 years of age</td>
<td>Children 6-19 years of age</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Blood Pressure</th>
<th>SBP ≥140 or DBP ≥90 mm Hg</th>
<th>SBP 120-139 or DBP 80-89 mm Hg or treated to goal</th>
<th>&lt;120/&lt;80 mm Hg</th>
</tr>
</thead>
</table>
Why focus on Simple 7?

Number of Ideal Heart Health Behaviors or Factors and Mortality

Age-standardized prevalence estimates of US adults aged ≥20 years meeting different numbers of criteria for ideal cardiovascular health, overall and in selected race subgroups from National Health and Nutrition Examination Survey 2009 to 2010.

Simple 7 Prevalence in Adults: Dallas, TX

- Percent of Adults with BMI > 30.0 (Obese) - 28.9%
- Percent of Adults with <150 min of MVPA / Week - 51.2%
- Percent of Adults with Inadequate Fruit / Veggie Consumption - 76.8%
- Percent Adults with High Cholesterol - 42.3%
- Percent Adults told to have High Blood Pressure - 29.6%
- Percent Adults with Diagnosed Diabetes - 9.4%
- Percent Adults Smoking Cigarettes - 13.6%

MVPA – moderate to vigorous physical activity

BRFSS 2011-2012
Health of Texas

RHP 9
- Dallas
- Denton
- Kaufman

RHP 10
- Ellis
- Erath
- Hood
- Johnson
- Navarro
- Parker
- Somervell
- Tarrant
- Tarrant
- Wise

- Exploding costs
- Highest rate of uninsured
- Rapid population growth
- Low immunization rates
- Threat of bioterrorism
- An epidemic of obesity
- Challenges of border region
- Sharp health disparities
- Mental health challenges
- Substance abuse challenges
It’s like déjà vu all over again.

-Yogi Berra
Texas Public Health Challenges (2016)

- Exploding costs
- Highest rate of uninsured
- Rapid population growth
- Better low immunization rates
- Threat of bioterrorism, emerging infectious diseases, and other public health challenges
- An epidemic of obesity
- Challenges of border region
- Persistent health disparities
- Mental health challenges
- Substance abuse challenges
Texas is a weak performer in its balance of below average, average, and above average measures compared to all states. (continuum – very weak, weak, average, strong, very strong)
- Texas is 3rd from last.
- Healthy living – weak
- Diabetes – very week
- Prevention – weak
- Chronic – at intersection of very weak and weak
Texas

- **Strongest measures**
  - 3 of 5 related to vaccinations in 13 to 17 year olds

- **Weakest measures**
  - ESRD due to diabetes per 1,000,000
  - Lower extremity amputations due to diabetes per 1000
  - Admissions for uncontrolled diabetes without complications per 100,000
  - Avoidable admissions for high blood pressure per 100,000
  - New AIDS cases per 100,000
Code Red 2015 Recommendations

• Obtain a greater share of federal tax funding to expand health insurance coverage so more Texans have access to primary care
• Extend/renew the current Medicaid 1115 Waiver.
• Create an appropriate state health plan, such as Texas Prescription TxCx
• Develop robust local and regional health care delivery systems with increasing emphasis on wellness and prevention programs.
• Continue to expand behavioral health care and integrate with primary care.
• Expand the health care workforce in response to community need.
• Support continued federal funding of FQHCs.

Underinvestment in Public Health

3%

Of real national health care expenditures since 1980s

“Prevention requires tools that are often unfamiliar because educational, behavioral, and social interventions, not usually considered to be part of medicine, may be most effective for many diseases.” – Moses et. al. (JAMA, 2013)

Public Health Spending Linked to Declines in Preventable Deaths

<table>
<thead>
<tr>
<th>Mortality rate</th>
<th>% decrease per 10% spending increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant deaths per 1000 live births</td>
<td>6.85</td>
</tr>
<tr>
<td>Heart disease deaths per 100,000</td>
<td>3.22</td>
</tr>
<tr>
<td>Diabetes deaths per 100,000</td>
<td>1.44</td>
</tr>
<tr>
<td>Cancer deaths per 100,000</td>
<td>1.13</td>
</tr>
<tr>
<td>Influenza deaths per 100,000</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Mays and Smith, Health Affairs. Aug 2011;30(8).
1115 Waiver in Texas

• Social Security grants HHS Secretary the authority to approve projects aimed at furthering the objectives of Medicaid.
• Texas’ five-year Waiver through September 2016.
• Two funding pools
  – Uncompensated care – to hospitals - $17.6 billion
  – Delivery System Reform Incentive Program – regional health system reform to achieve the triple aim – $11.4 billion
• $12 billion local dollars that serves as leverage to draw down $17 billion federal dollars
• Deadline for extension request – September 30, 2015
Delivery System Reform Incentive Program (DSRIP)

- 25% behavioral health
- 20% access to primary care
- 18% chronic care management and health system navigation
Prevalence of psychiatric disorders in low-income primary care patients

<table>
<thead>
<tr>
<th>Psychiatric disorder</th>
<th>General Primary care population</th>
<th>Low-income patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least one psychiatric disorder</td>
<td>28%</td>
<td>51%</td>
</tr>
<tr>
<td>Mood disorder</td>
<td>16%</td>
<td>33%</td>
</tr>
<tr>
<td>Anxiety disorder</td>
<td>11%</td>
<td>36%</td>
</tr>
<tr>
<td>Alcohol abuse</td>
<td>7%</td>
<td>17%</td>
</tr>
<tr>
<td>Eating disorder</td>
<td>7%</td>
<td>10%</td>
</tr>
</tbody>
</table>

• Report by Texas Academy of Family Physicians and Texas Association of Community Health Centers concludes that... **Texas leaders must adopt and execute a plan for the 115 waiver renewal that includes drawing down all available federal funds to expand health coverage for low-income Texans.**
27,000,000 (27 million) Texans
Estimating 5,000,000 uninsured
$29 Billion over 5 years = $5.8 B per year
Then the waiver represents a spend of $1160 per uninsured Texan per year over 5 years
U.S. health care spending reached $9,255 per person in 2013.
More numbers

- $3.3 billion annual budget for DSHS
- 27,000,000 (27 million) Texans
- Then the state spends $122.22 per Texan per year through DSHS
- 8% of DSHS funding identified as spending for public health = $9.78 per Texan per year
Building a Healthy Community

**Tobacco**
Increase percentage of Americans who live in environments that support smoke-free air and smoking cessation.

**Nutrition**
Improve environments that support healthy eating and improve quality of foods available.

**Physical Activity**
Increase percentage of Americans who live in environments that support active lifestyles.

**Health Factors**
Improve environments that support healthy weight, blood pressure, glucose and cholesterol.

**CPR/Chain of Survival**
Increase percentage of Americans who live in environments that support emergency response for cardiac arrest.

**Acute Care & Emergency Response**
Increase percentage of Americans who live in environments that support decreased cardiovascular disease mortality and improved quality of life.

**Post-Event Care**
Increase percentage of Americans who receive the support and education needed after acute events.

**Social Determinants**
Ensure safe places to work, play, and get care are available for all Americans.
Community Plan 2.0 Healthy Community Criteria Scores

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Needs Improvement</th>
<th>Intermediate</th>
<th>Healthy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance Coverage</td>
<td>103</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Hospital Penalty - Underserved</td>
<td>32</td>
<td>50</td>
<td>33</td>
</tr>
<tr>
<td>Hospital Penalty - Total</td>
<td>29</td>
<td>54</td>
<td>34</td>
</tr>
<tr>
<td>CPR Grad Reqs</td>
<td>84</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>Healthy Food Financing</td>
<td>58</td>
<td>43</td>
<td>36</td>
</tr>
<tr>
<td>SSB Taxes</td>
<td>12</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>School Meals</td>
<td>12</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Tobacco Excise Tax</td>
<td>48</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Smoke Free Air</td>
<td>27</td>
<td>13</td>
<td>47</td>
</tr>
</tbody>
</table>
## Example: Tobacco

<table>
<thead>
<tr>
<th>Reduce Tobacco</th>
<th>Outcome</th>
<th>Good</th>
<th>Intermediate</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Increase percentage of Americans who live in environments that support smoke-free air and smoking cessation.</td>
<td>- 100% of community covered by clean indoor air legislation in all restaurants/bars</td>
<td>- 100% of community covered by clean indoor air legislation in all restaurants/bars</td>
<td>- Community covered by clean indoor air legislation below intermediate level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Excise tax=$1.85 or &gt; per pack</td>
<td>- Excise tax=$1 or &gt; per pack</td>
<td>- Excise tax= &lt;$1 per pack</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Access to smoking cessation and prevention campaign</td>
<td>- Access to smoking cessation and prevention campaign</td>
<td>- Access to smoking cessation and prevention campaign</td>
</tr>
</tbody>
</table>
Relationship Between Social Determinants and Mortality (2000)

Bridging Community and Clinical Care
Framework for Integrated Clinical and Community Systems of Care

- Care Delivery
  - Information Systems
  - Decision Support
  - Delivery System Design
  - Self Management Support
  - Local Patient Environment
  - Clinicians

- Community Systems
  - Resources
  - Services
  - Supportive Environment
  - Social Norms

- Integration
  - Convener, Advocacy, Data Exchange, Financing, Governance/Regulation, Referral Processes, Communication

- Family & Individual Empowerment and Engagement

- Equity

- Training & Education

- Metrics

- Population Health

Health Aff Sept 2015
vol. 34 no. 9 1456-1463
Primary Care and Public Health: Exploring Integration to Improve Population Health

• A broad definition of integration: the linkage of programs and activities to promote efficiency and effectiveness and achieve gains in population health.

• Integration of primary care and public health could enhance the capacity of each to carry out their missions and link with other stakeholders to produce health
# Diabetes Prevention Program (DPP)

<table>
<thead>
<tr>
<th></th>
<th>Placebo</th>
<th>Metformin</th>
<th>Lifestyle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Incidence of diabetes</strong></td>
<td>11.0%</td>
<td>7.8%</td>
<td>4.8%</td>
</tr>
<tr>
<td><em>(percent per year)</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reduction in incidence</strong></td>
<td>–</td>
<td>31%</td>
<td>58%</td>
</tr>
<tr>
<td><em>compared with placebo</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number needed to treat</strong></td>
<td>–</td>
<td>13.9</td>
<td>6.9</td>
</tr>
<tr>
<td><em>to prevent 1 case in 3 years</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The DPP Research Group, *NEJM* 346:393-403, 2002
Motivating Millions to Lower Blood Pressure
Blood Pressure Control Evades Us

One in three American adults — about 80 million people — have high blood pressure.

High blood pressure contributes to heart attack and heart failure, stroke, kidney failure, and other deadly consequences.

New data supports recommendations for keeping blood pressure low.
SPRINT: An Opportunity to Elevate the Message

Data from the Systolic Blood Pressure Intervention Trial (SPRINT) supports lowering blood pressure and generated significant attention at AHA Scientific Sessions.

Target: BP launched at Sessions on November 9 to leverage the momentum of SPRINT and draw attention to how we can fight high blood pressure.
What is **Target: BP**?

A call to action motivating hospitals, medical practices, practitioners and health services organizations to prioritize blood pressure control.

- A source for tools and assets for healthcare providers to use in practice, including the AHA/ACC/CDC Hypertension Treatment Algorithm.

- Recognition for healthcare providers who attain high levels of blood pressure control in their patient populations, particularly those who achieve 70, 80 or 90% percent control.
Tackling High Blood Pressure

Improve blood pressure control in traditional and non-traditional settings.

Increase HBP control in clinical settings through the adoption of HBP treatment algorithm.

Increase HBP control in non-traditional settings through community-based partnerships.

Linking Clinical and Community Settings
Improving Hypertension Control Particularly in Blacks and African Americans

Community to Clinic, Clinic to Community (C2C2)

**COMBINING UNIQUE ASSETS**
Bringing together strategic AHA assets directed toward a key national and local issue.
- **Science** (evidence-based guidelines)
- **Life's Simple 7** (evidence-based health measures)
- **Check.Change.Control.** (community HBP program)
- **Heart360** (online personal health tracking tool)
- **Empowered To Serve** (faith-based mega community)
- **The Guideline Advantage** (HCP quality improvement)
- **Communications** (infrastructure & media partnerships)

**INTEGRATED APPROACH**
Leadership, shared tools, protocols, resources and training to deliver improved care, resulting in new, reciprocal connectivity and targeted support between the patient, the clinic, and the community.

**INNOVATION**
- Transformative care delivery mechanism
- Lean management principles to iterate the model
- Surround-sound communication campaign
- Registry to connect the community and clinical settings
- Learning Collaborative

![Diagram showing integration of various elements]

**THE AHA and Kaiser Permanente have a unique opportunity to co-create a scalable, groundbreaking model which establishes and maximizes clinical care and community stakeholder assets, competencies, and partnerships.**
The Role of Health Care in Population Health

Barriers that must be overcome for health system-based efforts to contribute to optimized population health

1. Misaligned stakeholder interests and population health investments
2. Inadequate information transfer
3. Inadequate service integration between health care and other sectors
4. Designing and functioning within a sustainable budget
5. Difficulties addressing health disparities

Eggleston & Finkelstein. JAMA 2014;311(8); 2/26/14
Challenges Associated with Establishing and Maintaining Population Health Initiatives

- Public health benefits are dispersed and delayed, and success is when “nothing happens”
- Public health practitioners are not celebrities – not since C Everett Koop
- Public health programs are taken for granted (think indoor plumbing, water quality, food safety)
- Approaches that may involve regulation or fees or taxes can generate fierce opposition
- Public health sometimes clashes with moral values (think HPV, needle exchange, family planning)
- Population health improvement requires actions and resources outside of public health [and medical care]

To meet the responsibility to improve health outcomes for those under their care and society at large, health systems will need to:

1. Take responsibility for the health of their patient populations [and their communities]
2. Create and expand partnerships with other entities with the potential to influence health
3. Respond to social demands for equity and value

Eggleston & Finkelstein. JAMA 2014;311(8); 2/26/14
Accountable Health Organizations (AHOs)

- Manages the health investment portfolio for a community
- “Health in All Policies” to produce health
- All services - retail, government, other private (the business sector), social, health (including public health, medical, dental, mental health care) services associated with a defined population – that should be held accountable for the health status and outcomes for that population.
- Attribution methodologies for accountability (credit for contribution to health for allocation of resources and charges to fund and sustain the system).
- A system whose performance is measured by progress towards achieving highest health status (= economic competitiveness)
Accountable Health Communities (AHC)

- Announced January 5, 2016
- The Accountable Health Communities (AHC) model addresses a critical gap between clinical care and community services in the current health care delivery system by testing whether systematically identifying and addressing the health-related social needs of beneficiaries’ impacts total health care costs, improves health, and quality of care. In taking this approach, the Accountable Health Communities model supports the Center for Medicare & Medicaid Service’s (CMS) “better care, smarter spending, and healthier people” approach to improving health care delivery.
- CMS will award a total of 44 cooperative agreements ranging from $1 million (per Track 1 site) to $4.5 million (per Track 3 site) to successful applicants.
- The Model aims to identify and address beneficiaries’ health-related social needs in at least the following core areas:
  - Housing instability and quality;
  - Food insecurity;
  - Utility needs;
  - Interpersonal violence; and
  - Transportation needs.

Accountable Community for Health (ACH)

... a collaborative of the major health care systems, providers, and health plans, along with public health, key community and social services organizations, schools and other partners serving a particular geographic that is responsible for improving the health of the entire community, with particular attention to reducing health disparities. The goals of an ACH are to:

1) improve community-wide health outcomes and reduce disparities with regard to particular chronic diseases;

2) reduce costs; and,

3) through a Wellness Fund, develop financing mechanisms to sustain the ACH and provide ongoing investments in prevention and other system-wide efforts to improve population health.
Accountable Community for Health (ACH)

Portfolio of interventions

- Policy and systems
- Environments
- Community resource and social services
- Community-Clinical Linkages
- Clinical Services

http://www.chhs.ca.gov/PRI/CalSIM%20Accountable%20Communities%20for%20Health%20Webinar%20slides.pdf
Principles to guide the development of a strategy for leveraging community benefit

1. Define mutually agreed-on regional geographic boundaries to align both community benefit and AHC initiatives,
2. Ensure evidence-based “community benefit” funded interventions
3. Increase the scale and effectiveness of community benefit investments by pooling resources
4. Establish shared measurement and accountability for regional population health improvement

Corrigan, Fisher, and Heiser. JAMA 2015;313(12); March 24/31, 2015
The Dollars are There
The Healthcare Imperative: Lowering Costs and Improving Outcomes

Annual US health care waste costs $765 billion

- $210 billion  Unnecessary services (services used too frequently)
- $190 billion  Insurance/bureaucratic costs (unproductive documentation)
- $130 billion  Inefficient services (uncoordinated care, errors)
- $105 billion  Prices that are too high
- $75 billion  Fraud
- $55 billion  Missed prevention opportunities
Real “Health Reform”

- Healthy, safe, and affordable housing
- Quality education (preschool to high school) – 100% graduation rates
- Employment with living wage income or better
- Comprehensive indoor smoking laws/policies including housing units
- Affordable food and physical activity
- Access to health - equitably funded public health and population health
- Access to medical care – health insurance and quality primary care
An Integrated Health System

- Community Services
- Workplaces
- Schools
- Public Health
- Medical Care

American Heart Association
American Stroke Association
life is why
life is why™
es por la vida™ 全為生命™