# 5 Key Elements

- The role of the hospital & physician leadership must change
- Partnerships to increase education, housing, nutrition, and antipoverty programs
- Health coaches who live and work in the community served
- Caregiver engagement
- Patient engagement

# Population Health Definitions

"The health outcomes of a group of individuals, including the distribution of such outcomes within the group and the policies and interventions that link outcomes and patterns of health determinants"

David Kindig & Greg Stoddart

# Population Health Definitions

"A conceptual framework for why some populations are healthier than others as well as the policy developments, research agenda, and resource allocation that flow from this framework."

T. K. Young

# WORKING "UPSTREAM"

Published on January 22, 2015. Last modified on January 22, 2015

This timeless story of the river illustrates why prevention is important as well as why we choose to work "upstream".



## PARABLE OF THE RIVER

Once upon a time there was a small village on the edge of a river. The people there were happy and life in the village was good. One day a villager noticed a person floating down the river and quickly dove in to save him. The next day the villager noticed two pe er, so he quickly plunged into the water and pulled both struggling victims to

The following day there were three people caught in the current. No he courageous bystander sought the help of other villagers. The next day even more people needed saving from the turbulent river, and even more villagers were called to join the rescue efforts. Soon the river was full of drowning people.

The villagers organized themselves quickly, setting up watchtowers and training rescue teams who could resist the swift waters. Yet each day the number of helpless victims struggling against the river increased. The villagers worked efficiently and together they saved many lives. While they felt they were doing a good job, they could not save all the victims. Life in the village continued.

Finally someone raised a question, asking "where are all these people coming from? We should go upstream to find out what's causing these people to fall into the current in the first place!" The seeming logic of the

# Population Health Definitions

"I think my job ultimately is to close every one of our hospitals. Because we should take care of you at home. We should take care of you at school. Nobody wants to go to the hospital. We really need to work to keep people healthy. Now, people will still get hit by cars, and there'll be complex surgeries that require hospitalizations. But I'm trying to put myself out of business."

David Feinberg, MD
WSJ, September 27, 2015

# Social Determinants for Health for a Community

- Social services that target education, housing, nutrition, and poverty
- States with higher ratio of social service to health spending are in the West
- States with lower ratio of social service to health spending are in the South

# Which Social Services Matter the Most?

- Supportive housing
- Nutritional support (WIC, in-home meals for aged)
- Case management/outreach

# Ratio of Social to Health Spending

**Figure 1: U.S. maps of health outcomes and social-to-health spending ratio quintiles, 2009**

Map A: Percent of adult population that is obese[a]

Map B: Percent of adults who reported 14 or more days in the last 30 days as mentally unhealthy days[a]

# Ratio of Social to Health Spending

Map C: Lung cancer mortality rate per 100,000 population[a]

Map D: Social-to-health spending ratio[b]

[a]For **Maps A, B, and C** red indicates highest quintile (i.e., poorest health outcomes) and green indicates lowest quintile (i.e., best health outcomes).

[b]For **Map D**, red indicates lowest social-to-health spending ratio; green indicates highest social-to-health ratio (calculated with Medicare plus Medicaid as the denominator).

# Population Health

"I think my job ultimately is to close every one of our hospitals. Because we should take care of you at home. We should take care of you at school. Nobody wants to go to the hospital. We really need to work to keep people healthy. Now, people will still get hit by cars, and there'll be complex surgeries that require hospitalizations. But I'm trying to put myself out of business."

David Feinberg, MD
WSJ, September 27, 2015

# ACA & Population Health

1. ACA requires tax-exempt hospitals to conduct community health needs assessments every three years and adopt implementation strategies that meet the identified needs, including identifying reasons why any such needs are not being addressed.

2. The law expands coverage for a wide range of prevention and wellness services, increasing incentives for employers that establish wellness programs and eliminating copayments for immunizations, screenings, and other clinical preventive services.

3. The elimination of payment for unnecessary readmissions and the development of delivery payment pilots increase the hospital's accountability for care outside its four walls.

4. Medical home demonstrations, coordination grants, and increased financial support for health centers encourage partnerships between hospitals and other community organizations.

5. ACA creates a fund to provide sustained national investment in preventive and public health programs, including those offered by hospitals to increase access to clinical preventive services and create healthier communities.

# One View of Population Health

- Define population
  - Acquire, aggregate, normalize all relevant data
- Stratify risks
  - Id high, moderate, low risk individuals; Id care gaps
- Manage Care
  - Coordinate care, manage transitions of care, engage patients, change work flows
- Measure outcomes
  - Clinical outcomes, cost of care, patient satisfaction; Id shortfall/gaps; Improve care

# Camden Coalition

- Jeffrey Brenner, MD
- Atul Gawande New Yorker article
- Data from hospitals
- Triage
- High risk (care management)
- Intermediate risk (care transitions)

# How Camden Coalition Started

- Dr. Jeffrey Brenner
- Appointed to Police Reform Commission
- Broken windows theory of policing
- Police reluctant to generate computerized crime maps; police union resisted
- Brenner created block by block health care cost maps using 3 hospital billing data

# How Camden Coalition Started

- Single building sent more people to hospital with serious falls (57 in 2 years) generating $3 million in hospital bills
- Two most expensive blocks
  - Abigail House Nursing Home
  - Northgate II low income housing
  - 900 patients from these 2 blocks had 4000 hospital visits & $200 million in hospital bills

# How Camden Coalition Started

- 1% of patients accounted for 30% of costs
- “Emergency room visits and hospital admissions should be considered failures of the health care system until proven otherwise” Dr. Jeffrey Brenner

# How Camden Coalition Started

- 1% of patients accounted for 30% of costs
- “Emergency room visits and hospital admissions should be considered failures of the health care system until proven otherwise” Dr. Jeffrey Brenner

# How Camden Coalition Started

- “For all the stupid, expensive, predictive-modelling software that the big venders sell,” he says, “you just ask the doctors, ‘Who are your most difficult patients?,’ and they can identify them.”
- 560 pound 44 year old male with CHF, asthma, DM, hypothyroidism, gout, smoking, alcohol abuse, cocaine habit

# How Camden Coalition Started

- Applied for disability insurance
- Moved from motel to stable home
- AA meetings
- Church attendance
- Cooking own meals
- Lost 220 pounds

# Camden Coalition

- Goals of program
- Reduce readmissions and costs for complex patients
- No open referrals
- No duplicate services
- Facilitate clinical coordination

# Camden Coalition

- Intermediate risk outreach team
  - RN
  - LPN
  - Health coaches
- High risk outreach team
  - RN
  - MA
  - Health coaches
  - Social worker

# Camden Coalition High Risk

- Hospital utilization
- Two or more chronic conditions
- Low socioeconomic status
- Homeless or unstable housing
- Lack of social support, HS diploma
- Behavioral health issues
- Generational poverty/urban violence

# Camden Coalition

- The Transitional Care Model:  Mary D. Naylor, PhD, University of Pennsylvania School of Nursing
- The Care Transitions Program: Eric Coleman, MD, Division of Health Care Policy and Research at the University of Colorado School of Medicine

# Atlantic City Special Care Center

- AtlantiCare/Local 54 Casino Union
- Both self insured large employer
- Rushika Fernadopulle, MD
- Clinic for workers with exceptionally high medical expenses
- Flat monthly fee, no co-pay for patients
- Open access scheduling:  same day appoint.

# Atlantic City Special Care Center

- Physicians, RNs, social worker, receptionist, health coaches
- Fired half of initial hires
- “Recruit for attitude train for skill”

# Health Coaches

- Modeled after promotora from Dominican Republic
- See patients at least once every 2 weeks
- Speak same language as patients
  - Gujarati
  - French Creole
  - Hindi
  - Vietnamese
  - Spanish
  - Cantonese
  - Portugese

# Health Coaches

- Have chronic diseases themselves
- Have non-health care backgrounds
- “Because she talks to me like my mother”

# Atlantic City Special Care Center

"We get to connect with the patient; they socially bond with us as though to a family member. It is easy for them to talk to the health coach about anything, including depression and other issues."

*Jayshree Patel*
*Health Coach*

# Atlantic City Special Care Clinic

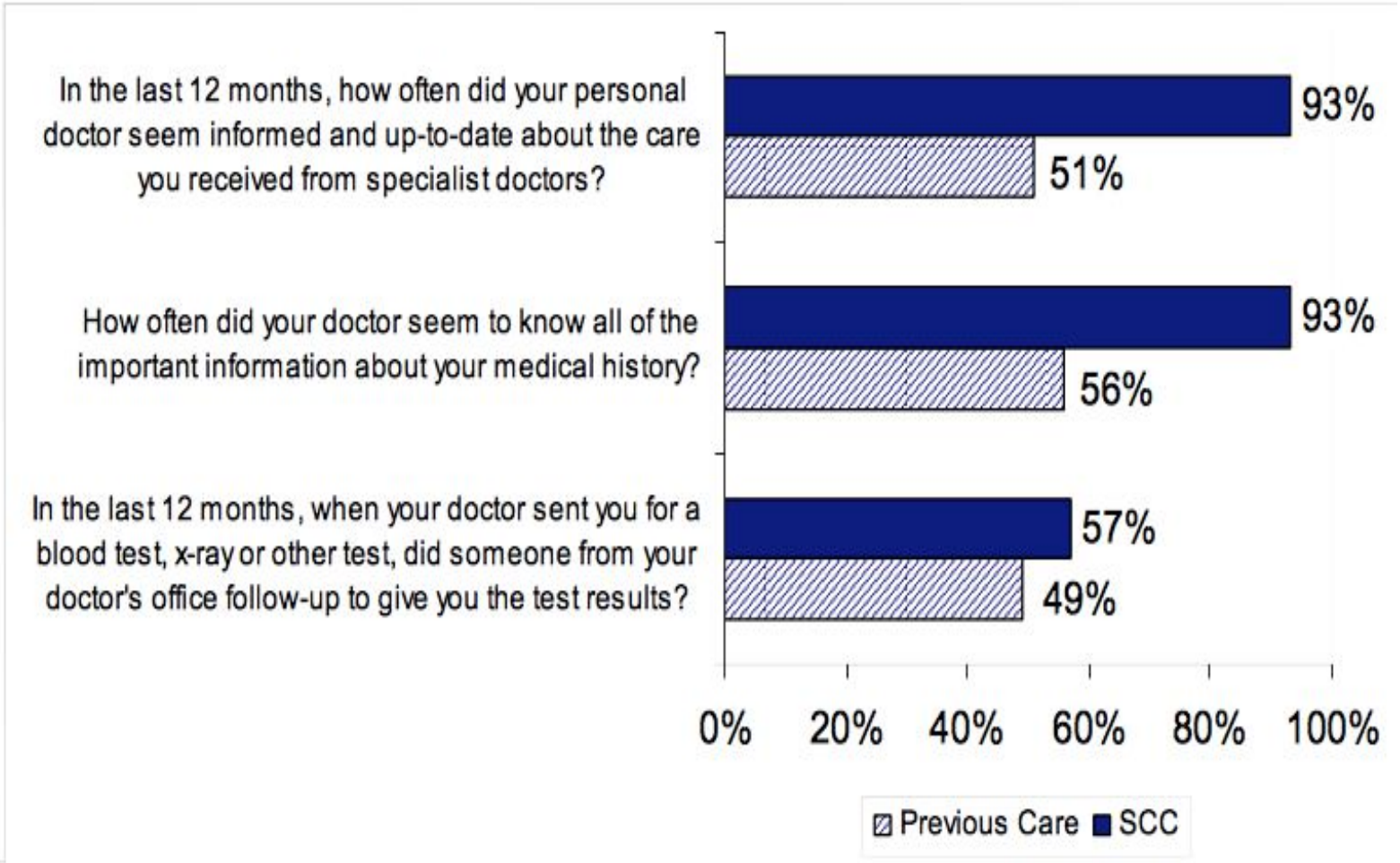
- 25% decrease in surgery
- 41% decrease in ED visits
- 48% decrease in hospital admissions
- Independent economic analysis found 25% decrease in cost
- Similar programs in Seattle for Boeing and Las Vegas for casino workers

# Atlantic City Special Care Clinic

- Conflict with local physicians
- Patients have good insurance coverage
- Cardiologist ordering cardiac ultrasound once a year and EKG every 3 months
- “Rogue physicians”

# Atlantic City Special Care Clinic

**Figure 1. Special Care Center Patient Survey**



# Key Takeaways

- Transparency and support from top leaders of both union and hospital partners
- Reimbursement structure

"We do not do fee-for-service; fee-for-service is toxic for primary care."

*Rushika Fernandopulle, MD, MPP*

# Key Takeaways

- Collaborative Team model requires buy-in by providers
- Access to data because they are self-insured
- Ambulatory Intensive Care Unit concept

# Outpatient Intensivist Medical Teams

- University of New Mexico ECHO Project
- $8.5 million grant from HHS Innovation
- 5000 high cost, high utilization, high severity patients in NM, Washington State
- Out patient intensivist teams of nurse practitioners, case managers, counselors, community health workers

# California Quality Collaborative Intensive Outpatient Care

- Care Manager
  - Patient panel of 200
  - Practice panel of 15 MDs maximum
  - Primary partner for patient
  - 24/7 access
  - Rules-based contacts, bidirectional patient contact at least monthly

# California Quality Collaborative Intensive Outpatient Care

- Primary care intensivist
  - Physician
  - Email/phone access for patients
  - Same day access for patients

# California Quality Collaborative
# Intensive Outpatient Care

- Coordination with ED/Hospital
  - Same day notification of patients in ED
  - 48 hour post discharge contact with patient

# HHS Care Innovations Summit

- Alan Hoops, Chairman and CEO, CareMore
- Many frail patients have average of 11 MDs
- 20% of frail pop generates 60% of costs
- Costs in last year of life increases 7 fold
- Low patient compliance with chronic care management protocols

# HHS Care Innovations Summit

- Frail and Chronically Ill Patients
  - Strength and training program
  - Home care
  - Mental health programs
  - Social Services
  - Podiatry
  - Palliative Care
  - Wellness

# HHS Care Innovations Summit

- Speed of action
- Intimacy of Contact
  - Requires constant knowledge of patient's condition
- Proactive intervention
  - Integration & coordination of care not voluntary

# HHS Care Innovations Summit

- Frail and Chronically Ill Patients
  - CareMore Care Center
  - Case Managers
- Results Bed Days Per 1000
  - CareMore 2004:  965
  - CareMore 2005:  940
  - CareMore 2006:  1076
  - CareMore 2007:  1085
  - Industry Average:  1450

# Outside Health System Factors

- Food safety
- Neighborhood crime
- Open space
- Disease prevalence
- Income levels
- Unemployment rate
- Age/Sex/Race
- Care seeking behavior
- Food availability
- Housing conditions
- Parks
- Genetic inheritance
- Poverty rate
- Geographic location
- Pharmacy
- Transportation

# Population Health Strategies

- Fitness and exercise promotion
- Obesity management and weight reduction
- Diet and nutrition
- Stress management
- Reductions in smoking and substance abuse
- Protected sex and family planning
- Physical activity and moderate amounts of exercise
- Auto safety;  drunk driving
- Chronic disease management
- Food safety
- Clean water, sewers
- Promoting healthy communities
- Economic incentives for healthy behaviors
- Universal coverage to encourage preventive care

# Walking School Bus Program

- Groups of children walk to and from school under adult supervision
- PedNet Coalition
- Columbia, MO
  - 8 schools
  - 20 routes
  - 450-500 kids
  - 200 volunteers

# Walking School Bus Program

- Over the last decade the number of kids walking to school has declined from 48% to 13%
- 1969:  127 kids per school
- 2009:  521 kids per school

# Walking School Bus Program

# James L. Oberstar Safe Routes to School Award

- US Congressman & Chair of House Transportation & Infrastructure Committee
- Federal Safe Routes to School Program
- Awards
  - Michigan Dept of Transportation
  - Bear Creek Elementary School in CO 70% participation rate
  - Alpine Elementary School in UT participation rate went from 35% to 50%

# Walking School Bus Program

- Training modules: http://apps.saferoutesinfo.org/training/walking_school_bus/
- Why We Need WSB, Anyway
- Preparation:  What It Takes to Establish Sustainable WSB Program
- First Steps:  How to Build Momentum to Launch Your WSB Program
- Community Partnership:  Who Can Help Get WSB Rolling
- How To Identify & Secure Program Funding
- Key Training Takeaways

# Walking School Bus Program: Key Takeaways

- Teamwork is essential; requires broad base of support
- WSB Coordinator is crucial
  - Springfield MO program
  - Police Dept got State grant, but needed help
  - Mother became coordinator
  - 100 kids participating at end of 1 year

# Walking School Bus Program: Key Takeaways

- There is no one right way
  - Phoenix charter school
  - Most kids lived far away from school
  - Creative solution created staging post drop off site 0.5 miles from school
  - 40 kids participate with 10 adult volunteers

# Walking School Bus Program: Key Takeaways

- Success brings success
  - Birmingham, AL YMCA
  - $400,000 RWJ Foundation Grant
  - Pilot program
  - After 1 semester 150 kids at 3 schools
  - RWJ Grant ran out
  - $150,000 Alabama State Funding

# Walking School Bus Program: Key Takeaways

- Importance of planning
- Be persistent
  - After a few years drop-off is natural
  - Get more volunteers involved
  - Revisit steps that made initial pilot successful

# Kaiser Friday Fresh Farmers Markets

- Dr. Preston Maring
- Oakland Kaiser May 2003
- Program has grown to where locally grown fruits and vegetables now used in 50 Kaiser hospitals
- Kaiser/Sustainable Economic Enterprises of LA sponsor Watts Healthy Farmers Market

# Kaiser Friday Fresh Farmers Markets

"The goal of the Kaiser Permanente farmers' markets is to address the obesity epidemic and to improve the health of our employees, members, and community residents by making fresh fruits and vegetables convenient and readily available."

# Kaiser Farmers Market

KAISER PERMANENTE®

## Medical center and…grocery store?

**It's not as crazy as it sounds.**
Eating more fruits and vegetables is part of good health. That's why we've opened farmers' markets outside our medical centers and clinics.

**Parsley, pears, poblano chiles...**
No matter what you find at the farmers' market, chances are we've got a recipe for you. Visit our Food for Health blog for delicious, healthful recipes from our own physicians and dietitions.

Explore bite-sized ways to eat better with our tools and resources for healthy eating.

Back to kaiserpermanente.org

Find a farmers' market near you.

Northern California
Southern California
Colorado - Denver/Boulder
Colorado - Southern
Georgia
Hawaii
Maryland/Virginia/
Washington DC
Oregon/Washington

Now you can pick up your prescription and your green beans in the same trip.

# Kaiser Farmers Market

- 190 tons a year of sustainably produced fruits and vegetables used by KP hospitals
- 50% of all fruits and vegetables served to patients
- Grown within 250 miles of facility
- The Weight of the Nation campaign with HBO, IOM, NIH, CDC, Dell Foundation

# Journal of Agriculture, Food Systems, and Community Development

- Volume 2, Issue 2, Winter 2011/2012
- 74% of patrons at KP farmers markets consumed more fruits and vegetables
- 71% of patrons at KP farmers markets ate a greater variety of fruits and vegetables

# Cambridge Health Alliance

Source: HRET, 2012.

| | Process Questions | Results |
|---|---|---|
| **Outcomes** | What health statistics are inadequate for our catchment area and what population does this affect? | • Asthma is the leading chronic disease among children.<br>• Cambridge Health Alliance was seeing a high number of pediatric inpatient admission for asthma. |
| **Factors** | What is causing the outcome that we are seeing? | • Low adherence to medication regimen.<br>• Lack of knowledge about asthma attack triggers in children. |
| **Interventions** | What initiatives can we implement to modify and improve on the factors listed above? | • Web-based registrey used by physicians and school nurses to assess correct prescription and medication adherence.<br>• Home visits by providers to help parent decrease or remove asthma triggers. |
| **Impact** | What are the results of the intervention? | • Increased adherence to asthma medication regimens.<br>• Astha-related hospital admissions dropped by 45% from 2002-2009.<br>• Asthma-related ED visits dropped by 50% over the same time period. |

# Healthy San Francisco

- Uninsured using ED at high rates
- SFDPH & 30 Hospitals/Clinics
- PCMH model
- Enrollment in subsidized health care system

# Healthy San Francisco

- 100,000 enrolled in program
- Hospital Readmission Rate
  - 9% vs. 18% national average
- ED rate
  - 9% vs. 18% California state average

# North Karelia in Finland

- Focus on nutrition, tobacco use, exercise
- Decreased heart attack deaths by 70%
- Decreased lung cancer deaths by 70%
- Male life expectancy increased 65-73 yrs.
- Mayo Clinic CardioVision 2020

WSJ, January 14, 2003

# North Karelia in Finland

- “Stubborn persuasion.” No power.
- “What we’ve done better than the US is we’ve managed to get the whole community involved.”
- Dr. Pekka Puska leafleted markets
- Dr. Pekka Puska on local TV
- Yellow cards to record BP

# North Karelia in Finland

- Alter local diet (from dairy and sausage to greens “food for animals”).
- Per capita vegetable consumption per year from 44 pounds to 110 pounds.
- Per capita berry consumption tripled to 143 pounds per year.
- Dairy industry negative ads in newspaper.
- Half number of cows compared to 1970.

# Whiplash Pain and Culture

- Lithuania: no car insurance, no intractable neck pain and lingering headaches
- Norway: car insurance, 70,000 person organization for neck pain, headaches
- Cultural forces at work in reinforcing pain & dysfunction include insurance, self-help groups, class-action lawsuits, powerful patient organizations.

# Population Health Statistics

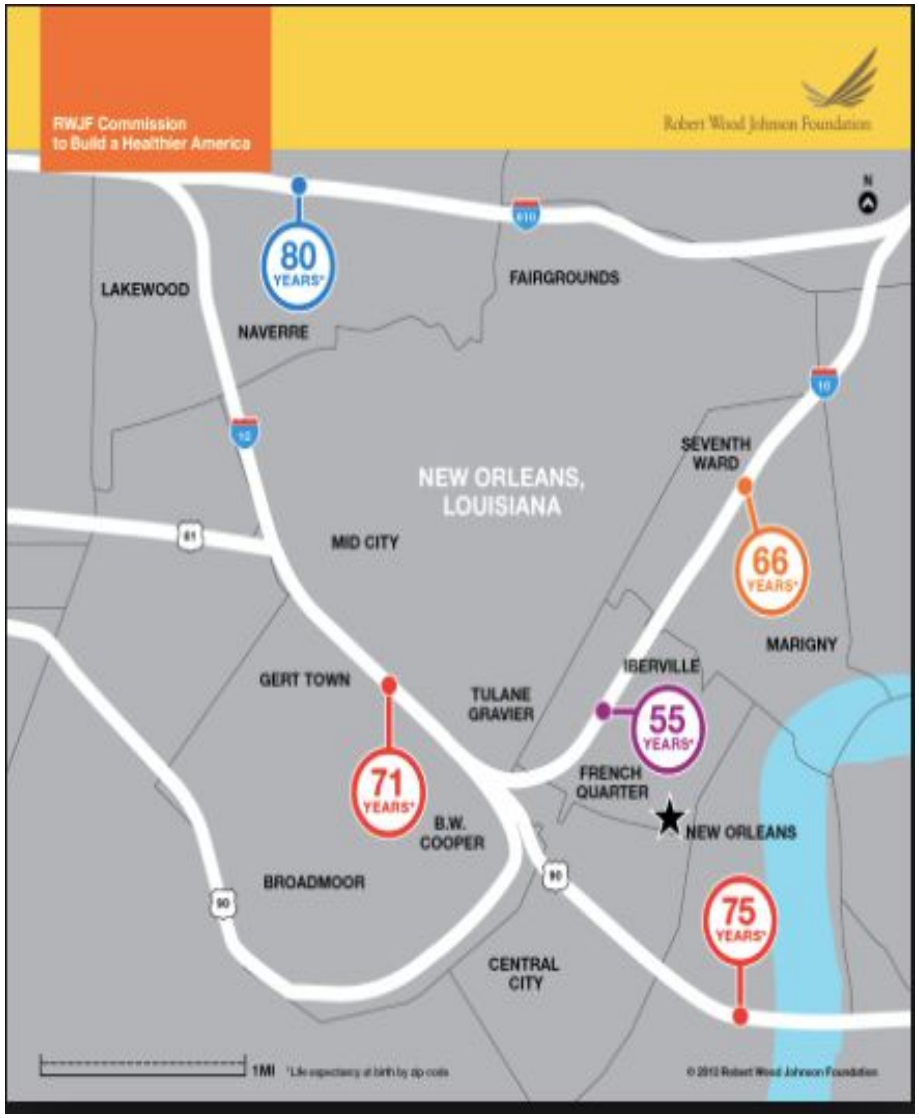
- Your zip code is more important than your genetic code for health and wellness
- College grads live 5 years longer than those without a high school diploma
- Detroit with 139 square mile area and 900,000 people has only 5 grocery stores

# RWJ City Maps

http://www.rwjf.org/en/library/collections/commission/search-city-maps.html

- Minneapolis
  - Life expectancy for babies varies by 13 years
- San Joaquin Valley
  - Life expectancy for babies varies by 9 years
- Kansas City
  - Life expectancy for babies varies by 14 years
- New Orleans
  - Life expectancy for babies varies by 25 years

# New Orleans


RWJF Commission to Build a Healthier America
Robert Wood Johnson Foundation
N
80 YEARS*
LAKEWOOD
NAVERRE
FAIRGROUNDS
SEVENTH WARD
NEW ORLEANS, LOUISIANA
MID CITY
66 YEARS*
MARIGNY
IBERVILLE
GERT TOWN
TULANE GRAVIER
55 YEARS*
71 YEARS*
FRENCH QUARTER
NEW ORLEANS
B.W. COOPER
BROADMOOR
75 YEARS*
CENTRAL CITY
1MI

# Kansas City


83
YEARS*
SHOAL
CREEK
LIBERTY
THE COVES
82
YEARS*
LINDEN
PARK
GLADSTONE
BIRMINGHAM
KANSAS CITY,
MISSOURI
KANSAS CITY
71
YEARS*
WASHINGTON
WHEATLEY
CUNNINGHAM
RIDGE
BLUE
HILLS
69
YEARS*
83
YEARS*
ARMOUR
HILLS
3MI
*Life expectancy at birth
© 2013 Robert Wood Johnson Foundation

# Twin Cities


RWJF Commission to Build a Healthier America
Robert Wood Johnson Foundation
3 miles could equal up to a 13-year life span difference
N
75–79 YEARS
HENNEPIN COUNTY
5 MILES
MINNEAPOLIS AND SAINT PAUL, MINNESOTA
MINNEAPOLIS
83+ YEARS
75–79 YEARS
3 MILES
70–75 YEARS
83+ YEARS
1.5 MILES
SAINT PAUL
2 MILES
3 MILES
70–75 YEARS
RAMSEY COUNTY
1MI
© 2013 Robert Wood Johnson Foundation

# San Joaquin Valley, California

# What Patient-Centered Should Mean

## Donald M. Berwick, Health Affairs, 28, no. 4 (2009)

- “They give me exactly the help I need and want exactly when and how I need and want it.”
- “I eschew compromise words like partnership”
- “We should behave not as hosts in the care system, but as guests in their lives.”

# What Patient-Centered Should Mean

## Donald M. Berwick, Health Affairs, 28, no. 4 (2009)

- Patient centeredness improves health status outcomes
- Golomb statin drug takers initiate discussions of symptoms related to drug
- O'Connor on shared decision making found a 23% reduction in surgical interventions
- Patient education can increase compliance

# What Patient-Centered Should Mean

## Donald M. Berwick, Health Affairs, 28, no. 4 (2009)

- The experience (to the extent the informed, individual patient desires it) of transparency, individualization, recognition, respect, dignity, and choice in all matters, without exception, related to one's person, circumstances, and relationships in health care.

# What Patient-Centered Should Mean

## Donald M. Berwick, Health Affairs, 28, no. 4 (2009)

- Hospitals should have no restrictions on visiting
- Patients would choose food and clothes
- Patients should participate in rounds
- Patients would participate in design of health care processes and services
- Medical records belong to the patient
- Shared decision-making used universally

# What Patient-Centered Should Mean

## Donald M. Berwick, Health Affairs, 28, no. 4 (2009)

- Should patient-centeredness trump EBM?
- Is physician steward of social resources?
- What about clinicians' needs and wants?

# From Patient Centered to People Powered
(BMJ 2015: 350, Feb 10, 2015)

- AMA, Belgian government “don’t google”
- IOM, Mayo, WHO regard patient as genuine value contributor partner in medicince
- Society for Participatory Medicine
- Social movement
- “Useful knowledge plus clinical experience plus what the patient wants leads to best care.”

# Patient engagement

- Judith Hibbard's Patient Activation Measure 4 level scale
- Self management
- Collaboration with provider
- Maintaining function/preventing declines
- Access to appropriate care

# Patient engagement

- Jessie Gruman's Center for Advancing Health 43 engagement behaviors organized in 10 categories

# Patient engagement 10 Categories

- Find safe care
- Talk to providers
- Organize health care
- Pay for health care
- Make decisions
- Participate in care
- Promote health
- Get preventive care
- Plan end of life
- Seek knowledge

# Jessie Gruman on Patients

As a savvy and confident patient who is flummoxed by so much of what takes place in health care, I am regularly surprised by how little *you know about how little we patients know…*

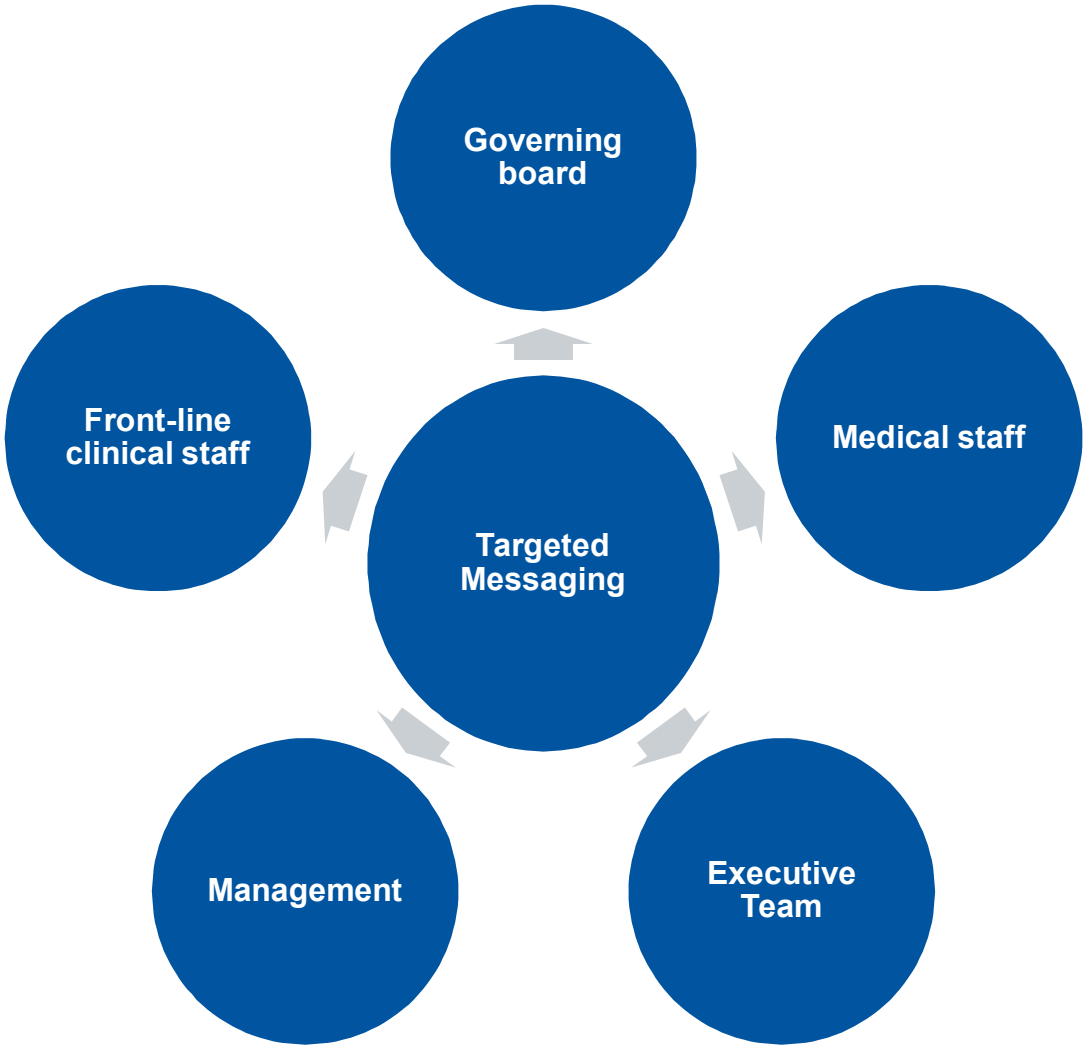
# Jessie Gruman on Patients

*You are immersed in the health culture. But we don't live in your world. So we have no idea what you are talking about much of the time. One way to help us feel competent in such unfamiliar environments is to give us some guidance about what this place is and how it works. What are the rules?*

# Five Stepping Stones To Population Health Management

1. **Educate Internally**
2. **Understand Risk**
3. **Manage Total Cost of Care**
4. **Improve Operational Efficiency**
5. **Make New Friends**

# Step 1: Educate Internally



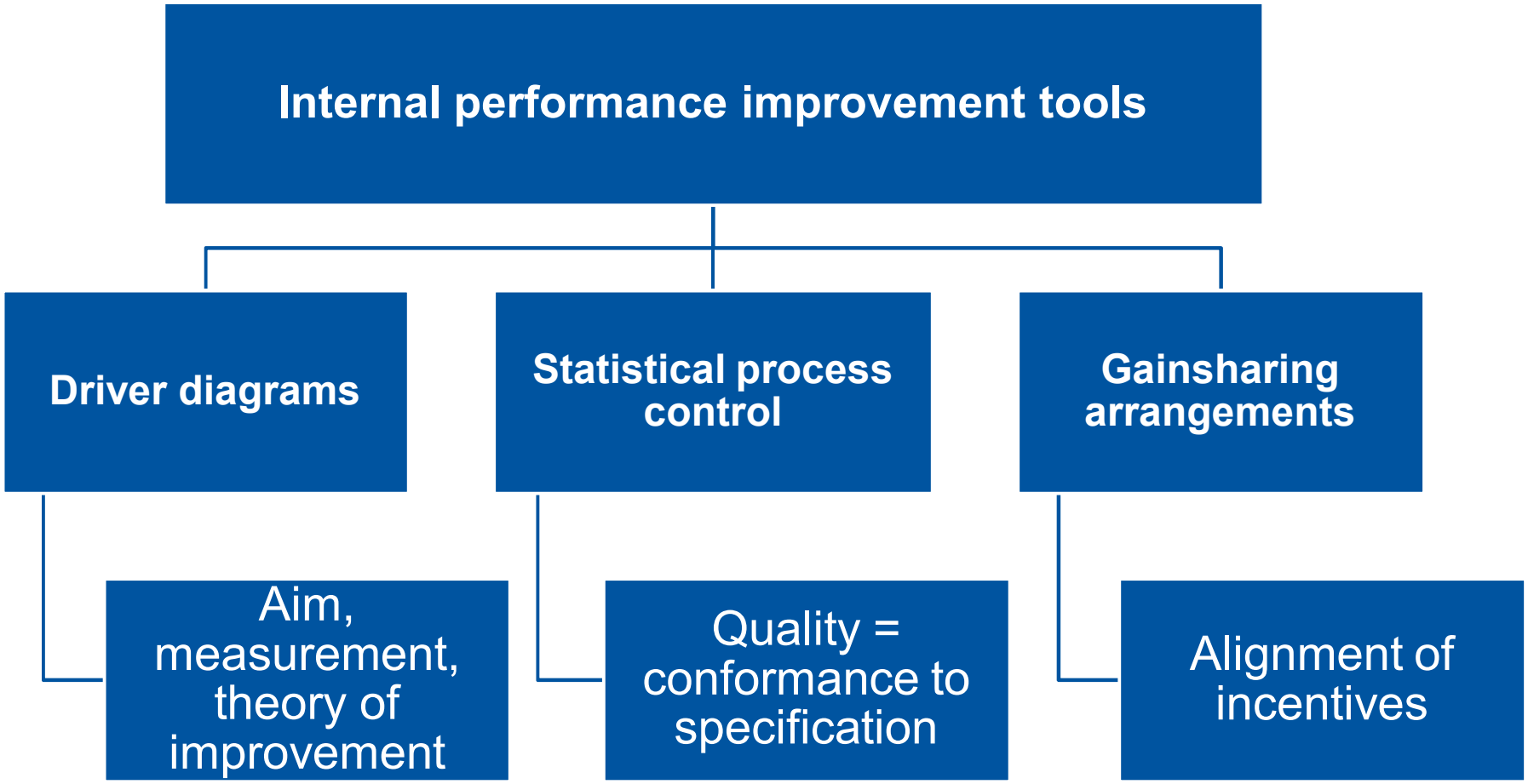
# Step 2: Understand Risk

| Quantify risk in attributed population | Risk stratify attributed population | Define interventions |
|---|---|---|
| • Establish PCP relationships<br>• Improve provider documentation and coding (“HCCs”)<br>• Secure additional data sources (rest of the story) | • Establish criteria<br>• Perform analysis | • High-risk<br>• Rising-risk<br>• Low-risk |

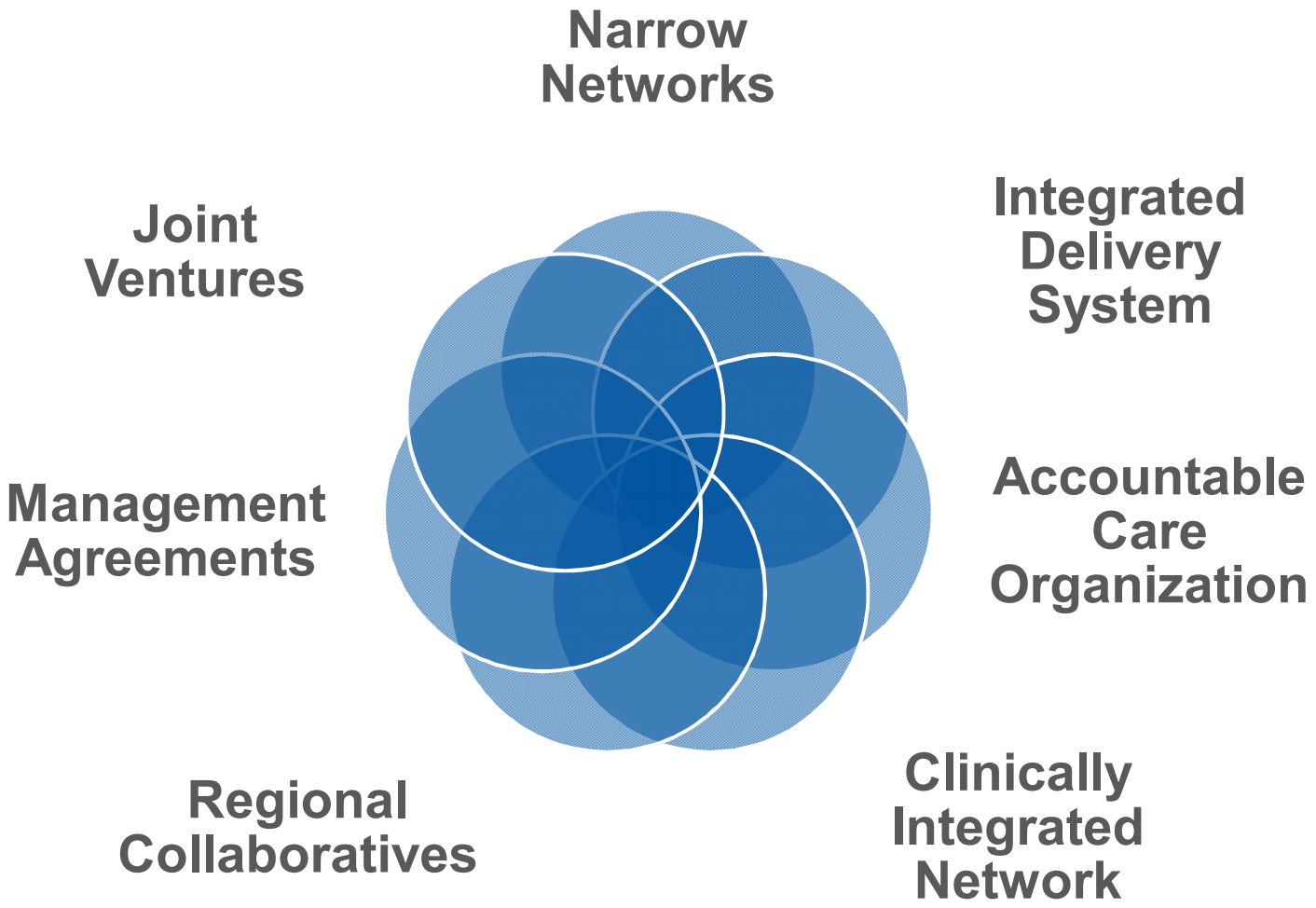
# Step 3: Manage Total Cost of Care

| | |
|---|---|
| **Harvest low-hanging fruit** | • Ambulatory care management for high risk patients<br>• Advance care planning |
| **Secure actual or approximated claims data** | • Government programs vs. commercial payers |
| **Pursue targeted initiatives** | • Specific diagnoses<br>• Well-defined metrics<br>• Regular reporting |

# Step 4: Improve Operational Efficiency

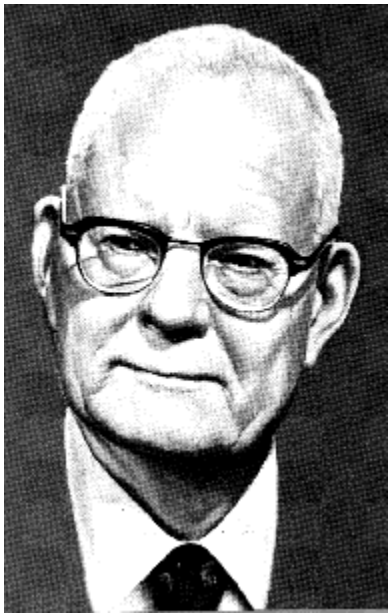


# Step 5: Make New Friends



# Resources

- https://innovation.cms.gov/files/x/macra-faq.pdf
- https://aspe.hhs.gov/ptac-physician-focused-payment-model-technical-advisory-committee
- AMA – http://www.ama-assn.org/ama/pub/advocacy/topics/medicare-physician-payment-reform.page
- AHA – http://www.aha.org/advocacy-issues/physician/index.shtml
- AAFP – http://www.aafp.org/practice-management/payment/medicare-payment.html
- kate.goodrich@cms.hhs.gov



"It is not necessary to change. Survival is not mandatory."

***W. Edwards Deming***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