Opportunity and Responsibility: Better Health for Populations

Donald M. Berwick, MD

Ko Awatea
Auckland, New Zealand
September 18, 2012
The US Context

- Economic Pressure
  - In the past decade, all wage increases in the US have been absorbed by health care costs.
- Political Polarization
- Loss of Authentic Dialogue
- Confused Public and Professions
- Uncertainty about the Future
The Affordable Care Act
Goals

• Health care as a human right in America...

• Made sustainable through the improvement of health care as a system.
“The First Law of Improvement”

Every system is perfectly designed to achieve exactly the results it gets.
Preventing Central Line Infections

• Hand hygiene
• Maximal barrier precautions
• Chlorhexidine skin antisepsis
• Appropriate catheter site and administration system care
• No routine replacement
Central Line Associated Bloodstream Infections (CLABs)
(from Rick Shannon, MD, West Penn Allegheny Health System)
The Institute of Medicine
Aims for Improvement

• Safety
• Effectiveness
• Patient-Centeredness
• Timeliness
• Efficiency
• Equity
Types of Improvement: Noriaki Kano

- Kano I: Reducing Defects
- Kano II: Reducing Costs, while Leaving the Customer the Same or Better Off
- Kano III: Creating and Introducing a New Product or Service
The Quality of Medical Care in the United States: A Report on the Medicare Program

The Center for the Evaluative Clinical Sciences Dartmouth Medical School

The Dartmouth Atlas of Health Care 1999

Low-Cost Hospital Referral Regions Often Have Better Care and Outcomes

306 “Hospital Referral Regions” - HRRs
Senator Hubert H. Humphrey

"The moral test of government is how it treats those who are in the dawn of life, the children; those who are in the twilight of life, the aged; and those in the shadows of life, the sick, the needy, and the handicapped."

November 4, 1977
Nathaniel and Caleb
The Triple Aim

Population Health

Experience of Care

Per Capita Cost
Linking Justice to Improvement

• Coverage is key to improvement.
• Improvement is key to coverage.
US: Consequences of Inaction

- Cutbacks in Coverage
- Weakening of the Safety Net
- More Burden on Individuals
- Research and Teaching under Siege
- All Payers Affected
- Threats to Other Social Purposes
Southcentral Foundation
Anchorage, Alaska

• “Nuka” – Alaskan word for strong, giant structures and living things.
  – Also the name for the health care model that transformed the system from health care transactions for patients to a healthy system with the population
“NUKA” CARE SYSTEM
Southcentral Foundation
Anchorage, Alaska, USA
Components of “Nuka” System

• Population-based
• Team-based
• New roles, such as for specialists
• Delivering “health” (not just “disease care”)
Some Nuka Results

- Urgent Care and ER Utilization = 50% ↓
- Hospital Admissions = 53% ↓
- Specialist Utilization = 65% ↓
- Primary Care Utilization = 20% ↓
- HEDIS Outcomes and Quality = 75-90%ile
- Employee Turnover Rate < 12% per year
- Customer and Staff Satisfaction > 90%
Nuka Per Capita Expenditures

Cumulative Per Capita Expenditures
Relative % Change with 2004 as Baseline

- SCF Cumulative Primary Care
- SCF Cumulative Hospital Services
- MGMA Cumulative Increase (Multi Specialty Cost)
DENVER HEALTH LEAN PRODUCTION RESULTS: $144 M SAVED
DENVER HEALTH OUTCOMES: #1 IN UHC
The AFHCAN* Cart

ROI:
10.54:1

*ALASKA FEDERAL HEALTH CARE ACCESS NETWORK
Alaska Dental Health Aide Therapists “DHAT”

DHAT PROGRAM:
COULD MEET ALL DENTAL NEEDS IN ALASKA VILLAGES WITH 70 DHATS
Introducing Christian

The Old Way

• Ryhov Hospital, Jönköping, Sweden had traditional hemodialysis and peritoneal dialysis center.
• In 2005, a patient, Christian, asked about doing it himself.
Self-Dialysis

• Now 60% of Ryhov Hospital dialysis patients are on self-dialysis
• Their aim: 75% of patients
Self-Dialysis Results

- Costs reduced 50%
- Complications dramatically reduced
- Measuring success by “number of patients working”
Innovations for New Results

• Team (Nuka)
• Lean Production (Denver Health)
• Technology (AFHCAN)
• New Workforce (Dental Health Aide Therapists)
• New Patient-Centered Design (“Christian”)

You can’t say,
“It can’t be done.”
It can be done.
S. Pacala and R. Socolow


Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies
“Wedges” of Improvement: Greenhouse Gases

CO₂ Emissions - The area between the two curves represents the avoided carbon emissions required for stabilization.
“Wedges” of Improvement: Greenhouse Gases

A stabilization triangle of avoided emissions (green) and allowed emissions (blue)
“Wedges” of Improvement: Health Care Costs

COST-REDUCING CHANGES

CONTINUING HEALTH CARE EXPENDITURES
Theoretical Waste Categories

1. Overtreatment
2. Failures to Coordinate Care
3. Failures in Care Delivery
4. Excess Administrative Costs
5. Excessive Health Care Prices
6. Fraud and Abuse
## Waste Category Annual Dollar Estimates

<table>
<thead>
<tr>
<th>Category</th>
<th>Cost to US Healthcare (2011 $B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overtreatment</td>
<td>$158 to $226</td>
</tr>
<tr>
<td>Failures to Coordinate Care</td>
<td>$25 to $45</td>
</tr>
<tr>
<td>Failures in Care Delivery</td>
<td>$102 to $154</td>
</tr>
<tr>
<td>Excess Administrative Costs</td>
<td>$107 to $389</td>
</tr>
<tr>
<td>Excessive Health Care Prices</td>
<td>$84 to $178</td>
</tr>
<tr>
<td>Fraud and Abuse</td>
<td>$82 to $272</td>
</tr>
<tr>
<td><strong>2011 Total Waste</strong></td>
<td>$558 to $1263</td>
</tr>
<tr>
<td><strong>% of Total Spending</strong></td>
<td>21% to 47% (MED = 34%)</td>
</tr>
</tbody>
</table>
US Health Care System Theoretical Waste
(Aggregate Waste 2011 - 2019)

TOTAL US HEALTH CARE SYSTEM WASTE ≈ $11 T OVER 9 YEARS
In Summary…

• Pursuit of the Triple Aim is an urgent social need.

• Success is possible…
  – By using existing redesigns
  – By investing in further innovations

• But… this requires a thorough reorientation of the system design, the context of care, leadership, and culture.
Tectonic Change in the US

- Payment for value and quality, not volume
- Consolidated payment to support seamless care and cooperation
- Emphasis on chronic illness
- Emphasis on non-hospital care
- Electronic health records
- Transparency
- Consumerism and person-centered care
- Threats to the classical role of insurers
The Future State – Most Can Be Winners
The Transition State: 
Hard for All

- Current State
- Transition State
- Future State

BURDEN vs. TIME
Triple Aim Challenges

• Transitions of Business Plans
• Cooperation across Boundaries
• Fragility of Coalitions
• New Skills for Professions
• Building Public Knowledge and Will
• “Returning the Money”
• Authenticity and Discipline in Prevention
• Tracking Progress
Some Big Threats in the US

- Vertical integration spawns monopolies
- Hospitals are unable to transition
- The uninsured remain numerous
- Undocumented aliens are neglected
- The safety net is marginalized and reduced
- Managed Care Plans escape controls
- Pricing anomalies persist
- Antipathy toward evidence-based care
- End-of-life care remains “third rail”
The Opportunity Now

There has never before been a better time, or a more important role, for health care professionals to lead the reform and improvement of American health care as a system.

*Success will require nearly unprecedented levels of cooperation among Boards, Clinicians, and Executives*
“Choosing Wisely” – An Example of Professional Leadership

NINE SPECIALTY GROUPS: 45 OVERUSED PROCEDURES

U.S. PHYSICIAN GROUPS IDENTIFY COMMONLY USED TESTS OR PROCEDURES THEY SAY ARE OFTEN NOT NECESSARY

Nine Physician Organizations Each Identify Five Tests or Procedures in their Respective Fields That May Be Overused or Unnecessary

Choosing Wisely™ Campaign Led by ABIM Foundation, with Consumer Reports, to Improve Health Care Quality and Patient Safety

Contact: Nick Ferreyros
(202) 745-5102
nferreyros@gymr.com
“CHOOSING WISELY” -- NINE SPECIALTY GROUPS: 45 OVERUSED PROCEDURES

1. Don’t perform stress cardiac imaging or advanced non-invasive imaging in the initial evaluation of patients without cardiac symptoms unless high-risk markers are present.

Asymptomatic, low-risk patients account for up to 45 percent of unnecessary “screening.” Testing should be performed only when the following findings are present: diabetes in patients older than 80 years-old, peripheral arterial disease, or greater than 3 percent yearly risk for coronary heart disease events.

2. Don’t perform annual stress cardiac imaging or advanced non-invasive imaging as part of routine follow-up in asymptomatic patients.

Performing stress cardiac imaging or advanced non-invasive imaging in patients without symptoms on a serial or scheduled pattern (e.g., every one to two years or at a heart procedure anniversary) rarely results in any meaningful change in patient management. This practice may, in fact, lead to unnecessary invasive procedures and expose radiation exposure without any known impact on patients’ outcomes. An exception to this rule would be for patients more than two years after a bypass operation.

3. Don’t perform stress cardiac imaging or advanced non-invasive imaging as a pre-operative assessment in patients scheduled to undergo low-risk non-cardiac surgery.

Non-invasive testing is not useful for patients undergoing low-risk non-cardiac surgery (e.g., cataract removal). These types of tests do not change the patient's clinical management or outcomes and will result in increased costs.

4. Don’t perform echocardiography as routine follow-up for mild, asymptomatic native valve disease in adult patients with no change in signs or symptoms.

Patients with native valve disease usually have years without symptoms before the onset of deterioration. An echocardiogram is not recommended yearly unless there is a change in clinical status.

5. Don’t perform stenting of non-culprit lesions during percutaneous coronary intervention (PCI) for uncomplicated hemodynamically stable ST-segment elevation myocardial infarction (STEMI).

Stent placement in a non-culprit artery during primary PCI for STEMI in a hemodynamically stable patient may lead to increased mortality and complications. While potentially beneficial in patients with hemodynamic compromise, intervention beyond the culprit lesion during primary PCI has not demonstrated benefit to clinical trials to date.
New Zealand Child Poverty
(Solutions to Children Poverty in New Zealand; Children’s Commissioner’s EAG; 2012)

Figure 1: Trends in New Zealand Child Poverty Rates, 1982 - 2011
(based 60% median income, after housing costs, moving poverty line)
### Plan for Child Poverty

**Expert Advisory Group on Solutions to Child Poverty – summary of proposed options**

<table>
<thead>
<tr>
<th>Priority issues for children in poverty</th>
<th>Short-term actions</th>
<th>Long-term actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Housing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Many children live in poor quality and overcrowded houses (particularly Māori and Pasifika children) and suffer serious health conditions because of this. Options provide opportunities to:</td>
<td>- Warrant of fitness for rental properties</td>
<td>- Social and community housing</td>
</tr>
<tr>
<td>- reduce overcrowding</td>
<td>- Set a basic standard for rental properties (such as houses must have heating and insulation, sanitation, and be safe). Help landlords to meet the standards by introducing tax breaks for renovations and repairs.</td>
<td>- Increase number and quality of subsidised houses for low-income families and whanau</td>
</tr>
<tr>
<td>- improve the quality of housing, particularly rental properties</td>
<td>- Accommodation Support Grant (ASG) and the Residential Tenancies Reform Act (RT(R)A)</td>
<td>- Better assess housing need</td>
</tr>
<tr>
<td>- Increase the number of social houses and other affordable housing</td>
<td>- AS and IRRI are not currently required to be reviewed, and need to be reviewed</td>
<td>- Instead of expecting families to go between government agencies, establish a one-stop-shop assessment for housing needs</td>
</tr>
</tbody>
</table>

| **Health and education** | |                   |
| We need to improve the antenatal and early years support for children and their parents and whanau, and the engagement of children in school and ensuring young people in poverty have opportunities to: | | - Low-income home ownership |
| - Overcome barriers to children in low-income families attending ECE, especially Māori and Pasifika children, so they enter school ready to learn | | - Increase number of low-income families and whanau who own their own homes. The ways to do this include increasing home deposit schemes, while also encouraging investors to sell by introducing capital gains tax and land tax for rental properties, addressing challenges of building on Māori land |
| | | - Insulation |
| | | - Extend the Heat Smart insulation subsidy programme and encourage landlords to insulate their rental properties by giving them tax breaks |

**Health**

- Ensure more pregnant women get health services before birth, including getting DHBs and midwives to be more responsive to vulnerable and hard to reach women in their communities

**Education**

- Continue to fund ECE for low socio-economic and economically disadvantaged groups

**Inter-agency and community partnership**

- Expand the number of Teen Parent Units to more low decile schools with high teen birth rates
- Sustain funding for youth-friendly health and social services in all NZ high schools, starting with low decile schools
## Plan for Child Poverty

### Priority issues for children in poverty

<table>
<thead>
<tr>
<th>Maori children in poverty</th>
<th>Short-term actions</th>
<th>Pasifika children in poverty</th>
<th>Long-term actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maori children are over-represented in poverty statistics</td>
<td>• Continue to put in place strategies that will support more Maori students to achieve at school</td>
<td>• Lift the performance of government services, by working with Pasifika community and church groups, to ensure that the reduction of poverty is on par with other New Zealand children</td>
<td>• Develop measures of Maori well-being and set targets to reduce poverty for Maori children</td>
</tr>
<tr>
<td>While all measures should be developed with a view of working for Maori, some additional specific measures are needed</td>
<td>• Support the employment of Maori young people by promoting apprenticeships and training allowances, providing incentives to employers.</td>
<td></td>
<td>• Develop and implement a strategy to prevent Maori homelessness</td>
</tr>
</tbody>
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### Community and place-based partnerships

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<th>Short-term actions</th>
<th>Pasifika children in poverty</th>
<th>Long-term actions</th>
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</thead>
<tbody>
<tr>
<td>Communities and families whanau have important roles in improving conditions and building resilience for children in poverty</td>
<td>• Develop a strategy to make progress in Auckland for Pasifika children</td>
<td></td>
<td>• Government, in partnership with philanthropic organisations and other relevant bodies, should support and invest in initiatives for Maori and Pasifika communities to help break the cycle of poverty</td>
</tr>
<tr>
<td>• Evaluate Pasifika justice initiatives (such as the Pasifika Youth Court)</td>
<td></td>
<td></td>
<td>• Encourage high-quality research to drive innovation in public services</td>
</tr>
</tbody>
</table>

### Maori children in poverty

<table>
<thead>
<tr>
<th>Short-term actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Continues government support for parenting programmes that work with the wider whanau and address multiple issues</td>
</tr>
<tr>
<td>• Government, iwi and Maori communities to support trusted workers and develop integrated service hubs</td>
</tr>
</tbody>
</table>

### Pasifika children in poverty

<table>
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<th>Short-term actions</th>
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<td>• Develop a strategy to make progress in Auckland for Pasifika children</td>
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### Community and place-based partnerships

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### Plan for Child Poverty

#### Priority issues for children in poverty

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<tr>
<th>Income and employment</th>
<th>Short-term actions</th>
<th>Long-term actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide adequate family income to meet basic needs</td>
<td>• Mitigate immediate impact of poverty</td>
<td>• Investment focus</td>
</tr>
<tr>
<td>• Better target income support and tax systems so working and beneficiary families can meet basic needs of their children</td>
<td>• Fiscally neutral or low cost</td>
<td></td>
</tr>
<tr>
<td>• Ensure systems work to achieve the best outcomes for the child</td>
<td>Welfare and Employment</td>
<td>Create a new income support payment – the Child Payment</td>
</tr>
<tr>
<td>• Encourage parents to work in a child appropriate way</td>
<td>• Better target income support to families with children by:</td>
<td>• Create new payment (The Child Payment) to support all children.</td>
</tr>
<tr>
<td></td>
<td>• shifting more support to families with younger children and larger families</td>
<td>• Target additional payments to families who need more. This could be funded by pooling a range of expenditure currently made for children</td>
</tr>
<tr>
<td></td>
<td>• encourage parents to work, with number of hours worked dependent on age of child</td>
<td>• Review all child-related benefit rates</td>
</tr>
<tr>
<td></td>
<td>• target limited resources to those most in need</td>
<td>Child support – guarantee payments</td>
</tr>
<tr>
<td></td>
<td>• ensure policies do not undermine family structures</td>
<td>• Crown guarantee of child support for young children in low income families through an advance payments model</td>
</tr>
<tr>
<td></td>
<td>• review tax credits</td>
<td>Help reduce debt through social lending</td>
</tr>
<tr>
<td></td>
<td>Provide high quality and co-ordinated early childhood education (ECE) and out-of-school care services to support parents to get into work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>implement child support reforms</td>
<td></td>
</tr>
</tbody>
</table>

#### Implementing and Monitoring progress

Currently there is no way of knowing how well we are doing in improving poverty.

• Introduce a series of measures specific to monitoring progress towards them.

- Encourage the Government to introduce a Children’s Act that will include poverty reduction as an objective. This Act could require a child poverty strategy.
- The initial actions for the strategy should be based on the above short and long term solutions.
- The Children’s Act should require measures and monitoring with specific targets for reducing poverty, along with appropriate accountability instruments. It should also require an annual report on what has been achieved and what the next steps are.
- That NZ should aim to have child poverty rates fall so we move into the top group of the OECD (10+ years).
- Monitor take-up rates of key programmes. The families that most need help are often the ones who do not receive it. This could include regular calculation and publication of information of the take-up of all relevant benefits and in-work payments for families with children. (including key services and the banking sector, interest rates. Like the

#### INCOME AND EMPLOYMENT

- Increase support to students to get the skills needed and pathways into work, such as incentives for employers and supporting transitions from school to training.
- Child support – pass on to parents.
  - ‘Pass on’ child support paid to the custodial parent. Will encourage non-custodial parents to be named and be responsible for paying support to their children.
Systems Thinking on Child Poverty

- Housing
- Health and Education
- Maori Children
- Pasifika Children
- Community and Place-Based Partnerships
- Income and Employment
- Implementing and Monitoring
New Zealand Advantages

• Size – You can be together
• Cultural Strengths
  – Population-Mindedness
  – Legacy of Cross-Sectoral Planning and Action
  – Maori World Views – Systems Thinking
• Single-Payer Health Care Funding
• Capacity to Reinvest What You Save
The Triple Aim Within Reach for New Zealand!

Population Health

Experience of Care

Per Capita Cost
Some Principles

- Put Patients First
- Protect the Disadvantaged
- Start at Scale
- Return the Money
- Act Locally