Principles of Value-Based Health Care Delivery

The fundamental issue in health care is value for patients, not access, volume, convenience, or cost containment.

\[
\text{Value} = \frac{\text{Health outcomes}}{\text{Costs of delivering the outcomes}}
\]

- Outcomes are the full set of patient health outcomes over the care cycle.
- Costs are the total costs of care for the patient’s condition, not just the cost of a single provider or a single service.

How to design a health care system that dramatically improves patient value.
**Principles of Value-Based Health Care Delivery**

**Quality improvement** is the key driver of cost containment and value improvement, where quality is **health outcomes**

<table>
<thead>
<tr>
<th>Better health benefits</th>
<th>Poor health costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Better health</td>
<td>Fewer complications</td>
</tr>
<tr>
<td>• Better health</td>
<td>Fewer mistakes and repeats in treatment</td>
</tr>
<tr>
<td>• Better health</td>
<td>Faster recovery</td>
</tr>
<tr>
<td>• Better health</td>
<td>More complete recovery</td>
</tr>
<tr>
<td>• Better health</td>
<td>Less disability</td>
</tr>
<tr>
<td>• Better health</td>
<td>Fewer relapses or acute episodes</td>
</tr>
<tr>
<td>• Better health</td>
<td>Slower disease progression</td>
</tr>
<tr>
<td>• Better health</td>
<td>Less need for long term care</td>
</tr>
<tr>
<td>• Better health</td>
<td>Less care induced illness</td>
</tr>
</tbody>
</table>

- Prevention
- Early detection
- Right diagnosis
- Right treatment to the right patient
- Early and timely treatment
- Treatment earlier in the causal chain of disease
- Rapid cycle time of diagnosis and treatment
- Less invasive treatment methods

**Better health** is the goal, not more treatment

**Better health** is inherently less expensive than poor health
Value-Based Health Care Delivery

The Strategic Agenda

1. Organize into Integrated Practice Units (IPUs)
   - Including primary and preventive care for distinct patient populations
2. Measure Outcomes and Cost for Every Patient
3. Develop New Bundled Reimbursement Models for Care Cycles
4. Integrate Provider Systems
5. Grow by Expanding Excellent IPUs Across Geography
6. Create an Enabling Information Technology Platform
1. Moving to Care Delivery Integrated Around the Patient
Migraine Care in Germany

Existing Model:
Organize by Specialty and
Discrete Services

1. Moving to Care Delivery Integrated Around the Patient Migraine Care in Germany

**Existing Model:**
Organize by Specialty and Discrete Services

**New Model:**
Organize into Integrated Practice Units (IPUs)

## Fragmentation of Hospital Services
### Sweden

<table>
<thead>
<tr>
<th>DRG</th>
<th>Number of admitting providers</th>
<th>Average percent of total national admissions</th>
<th>Average admissions/provider/year</th>
<th>Average admissions/provider/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knee Procedure</td>
<td>68</td>
<td>1.5%</td>
<td>55</td>
<td>1</td>
</tr>
<tr>
<td>Diabetes age &gt; 35</td>
<td>80</td>
<td>1.3%</td>
<td>96</td>
<td>2</td>
</tr>
<tr>
<td>Kidney failure</td>
<td>80</td>
<td>1.3%</td>
<td>97</td>
<td>2</td>
</tr>
<tr>
<td>Multiple sclerosis and cerebellar ataxia</td>
<td>78</td>
<td>1.3%</td>
<td>28</td>
<td>1</td>
</tr>
<tr>
<td>Inflammatory bowel disease</td>
<td>73</td>
<td>1.4%</td>
<td>66</td>
<td>1</td>
</tr>
<tr>
<td>Implantation of cardiac pacemaker</td>
<td>51</td>
<td>2.0%</td>
<td>124</td>
<td>2</td>
</tr>
<tr>
<td>Splenectomy age &gt; 17</td>
<td>37</td>
<td>2.6%</td>
<td>3</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Cleft lip &amp; palate repair</td>
<td>7</td>
<td>14.2%</td>
<td>83</td>
<td>2</td>
</tr>
<tr>
<td>Heart transplant</td>
<td>6</td>
<td>16.6%</td>
<td>12</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

2. Measuring Outcomes and Cost for Every Patient

Patient Initial Conditions → Processes → Indicators → (Health) Outcomes

- Patient Compliance
- Protocols/Guidelines
- E.g., Hemoglobin A1c levels for diabetics
The Outcome Measures Hierarchy

Tier 1
Health Status Achieved
- Survival
- Degree of health/recovery

Tier 2
Process of Recovery
- Time to recovery or return to normal activities
- Disutility of care or treatment process (e.g., discomfort, complications, adverse effects, errors, and their consequences)

Tier 3
Sustainability of Health
- Sustainability of health or recovery and nature of recurrences
- Long-term consequences of therapy (e.g., care-induced illnesses)
Cost Measurement

Aspiration

• Cost should be measured for each patient, aggregated across the full cycle of care
• Cost should be measured for each medical condition (which includes common co-occurring conditions), not for all services
• The cost of each activity or input attributed to a patient should reflect that patient’s use of resources (e.g. time, facilities, service), not average allocations
• The only way to properly measure cost per patient is to track the time devoted to each patient by providers, facilities, support services, and other shared costs

Reality

• Most providers track charges not costs
• Most providers track cost by billing category, not for medical conditions
• Most providers cannot accumulate total costs for particular patients
• Most providers use arbitrary or average allocations, not patient specific allocations
3. Developing New Reimbursement Models

Fee for service

Bundled reimbursement for medical conditions

Global capitation

Global budgeting
4. Integrating Provider Systems

Confederation of Standalone Units/Facilities

Integrated Care Delivery Network

Fragmented and duplicative services

The provider network is more than the sum of its parts
Levels of System Integration

1. **Rationalize service lines/ IPUs** across facilities to improve volume, avoid duplication, play to strength, and concentrate excellence

2. Offer specific services at the **appropriate facility**
   - E.g. acuity level, cost level, need for convenience
   - Patient referrals across units

3. Clinically integrate care **across facilities**, within an IPU structure
   - Protocols and access to experts by network providers
   - Expanding the care cycle and integrating care
   - Link **preventative/primary care** units to specialty IPUs
   - Connect **ancillary service** units to IPUs
     - E.g. home care, rehabilitation, behavioral health, social work, addiction treatment (organize within service units to align with IPUs)
5. Growing Excellent Services Across Geography

- Diagnostic Centers
- Second Opinions
- Affiliation Agreements
- Disperse convenience sensitive services
- Complex IPU components (e.g. surgery)
- Specialty Hospitals
6. Creating an Enabling Information Technology Platform

Utilize information technology to enable *restructuring of care delivery* and *measuring results*, rather than treating it as a solution itself

- Common **data definitions**
- Combine **all types of data** (e.g. notes, images) for each patient over time
- Data encompasses the **full care cycle**, including referring entities
- “Structured” data vs. free text
- **Templates** for medical conditions to enhance the user interface
- Accessible by, and allowing communication among, **all involved parties**, including patients
- Architecture that allows **easy extraction of outcome and process measures**
- Interoperability standards enabling communication among **different provider systems**