Provider payment currencies: the US, UK, German & Australian paths to higher quality and efficiency via “P4Systemness”

Paul Gross PhD
Director, Institute of Health Economics and Technology Assessment, Australia and Greater China
Overview

- Paths to quality improvement in hospitals in four nations
- “Systemness”, transparency and the chronic disease burden as P4P targets: provider payment currency reforms in four nations and some costs of non-systemness in Australia
- Two principles shaping a DVA “P4Systemness” provider payment currency
1. Paths to quality improvement in hospitals in four nations
<table>
<thead>
<tr>
<th>Core belief 1990s</th>
<th>Contrary proposition</th>
<th>Performance improvement initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUT separation of ambulatory and hospital care, and between medical, nursing and social care</td>
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</tbody>
</table>

**Paths to quality improvement: Germany**

- **Contrary proposition**
  - 2003: Commonwealth Fund: QOC low for chronically ill
  - 2004: limits of ‘eminence-based medicine’ and non-transparency

- **Performance improvement initiatives**
  - Doctors: 1990s: attempt by regional funds to introduce DMP based on old GDR and US experience
  - 2002-2008: DMP: Measures for 5 CIs; CPGs for quality
  - 2006: proposals by third largest SHI fund (TK) to obtain data on hospital quality submitted to BQS, but augment with TK data on readmission rates, sick leave following hospital stay, and drug consumption post discharge-> risk-adjusted ratings on internet to guide patients=transparency
  - Care coordination: 2004: Integrated SHI contracts funded by 1% of SHEs
  - 2009: new models of population-based integrated care, having regard to comorbidity
## Paths to quality improvement: UK

<table>
<thead>
<tr>
<th>Core belief 1990s¹</th>
<th>Contrary propositions</th>
<th>Performance improvement initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctors</td>
<td>Hospitals</td>
<td>Care coordination</td>
</tr>
</tbody>
</table>

¹Note: The core belief from the 1990s highlights the perception of the NHS being cheap, Spartan, with poor patient experience and long wait times, except for cancers and stroke, where good clinical outcomes were observed.
<table>
<thead>
<tr>
<th>Core belief 1990s</th>
<th>Contrary propositions</th>
<th>Performance improvement initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health system is most costly in the world, unsustainable at annual growth rates, many patches of clinical brilliance,</td>
<td>1999: IOM report “To err is human”</td>
<td>Doctors</td>
</tr>
<tr>
<td></td>
<td>2001: IOM report quality chasm can be fixed</td>
<td>Hospitals</td>
</tr>
<tr>
<td></td>
<td>2003: McGlynn NEJM gaps in care = 56%</td>
<td>Care coordination</td>
</tr>
<tr>
<td></td>
<td>2002-07: Cwealth Fund reports: US low ranking in 6 nations</td>
<td></td>
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<tr>
<td>2000: AMA Physician Consortium for Performance Improvement</td>
<td>2002: P4P with multiple criteria, multiple dashboards</td>
<td></td>
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<tr>
<td>2004: AQA (AAFP, ACP, AHIP, AHRQ)</td>
<td>2003: CMS Hospital Quality Incentive Program: 10 core quality measures</td>
<td></td>
</tr>
<tr>
<td>2006: CMS Physician Voluntary Reporting Program: 36-&gt; 16 measures</td>
<td>2003: Premier HQID: 34 quality measures for 5 clinical conditions</td>
<td></td>
</tr>
<tr>
<td>2007: No P4 “never events”</td>
<td>2008: No P4 “never events”</td>
<td></td>
</tr>
<tr>
<td>Minimal outside HMOs, so….</td>
<td></td>
<td></td>
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</tbody>
</table>
**Paths to quality improvement: Australia**

<table>
<thead>
<tr>
<th>Core belief 1990s</th>
<th>Contrary propositions</th>
<th>Performance improvement initiatives</th>
</tr>
</thead>
</table>
| **Best care in the world** | 1995: 16% hospital errors  
2002-2006: Fall in Commonwealth fund rankings for care coordination  
2007: low hospital efficiency ranking by OECD | **Doctors**  
1998: Practice Incentives Program for public health targets, fee-for-service (FFS)  
1999: Enhanced Primary Care program promoting coordn with AHPs, FFS  
2005: New GP fee-for-service payments for Chronic Disease Management (CDM) plans and multidisciplinary team care, no adjustment for multiple risk factors, severity or multiple comorbidity  
2006: New payments for mental health care | **Hospitals**  
2008: Public hospital waiting list measures and new funding | **Care coordination**  
2008: Private hospitals contracting with DVA offered voluntary P4P  
2007: New private health insurance benefits for care outside the hospital |
2. “Systemness”, transparency and the chronic disease burden as P4P targets: provider payment currency reforms in four nations
What “systemness” causes these differences in US efficiency? E Fisher

Variations in spending per Medicare beneficiary with severe chronic disease, last 2 years of life 2000-2003

Physician supply/100K

- High: US$ 72K, 50 MD FTEs
- Low: US$ 36K, 24 MD FTEs
- Kaiser Permanente: 36% lower than US supply
- Health Partners: 25% lower
“Systemness”, transparency and quality: Kaiser Permanente route

ORGANISATIONAL ATTRIBUTES
(Groupness, affiliation, scale))

Governance
Physician leadership
Organisational culture
Clear, shared aims
Accountability
Transparency
Patient-centredness
Teams

QUALITY MEASURES
HEDIS
Use of E-B medicine
Presence of care management protocols
Presence of health information technology
Other

QUALITY

Source: Kaiser Permanente Institute for Health Policy *In focus* November 2007
P4P and its outcomes: the missing policy intervention

- **Provider Incentive**: Performance measurement and P4P
- **Missing Link**: Redesign of the care system
- **Outcomes**: “Systemness”, Cost-efficiency, Health outcomes, Transparency
# Germany: Systemness via care transformation & currency

<table>
<thead>
<tr>
<th>Goal</th>
<th>Care transformation</th>
<th>Incentives to patients</th>
<th>Incentives to providers</th>
<th>Incentives to health insurers</th>
<th>IT support</th>
<th>Quality measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. More appropriate care</td>
<td>1. Polyclinics integrating pharmacies/ OT/PT</td>
<td>Reduced cost-sharing</td>
<td>Payment for extra admin costs of CMP</td>
<td>1. Payment for DMP enrolled</td>
<td>Minimal data analysis</td>
<td>Federal government plus clinical specialists</td>
</tr>
<tr>
<td>2. Reduced hospitalisation</td>
<td>2. DM (integrated care) pilot contracts to 2008, 6 chronic conditions, <em>(Management Gesellschaften)</em></td>
<td>Reduced quarterly contribution</td>
<td>Increased patient education</td>
<td>All enrollees valuable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Control drug use</td>
<td>3. Contracts for acute and LT care with insurers</td>
<td></td>
<td></td>
<td>2. 1% of hospital and doctor payments (E280 million)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Budget transformation</td>
<td>Care management within integrated care -&gt; competition between providers</td>
<td>Risk adjusted payments to SHI adjusted for comorbidity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Integrated health and social care plans</td>
<td></td>
<td></td>
<td>CPGs</td>
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</tr>
</tbody>
</table>

1. More appropriate care
2. Reduced hospitalisation
3. Control drug use

4. Budget transformation

**Payment for extra admin costs of CMP**

1. Payment for DMP enrolled
2. 1% of hospital and doctor payments (E280 million)
## UKNHS: Systemness via care transformation & budgeting

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<thead>
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<th>Care transformation</th>
<th>Incentives to patients</th>
<th>Incentives to providers</th>
<th>IT support</th>
<th>Quality measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reduce hospital admissions of target group (200K) by 5% by 2008</td>
<td>1. PCTs linked to community matrons (case managers)</td>
<td>Expert Patient Programme = self care education, counselling &amp; compliance with drug therapy + support for informal carers</td>
<td>PCT indicative commissioning budgets&lt;br&gt;Reduce unnecessary referrals 25-33%</td>
<td>Heavy investment</td>
<td>QOF based on 2004 standards</td>
</tr>
<tr>
<td></td>
<td>2. Disease management of single and multiple conditions requiring multiple specialist visits</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Better IT to improve quality of care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Budget transformation</td>
<td>Shift 5% of NHS budget for same day care to PHC in next 10 years</td>
<td>Retain 20% of savings from reduced admissions&lt;br&gt;Create new community services for diabetes, orthopedics, chronic disease management</td>
<td></td>
<td>PCT and regional dashboards</td>
<td>E-B standards in 2006</td>
</tr>
</tbody>
</table>
### USA: Systemness via P4P incentives & fewer quality measures

<table>
<thead>
<tr>
<th>Goals</th>
<th>Primary care role</th>
<th>Disease management</th>
<th>Incentives for providers</th>
<th>IT support</th>
<th>Quality measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CMS PGP Demo: shared savings</td>
<td>Central</td>
<td></td>
<td>P4P</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>2. CMS MMP pilot in small-medium groups IT use --&gt; QOC</td>
<td>Central</td>
<td></td>
<td>P4P</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>3. CMS Physician Hosp. Collaboration --› LT followup care --&gt; QOC and preventable hospitalisations</td>
<td>Central</td>
<td></td>
<td>P4P</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>4. CMS Premier Hospital Quality Incentive (PHQI) demo: EB quality measures</td>
<td></td>
<td>5 CIs</td>
<td>P4P</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>5. CMS Medicare Home Health P4P demo: incentives to HHAs for improved QOC that reduces additional services</td>
<td></td>
<td></td>
<td>P4P</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>6. Tax Relief and Health Care Act (TRHCA) signed in December 2006, creating the Physician Quality Reporting Initiative</td>
<td>All physicians</td>
<td></td>
<td>Bonus payments up to 1.5% of Medicare allowed charges for reporting 1-3 measures July-Dec 07</td>
<td></td>
<td>74 measures, many specialties</td>
</tr>
<tr>
<td>7. Next stage??</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P4P quality reporting via specialty medical registries, P4 Structural &amp; Outcomes measures</td>
</tr>
<tr>
<td>NATION</td>
<td>Intermediate focus 2008</td>
<td>2012</td>
<td></td>
<td></td>
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<td>-----------</td>
<td>---------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>Readmissions, return to work and drug costs</td>
<td>Population-based integrated health and social care, funding tied to comorbidity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>Reduced admissions, unnecessary referrals &amp; reduced same-day Px -&gt; savings into new community care</td>
<td>Population-based integrated health and social care, funding tied to E-B guidelines</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USA</td>
<td>Bonus payments for reporting a few quality measures, risk-adjusted prices</td>
<td>Medicare Severity adjusted DRGs, shared savings, funding tied to quality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>Preventable admits, adverse events and the risk-adjusted costs of chronically ill veterans</td>
<td>DVA integrated care, funding tied to safety, comorbidity, quality</td>
<td></td>
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</table>
Reforming chronic care management: US Medicare

1. Crash research program on how to manage chronic illness

2. Partnership with providers to coordinate care of chronically ill, with shared savings

3. Prospective payment for seriously-ill Medicare patients based on validated clinical pathways and risk adjusted prices

4. Penalty (0.5%) on non-participating providers, with larger penalties for high cost, high use providers

OUTCOME IN 10 YEARS, USA
Medicare pays only providers offering evidence-based care

Wennberg, 2008
Next stage: P4 measured quality, systemness and culture change

2008

P4 something approximating quality, cost-efficiency and care integration

2012

P4 Opaque superior quality (Maine)
P4 Accountable care (E Fisher)
P4 Physician Quality Agenda (IHI)
P4 Reduction of access disparities
P4 Population-based health
P4 Culture change
## Transparency in Australia: six gaps

<table>
<thead>
<tr>
<th>POLICY GAP</th>
<th>Missing elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. DMP gaps in health literacy, frailty &amp; social isolation</td>
<td>Outreach care, health IT</td>
</tr>
<tr>
<td>2. Inefficiency gaps (adverse events, prev admits)</td>
<td>P4P in fed/state hospital agreements, DVA contracts</td>
</tr>
<tr>
<td>3. Value-based technology acquisition</td>
<td>Systematic HCTA of drugs, devices, procedures</td>
</tr>
<tr>
<td>4. Encouragement of healthier lifestyles</td>
<td>Incentives/info for self-care in Medicare, health insurance</td>
</tr>
<tr>
<td>5. New risk factors (obesity++)</td>
<td>National health promotion strategy similar to Germany</td>
</tr>
<tr>
<td>6. Population health management tools</td>
<td>Linked data sets for clinicians</td>
</tr>
</tbody>
</table>
### Five “systemness” gaps, Australia

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>INEFFICIENCY LOSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Preventable admissions: vaccine, chronic, acute</td>
<td>9.4% of admissions (chronic = two-thirds)</td>
</tr>
<tr>
<td>2. Adverse events in hospitals</td>
<td>10% of admissions</td>
</tr>
<tr>
<td>3. Elderly in acute beds</td>
<td>45% aged over 55 years</td>
</tr>
<tr>
<td></td>
<td>55% access block, 98% occupancy common</td>
</tr>
<tr>
<td>4. Over 80s acute beddays</td>
<td>8 times rate of non-elderly</td>
</tr>
<tr>
<td></td>
<td>(5.5 v 0.7 pa)</td>
</tr>
<tr>
<td>5. Potential efficiency gains in acute hospitals¹</td>
<td>40%</td>
</tr>
</tbody>
</table>

¹Note: Data source: Australian Institute of Health and Welfare.
"If something is unavoidable, let's at least pretend we organised it"

Alain Coulomb, paraphrasing Jean Cocteau
## Buying quality: provider payment currencies

### Change the price, volume, site & quality of care, using economic incentives

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>ANY QUALITY leads to REVENUE</td>
<td>PERFORMANCE leads to REVENUE</td>
<td>PERFORMANCE leads to MORE VOLUME leads to REVENUE</td>
<td>PERFORMANCE AND COST-EFFIC leads to BETTER HEALTH OUTCOMES and MORE REVENUE</td>
</tr>
</tbody>
</table>

- Per diems, FFS
- Casemix
- Pooled casemix and per diems
- Risk-severity adjusted methods
- Rx, device pricing
- Marginal cost
- Yield management

- Pay--for-performance models (P4P)
- Doctor bonuses
- Conditional reimbursement tied to patient ability to use devices

- Payments that create higher volume units that achieve better health outcomes

- Payment redesign for chronic conditions with wide variation in ALOS, admit rates
- Payments for CPG’s, case management that move site of care
Leapfrog quality has three components

1. IT investment minimal in Australia
2. Crude measures of QOC are accessible in existing datasets
3. Only DVA has linked data on use of hospital, medical, drug and community care, plus Adverse Events.
4. Relevant price and quality data not available to patients/households.

AND in Australia, this transparency will need IT investments of A$ 5-10 billion
Quality via standardised measures: DVA decision

**Quality**

- Transparency
- Standardised measures and practices
- Reimbursement incentives and rewards

Start with adverse events

- Measure association of CI comorbidity with AEs
- Measure preventable hospital admissions
- Assess relationship of 30 chronic conditions, comorbidity, AEs, preventable admissions, costs
- Review data with expert clinical advisory committees
- Identify type and size of incentive needed to achieve cost-efficient and high-quality outcomes

**Assumptions**

- DVA admin data can only measure crude indicators of quality
- Better measures are needed to reduce waste and improve the health of veterans
- Costs of “non-systemness” in chronic disease management are discoverable
Quality via incentives: DVA decision 2006

Change the price, volume, site and QOC to achieve ‘systemness”

1. Use ANDRGs to assess AEs, preventable admit, comorbidity, costs of CI vets

2. Add voluntary P4P for private hospitals, focus on treatment of chronic disease

3. Assess ability of providers to integrate care of chronically ill

4. Achieve “systemness” with appropriate performance & IT measures

Traditional provider payment currencies

P4P currencies

Volume-based currencies impractical

Service substitution currencies
The Australian DVA road to P4P: slow and purposeful beats speed every time

Stage 1 (2005-2007)
Adverse events in hospitals cost X

Stage 2 (2007-2008)
Prevalence of chronic conditions in DVA beneficiaries

Stage 3 (2008-2010)

Are these adverse events associated with rising chronic disease burden?

Adverse events, preventable hospitalisations and comorbidity index are inter-related

What are the priorities in a P4P system?
1. Patient safety
2. Chronic condition management
3. Patient satisfaction
4. Efficiency of care

How and why does a P4P system change the healthcare culture?
**FOCUS**

1. Private hospitals
2. Public hospitals
3. General practice (primary care)
4. Specialists
5. Community and chronic care

**DECISIONS**

Small number of performance measures

- report confidentially in contract negotiations
- pay
- public reporting of high quality units

Defer until private hospitals engaged, & new public hospital agreement signed

Rely on current practice incentives and expanded payments for care plans of chronically ill veterans

Defer until measure impact of hospital P4P, and treatment patterns of chronically-ill veterans

Defer until assess prevalence, costs and claims-based clinical treatment patterns of chronically ill veterans, including use of modern medicines
Some system links now more obvious

**Adverse events** 2005/06 (ADE, misadv, complics)
N=468 hosp, 583 DRGs

- Average AE rate: 6.4%
- Two highest MDCs (MH, circ)
- AE rate rises with # admits

**Preventable hospital admissions** 2002/3-2006/7
N= 430,700 patient records

- Aver preventable admits: 9.4%
- Chronic preventable admits 2/3

**Admissions in 2002/3 thru 2006/7**
27 DGR codes for chronic illnesses
N= 430,700 patient records

**TOTAL COST OF CHRONIC CONDITIONS**

**Case fatality rates selected conditions**

**Charlson Comorbidity Index²**
High cost chronic cases: predictive modeling
US Medicaid: Billings et al 2007

Message: Discharge planning + social service interventions + coordinated care may reduce readmissions
Chronic conditions as total cost determinants 2006/07

TOTAL COSTS = 2,603 + 14,930*Chronic Dx code + 8,329*VacPA + 3,931*ChrPA + 4,359*AcutePA + 14,976*ADE + 17,129*Misadvent + 22,843*Compl

$R^2 = 0.477$, all coefficients $<0.0001$
3. Two resulting principles shaping a voluntary P4P provider payment currency, Australia
## Two principles shaping an Australian P4P

<table>
<thead>
<tr>
<th>Issue</th>
<th>Current philosophy</th>
</tr>
</thead>
</table>
| **Choice of “performance” measure** | 1. No single index of performance measures will achieve system-wide change. Quality should be measured explicitly.  
2. A balanced scorecard of a few performance measures, unbiased by political imperatives and chosen in collaboration with clinical experts, is optimal.  
4. Initial reliance on claims-based hospital data but augment with patient satisfaction data.  
5. Insistence on evidence-based chronic care processes should facilitate rather than coerce quality improvement. |
| **Adjustment of performance outcomes to reflect patient severity** | **Stage 1**: measure the prevalence of severity and comorbidity in major chronic conditions, then feasibility of episode-based payments that might improve coordination  
**Stage 2**: review feasibility of risk-adjusted episode-based case rates, review of Prometheus-like ECRs (but without withholds and contingency funds), seek clinician inputs, then P4Systemness |
The Noah Principle applied to value-based purchasing

“No more prizes for predicting rain; only for building arks”.

Louis V. Gerstner, Jr., 1988