Case Management 2.0
New Opportunities to Enable “Volume to Value”

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Director of Health Services Research, Cedars-Sinai Health System
Clinical Professor of Medicine, David Geffen School of Medicine at UCLA
Agenda

• Hospital Case Management 1.0

• Health system Case Management 2.0
  – In 2012, what keeps your CEO up at night?
  – New roles for Case Management leadership?
Hospital Case Management 1.0

• Volume
  – Hospital Case Management late 1980s
    – Discharge planning
    – Avoiding delays in care
    – Coordination of care
    – Many other activities
In the Late 1980s, What Kept Hospital CEOs Up At Night?

• Engaging physicians
• Adapting to DRGs
• Hospital costs

• Potential solutions
  – Practice guidelines and clinical pathways
How Can Case Management Leadership Help?

Could case managers implement practice guidelines and clinical pathways to improve care and safely reduce costs?
Approach

- 1992
- Team formed to address post-operative management of Tetralogy of Fallot and ASD
- Draft of clinical pathway included chest physiotherapy
- Basis - expert opinion and usual practice
YOUR JUDGEMENT IS A LITTLE OFF AT THIS TIME
Approach

• Literature reviewed
• Prospective, randomized study (Grade A)
• 44 pediatric cardiac surgery patients
• Chest physiotherapy associated with more frequent (68% vs. 32%, p<0.01) and more severe (3.2 vs. 2.8, p<0.01) atelectasis

Evidence-based Information
Approach

- Nurse commented that chest physiotherapy causes pain in post-operative children
- Worsened quality, increased cost
- Chest physiotherapy omitted as standard therapy from clinical pathway based on Grade A evidence
Evidence-based Information to Improve Quality and Reduce Cost

"It's time we face reality, my friend. ... We're not exactly rocket scientists."
Clinically Meaningful

“The ringing in your ears—I think I can help.”
Case Management 1.5
Cedars-Sinai 1988

- CCU transfer guideline
- Improvements
  - Direct costs reduced $895 per patient
  - Morbidity, mortality, quality of care showed excellent quality care
- When case managers no longer reminded physicians, all changes disappeared

Length of stay

Case Management 1.5
1990s

Case management delivering evidence-based information

• Venue
  – Inpatient
  – Outpatient

• Conditions
  – Medical
  – Surgical

• Clinicians
  – Physicians
    – Community-based
    – Housestaff
  – Nurses

References
Ann Intern Med 1990;113:283-9
Am J Cardiol 1993;71:259-62
Ann Intern Med 1994;120:257-63
Med Care 1994;32:1232-43
Chest 1996;110:430-2

JAMA 1997:278:1687-92
JAMA 1997:278:2151-6
Chest 1998;113:28-33
New Medicine 1998;2:29-35
Arch Intern Med 2003;163:326-32
“Whenever Mother’s Day Rolls Around,
I Regret Having Eaten My Young”
Today, What Keeps Your Health System CEO Up at Night?

- “Volume to value”
- Health care costs, Medicare break-even
- Value-based purchasing
- “Meaningful use”
- Reducing readmissions
- Quality/safety
- Accountable care/Bundled payment

• How can case management leadership help?
Quality/Patient Safety
Healthcare Costs

**Health Expenditure per capita, public and private, 2007-2009***

- Annual rate of growth in healthcare costs is far outpacing inflation¹
  - Historical (2008-2010): 2.3x inflation
  - 17% GDP
  - $2.3 trillion
  - >$8,000 per person

- Long-term cost increases are unsustainable
  - Without change, eventually, entire GDP?

*OECD Health Data 2011
1. Centers for Medicare and Medicaid Services, [https://www.cms.gov/NationalHealthExpendData/02_NationalHealthAccountsHistorical.asp](https://www.cms.gov/NationalHealthExpendData/02_NationalHealthAccountsHistorical.asp)
Healthcare Costs

- US unfunded obligations $62 trillion – $528,000 per household
- World GDP $60 trillion
- Numbers unrelated to PPACA
- CIA concern
- What happened to Greece?
Value-Based Purchasing Programs*
Reward Better Care for Five Conditions

* Under the Patient Protection and Affordable Care Act of 2010 (ACA), VBP excludes Maryland hospitals, hospitals located outside the 50 states and the District of Columbia, psychiatric, rehabilitation, long-term care, children’s, cancer and critical access hospitals.
Value-based Purchasing

• United Healthcare
  – 2012 1% to 2% of patients covered
  – 2015 50% to 70% of patients covered
Volume to Value
“Meaningful Use” Requires Clinical Decision Support

• **Influence on clinical decisions**
  
  – Quality outcomes impacted by clinical decisions
  
  – 80% - 90% health care costs influenced by clinical decisions
  
  – Reimbursement based on value-based purchasing

• **New roles for case manager leadership helping shape clinical decisions**
Why CDS?

75% of decision support interventions succeed when the information is provided to clinicians automatically, whereas none succeed when clinicians are required to seek out the advice

<table>
<thead>
<tr>
<th>Predictors of Success</th>
<th>Adjusted OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic provision of decision support as part of workflow</td>
<td>112</td>
</tr>
<tr>
<td>Provision of decision support at the time and location of decision making</td>
<td>15</td>
</tr>
<tr>
<td>Provision of recommendation rather than just an assessment</td>
<td>7</td>
</tr>
<tr>
<td>Computer-based generation of decision support</td>
<td>6</td>
</tr>
</tbody>
</table>

Obtrusive Interventions Are More Effective
Clinical decision support integrated into the work flow

"Nurse, get on the internet, go to SURGERY.COM, scroll down and click on the 'Are you totally lost?' icon."
Evidence-based Clinical Decision Support

<table>
<thead>
<tr>
<th>Medical Research Funding</th>
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</thead>
<tbody>
<tr>
<td>• NIH Research $32 billion</td>
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<tr>
<td>• Comparative Effectiveness Research $1.1 billion</td>
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<tr>
<td>• US Medical Research $95 billion/year</td>
</tr>
<tr>
<td>• Global medical research &gt;$140 billion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 20,000 biomedical journals</td>
</tr>
<tr>
<td>• 6,000 articles a day</td>
</tr>
<tr>
<td>• Article every 26 seconds</td>
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<tr>
<td>• Practice guidelines</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Point of Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain 200 MB</td>
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<tr>
<td>CDS</td>
</tr>
</tbody>
</table>

Not All Evidence Is Created Equal

Recent Medical Studies
A study has found that regular, moderate consumption of alcohol cuts the risk of heart attack by a third. Among other recent findings:

- Half a bag of Fritos every day for a year significantly reduces the risk of pregnancy.
- Consumption of at least 14 ounces of hard liquor greatly increases chances of tolerating coworker’s birthday party.
- Smashing fist through mirror not effective in getting girlfriend back.
Evidence-based Clinical Decision Support

Source: Clockwise.
(2) Zynx Performance Measure tracking.
(3) Advisory Board Company, Hospital Advisory Board, 2010.
Evidence-based Medicine

• Finish medical school and residency knowing everything
• Read and retain 2 articles every single night
• At the end of 1 year
• 1,225 years behind

W Stead. JAMIA 2005;12:113-20
Comparative Effectiveness Research
“Meaningful Use”

- The CBO estimates that HCIT spending could be about $36 billion
- 89% of providers will participate
- “Meaningful use”

New Final Rule From CMS

• Final Rule Published May 16, 2012
• Medicare and Medicaid Conditions of Participation
• Effective July 16, 2012
• Response to
  – Presidential Order 13563
  – “Improving Regulation and Regulatory Review”
Medicare and Medicaid Conditions of Participation

• “…allow a hospital to use pre-printed and electronic standing orders, order sets, and protocols for patient orders only if the hospital: (1) Established that such orders and protocols had been reviewed and approved by the medical staff in consultation with the hospital’s nursing and pharmacy leadership; (2) demonstrated that such orders and protocols are consistent with nationally recognized and evidence-based guidelines; (3) ensured that the periodic and regular review of such orders and protocols was conducted by the medical staff, in consultation with the hospital’s nursing and pharmacy leadership, to determine the continuing usefulness and safety of the orders and protocols.”
Medicare and Medicaid Conditions of Participation

• “…. Thus, expanding the use of standing orders would result in a reduction of 700,000 burden hours valued at $124 per hour for a savings of $86,800,000.”
EMR “Go Live”

• Endorphins

• Celebrations

• Funk

• Options
  – Vacation
  – New hobby
  – Or
    – Align EMR with health system strategic objectives
    – How could case management leadership participate?
Pre- “Go Live”

- Focus on Convenience
- Pressure to Go-live

Post – “Go Live”

- Improve Clinical Outcomes
- Reduce Cost, LOS, Readmissions
- Focus on Consistency
- Reduce Hospital-acquired Conditions
Optimization
Identify Processes that Improve Quality, Cost Outcomes

The best solution for dog anxiety, guaranteed!

Thundershirt’s gentle, constant pressure has a profound calming effect on most dogs when anxious, fearful, or over-stimulated. It is similar to swaddling an infant or to people with autism using pressure to relieve persistent anxiety.

- Use for fear of thunder, fireworks, separation anxiety, travel, general fearfulness, barking, jumping and more
- Over an 80% success rate; 100% money-back guarantee
- Already helping many tens of thousands of dogs around the world
- Available in 7 sizes: XXS to XXL (For 3 lb. up to 200 lb. dogs)
- Available in Heather Grey, Navy Blue and Pink styles

IHGLT01D  Heather Gray Thundershirt - Large  $39.95

Recommended by thousands of veterinarians and dog trainers.
Improvements in clinical and financial outcomes

- Mortality
- Cost
- Admissions & readmissions
- Hospital-acquired complications

Performance measures
Processes That Impact Mortality

“For crying out loud, I was hibernating! ... Don’t you guys ever take a pulse?”
## Heart Failure (e.g., Reducing Readmissions)

<table>
<thead>
<tr>
<th>Clinical Process</th>
<th>Mortality</th>
<th>Admissions / Readmissions</th>
<th>Length of Stay</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aldosterone antagonists</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beta-blockers</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Cardiac rehabilitation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diuretics</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Disease management</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Discharge planning + follow-up</td>
<td></td>
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</tr>
<tr>
<td>Follow-up appointment</td>
<td></td>
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<td></td>
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<tr>
<td>Omega-3 fatty acids</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>BNP</td>
<td></td>
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<tr>
<td>Cardiac Glycosides</td>
<td></td>
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<tr>
<td>Dyslipidemia Management</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Platelet Inhibitors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal Immunization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant Opportunities to Reduce Readmissions**
Interventions for Heart Failure

- Aldosterone antagonists
- Beta-blockers
- Diuretics
- Cardiac rehab
- Disease management
- Discharge planning + f/up
- Follow-up appointment
- BNP
- Omega-3 fatty acids
- Admissions/readmissions
- Cost
- LOS
- Mortality

Outcomes
Clinical Knowledge Management

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broken leg</td>
<td>Shoot</td>
</tr>
<tr>
<td>Infected eye</td>
<td>Shoot</td>
</tr>
<tr>
<td>Splayed hoof</td>
<td>Shoot</td>
</tr>
<tr>
<td>Runny nose</td>
<td>Shoot</td>
</tr>
<tr>
<td>Fever</td>
<td>Shoot</td>
</tr>
<tr>
<td>Open sores</td>
<td>Shoot</td>
</tr>
<tr>
<td>Closed sores</td>
<td>Shoot</td>
</tr>
<tr>
<td>Swollen belly</td>
<td>Shoot</td>
</tr>
<tr>
<td>Ornery</td>
<td>Shoot</td>
</tr>
<tr>
<td>Swayback</td>
<td>Shoot</td>
</tr>
<tr>
<td>Erratic heart</td>
<td>Shoot</td>
</tr>
<tr>
<td>Hearing loss</td>
<td>Shoot</td>
</tr>
<tr>
<td>Bad breath</td>
<td>Shoot</td>
</tr>
<tr>
<td>Mane mange</td>
<td>Shoot</td>
</tr>
<tr>
<td>Toothache</td>
<td>Shoot</td>
</tr>
<tr>
<td>Nervousness</td>
<td>Shoot</td>
</tr>
</tbody>
</table>

*Like most veterinary students, Doreen breezes through chapter 9.*
## Vendor Analysis

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Heart Failure</th>
<th>Pneumonia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Count</td>
</tr>
<tr>
<td>Overall</td>
<td>62%</td>
<td>101</td>
</tr>
<tr>
<td>Vendor A</td>
<td>66%</td>
<td>27</td>
</tr>
<tr>
<td>Vendor B</td>
<td>62%</td>
<td>16</td>
</tr>
<tr>
<td>Vendor C</td>
<td>80%</td>
<td>7</td>
</tr>
<tr>
<td>Vendor D</td>
<td>55%</td>
<td>27</td>
</tr>
<tr>
<td>Vendor E</td>
<td>57%</td>
<td>7</td>
</tr>
</tbody>
</table>

*Heart Failure scores include "Present Elsewhere" data where provided (approximately 8% of cases)
*Pneumonia scores include "Present Elsewhere" data where provided (approximately 6% of cases)
### Type of Hospital

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Heart Failure</th>
<th>Pneumonia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Count</td>
<td>Average Count</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td>62% 101</td>
<td>69% 89</td>
</tr>
<tr>
<td><strong>Teaching</strong></td>
<td>64% 49</td>
<td>69% 46</td>
</tr>
<tr>
<td><strong>Non-teaching</strong></td>
<td>60% 52</td>
<td>69% 43</td>
</tr>
</tbody>
</table>

*Heart Failure scores include "Present Elsewhere" data where provided (approximately 8% of cases)*

*Pneumonia scores include "Present Elsewhere" data where provided (approximately 6% of cases)
## Type of Hospital

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Heart Failure Average</th>
<th>Heart Failure Count</th>
<th>Pneumonia Average</th>
<th>Pneumonia Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>62%</td>
<td>101</td>
<td>69%</td>
<td>89</td>
</tr>
<tr>
<td>Multi- hospital</td>
<td>66%</td>
<td>67</td>
<td>68%</td>
<td>59</td>
</tr>
<tr>
<td>Single hospital</td>
<td>54%</td>
<td>34</td>
<td>70%</td>
<td>30</td>
</tr>
</tbody>
</table>

*Heart Failure scores include "Present Elsewhere" data where provided (approximately 8% of cases)

*Pneumonia scores include "Present Elsewhere" data where provided (approximately 6% of cases)*
Innovation – CDS Optimization
Care Continuum Consistency

Clinical Integration

Hospital EHR

Physician Office

Urgent Care

Long-Term Care Facilities
## Heart Failure

### Aldosterone Antagonists

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
<th>Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential number of patients with heart failure whose lives could be saved</td>
<td>5</td>
<td>✓</td>
</tr>
<tr>
<td>with aldosterone antagonist use (based on a study with a mean 24-month follow-up)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potential number of hospitalizations due to cardiac causes that could be avoided in patients with heart failure with aldosterone antagonist use (based on a study with a mean 24-month follow-up)</td>
<td>10</td>
<td>✓</td>
</tr>
<tr>
<td>Potential number of hospitalizations due to worsening heart failure that could be avoided in patients with heart failure with aldosterone antagonist use (based on a study with a mean 24-month follow-up)</td>
<td>10</td>
<td>✓</td>
</tr>
<tr>
<td>Potential reduction in bed days from decreased readmissions that could be realized due to worsening heart failure in patients with heart failure with aldosterone antagonist use (based on a study with a mean 24-month follow-up)</td>
<td>50</td>
<td>✓</td>
</tr>
<tr>
<td>Potential cost savings that could be realized from decreased readmissions due to worsening heart failure in patients with heart failure with aldosterone antagonist use (based on a study with a mean 24-month follow-up; $)</td>
<td>32,081</td>
<td>✓</td>
</tr>
</tbody>
</table>
Physician Adoption

The entire parliament fell dead silent.
For the first time since anyone could remember,
one of the members voted “aye.”
Preparing for Accountable Care/Bundled Payments

You and your patients can thrive in a managed care environment.

Reynolds and Reynolds Healthcare Systems will show you how.

Different from Managed Care?
Payment Reform is Inevitable

Bending the Healthcare Costs Curve

Estimated Cumulative Percentage Changes in National Healthcare Expenditures, 2010 through 2019, Given Implementation of Possible Approaches to Spending Reform

<table>
<thead>
<tr>
<th>Payment Reform Approach</th>
<th>Change in National Health Spending (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bundled payment</td>
<td>-5.4%</td>
</tr>
<tr>
<td>Hospital-rate regulation</td>
<td>-2.0%</td>
</tr>
<tr>
<td>HIT</td>
<td>-1.5%</td>
</tr>
<tr>
<td>Disease management</td>
<td>-1.3%</td>
</tr>
<tr>
<td>Medical homes</td>
<td>-1.2%</td>
</tr>
<tr>
<td>Retail clinics</td>
<td>-0.6%</td>
</tr>
<tr>
<td>NP–PA scope of practice</td>
<td>-0.5%</td>
</tr>
<tr>
<td>Benefit design</td>
<td>-0.3%</td>
</tr>
</tbody>
</table>

## Payment Reform

<table>
<thead>
<tr>
<th>Management Competency Assessment</th>
<th>In-patient Bundling</th>
<th>Episodic Bundling</th>
<th>Shared Savings/ACO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician Partnerships</td>
<td></td>
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<tr>
<td>Governance/Leadership</td>
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<tr>
<td>Capital Investments</td>
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<tr>
<td>Clinical Standardization</td>
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<tr>
<td>Administration/Operations</td>
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<tr>
<td>Post-Acute Care (PAC) Partnership</td>
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<tr>
<td>Legacy/ Regulatory Concerns</td>
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<tr>
<td>Staffing</td>
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</tbody>
</table>

### Key
- Not Applicable
- Minimal Challenge
- Moderate Challenge
- Significant Challenge
- Critical Challenge

*Source: The Advisory Board, 2011*
Built for Hospital Volume Alone
Care Continuum Consistency

Clinical Integration

Hospital EHR

Physician Office

Urgent Care

Long-Term Care Facilities
Conclusions

• Additional role for case management leadership, helping health systems transition from “volume to value”
  – Health care costs, Medicare break-even
  – Value-based purchasing
  – “Meaningful use”
  – Clinical decision support
  – Reducing readmissions
  – Quality/safety
  – Accountable care/Bundled payments
“If we pull this off, we’ll eat like kings.”
“Every morning a lion wakes up.

“Every morning in Africa, a gazelle wakes up.

It knows that it must outrun the slowest gazelle or it will starve to death.”

It knows that it must run faster than the fastest lion or it will be killed.”
Know where the trees are…
Then, pursue the objective