Disruptive Innovation:
A Novel Healthcare Delivery Model

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AMGA 2014 Institute for Quality Leadership
Disclosure

- Independent, multispecialty physician owned and led group
- Part of a successful ACO with over 500 independent physicians.
The mission

Changing the way care is provided to patients who are the sickest and require the costliest treatment...

offers the greatest opportunity for improving the population’s health and for reducing the cost of health care.

Top 5% account for 49 percent of overall U.S. healthcare spending

Q: What are the biggest sources of spending among high-cost beneficiaries?

A: “Acute care: emergency department visits and hospitalizations make up more than 55% of costs for this population.”

Post-Hospital Syndrome

An acquired transient period of vulnerability … that might derive as much from the physiological stress that patients experience in the hospital as they do from the lingering effects of the original acute illness.

Post-Hospital Syndrome

- Sleep deprivation/disturbance
- Nutritional deficits
- Deconditioning
- Cognitive overload
- Medications that alter cognition and physical function

Hospital Readmissions

Hospital 30 day Readmissions: 2007-2009

- **CHF:** 24.8%; median 12 days
- **MI:** 19.9%; median 10 days
- **Pneumonia:** 18.3%; median 12 days

- Jencks SF et al. Rehospitalizations among patients in the Medicare fee-for-service program. *NEJM* 2009;360:1418-1428

Readmission diagnosis usually different from index hospitalization

Not Just Readmits

Emergency Department visits account for 40% of post-discharge care visits within 30 days of discharge

All roads lead to the hospital

Hospital centric healthcare

◊ From 2004 to 2011 hospital ownership of physician practices increased from 24% to 49%.

◊ Because hospitals are often the center of the institution, medical care across the continuum is effectively coming under the direct or indirect control of institutions that provide inpatient care.

All roads lead to the hospital

Hospitalist movement
Hospitalist
Primary care providers

Options for acutely ill patients

The current “Fee-for-service” model
What is an “Extensivist Clinic”?

- A clinic for recently discharged hospital patients (post-discharge clinic)
- A disease specific clinic
- A clinic for those at risk of hospitalization
Extensivist Clinic: Does it work?

Extensivist clinic with decreased LOS, low readmission rates and below average inpatient utilization in high-acuity population


Readmits no better with post-discharge clinic

- PCP: 36%  LOS:6.2  appt: 13.7 days  readmit:9.4%
- UC:  53%  LOS:5  appt: 9.4 days  readmit:11.1%
- PDC: 10.6%  LOS:3.8  appt: 5 days  readmit:13%

The Innovation

- Management of patients traditionally directed to and treated in the hospital
- Providing a level of care comparable to a general medical floor EXCEPT: -No beds
  -No overnight stays
- Extended, yet condensed, daytime treatment interventions
- Consecutive treatment days until patient stabilizes
Case Study #1: Pneumonia

- 90 year old farmer with bilateral pneumonia, newly diagnosed atrial fibrillation, and mild delirium

- Pneumonia risk (CURB-65) score: 3
  - 2 or higher recommended for in-patient admit
  - Inpatient, possible intensive care unit

- Pneumonia Severity Risk score: 131
  - >90 should usually be admitted, >130 ICU
The Clinic Staff

✿ Physicians
  ✿ Hospitalists
    ✿ Comfort level with sick patients
    ✿ 6 of 14 full time hospitalist

✿ Nursing
  ✿ ER/ICU background
  ✿ A good stick (venipuncture)
  ✿ Case managerial skills
  ✿ Pharmacy skills
Infrastructure

CLINIC

- Respiratory
- Radiology
- Pharmacy
- Phlebotomy
- Food
Clinic Amenities

- Reclining chair
- Proximity to referrals
- Telemetry
- IV pumps
- Space for family
- Flat screen TV
Case Study #2: Acute Pancreatitis

66 y/o male with 2 prior hospitalizations for pancreatitis presents with abdominal pain

Day #1: diagnosis, IV fluid, pain and nausea control
Day #2: IV fluid, pain and nausea control, MRCP
Day #3: IV fluids, diet resumed and released to PCP
Patient Access

- Provider referrals with acutely ill patients
  - Three-way triage call
- Hospital follow-up appointments (post-discharge clinic)
- Disease management
- Physician “buy in”
- Patient “buy in”
The Patients

- The 5%
- Not just frail elderly
- Need for extended care/medical intervention
- A desire to forego hospitalization
- Some form of home/social support structure
Clinic Limitations

- No ICU care
- No ischemic events
  - Chest pain/myocardial infarction
  - TIA/Stroke
- No trauma
- No nocturnal support
Hospital Illnesses Successfully Treated

- COPD exacerbation
- Respiratory failure (non-ventilator)
- Acute bronchitis/asthma
- Pneumonia, bronchiectasis
- Early sepsis, bacteremia
- Acute renal failure
- Nausea, vomiting, dehydration
- Atrial fibrillation with RVR
- Acutely decompensated CHF
- Cellulitis failing oral antibiotics
- Ileus, partial small bowel obstruction
- Pancreatitis
- Hyponatremia, hypokalemia
- Symptomatic hypercalcemia
- Hyperkalemia
- Colitis, diverticulitis
- Pyelonephritis
- UTI requiring IV treatment
- Diabetic ketoacidosis
Case Study #3: CHF exacerbation

- 81 y/o male CKD, DM2, HTN, CABG 98 CHF EF 40%, baseline weight 202 lbs, presents with SOB SpO2 85%, 216 lbs

- Three consecutive days of aggressive daytime diuresis discharge weight: 201 lbs

- Total cost: $975.94
  - *Humana* claims data

- Average CHF hospital cost per stay: $10,400.00

- HCUP Facts and Figures: Statistics on Hospital-based Care in the US, 2009, Exhibit 4.1 Cost by Diagnosis
Costs of Extensivist care

✧ FEE FOR SERVICE
  ❧ Office codes & Infusion codes
  ❧ No hospital charges!!!

✧ PAY FOR PERFORMANCE
  ❧ Risk-based contracts with private insurers
  ❧ Medicare shared savings
A hospital’s perspective

(-) Taking patients out of their beds
(+ ) Decreasing readmissions
(+ ) Decreasing length of stay
(+ ) Minimizing low reimbursement admissions and improving case mix index of the patients admitted
(+ ) Decreasing ER congestion
Conclusion

Our novel care delivery model offers significant cost savings; but even more exciting, it may provide better care to a subset of patients who would otherwise be hospitalized.

Potentially minimizing

- Delirium in the elderly
- Sleep deprivation
- Deconditioning
- Thrombosis associated with hospitalization
Don’t be scared to invent the institution that could put you out of business, and stop investing in dying business models.

-Clayton M. Christensen

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