Changing Health Care Delivery Systems – Implications for Medical Education

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American Association of Colleges of Osteopathic Medicine (AACOM)
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20 years of improving outcomes, lowering costs for diverse NC communities
Problem 1. Cost

How do you start to fix the foundational issue around why our healthcare system is so expensive and yet so broken??

Average spending on health per capita ($US PPP)

Problem 2. Quality

USA worse/19
37th by WHO

Countries’ age-standardized death rates, list of conditions considered amenable to health care
We are trying to provide care through a system designed for acute care
When Most Illness is Chronic

MEPS Survey 2005

Most Causes of Illness are Related to Health Behaviors

<table>
<thead>
<tr>
<th>Access to care</th>
<th>Genetics</th>
<th>Environment</th>
<th>Health Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>(10%)</td>
<td>(20%)</td>
<td>(20%)</td>
<td>(50%)</td>
</tr>
</tbody>
</table>

Source: IFTF; Centers for Disease Control and Prevention.
Obesity Trends* Among U.S. Adults
(*BMI ≥30, or about 30 lbs. overweight for 5’4” person)

Source: CDC Behavioral Risk Factor Surveillance System
Most illness and care occurs in the community

Disease Burden/Practice Patterns Vary

Map 4.7. Rates of Hospitalizations for Ambulatory Care-Sensitive Conditions (1995-96)

Rates of hospitalizations for ambulatory care-sensitive conditions were higher in the East, particularly in the Southeast, than in the Western United States. Rates were particularly low among Medicare residents of Utah, Idaho, and Oregon.

Patterns of illness vary locally too
Interest in Primary Care

Family Medicine Positions Offered & Filled

Source: American Association of Family Physicians (AAFP), March 2010
It’s (partially) the money...

- Orthopedics: 439
- Cardiology: 393
- Nurse Anesthetist: 185
- Family Medicine w OB: 184
- Internal Medicine: 176
- Family Medicine: 172
- Pediatrics: 159

DUKE CONNECTED CARE
And also time...

## Time Required to Meet Clinical Guideline Recommendations

<table>
<thead>
<tr>
<th>Type of Visit</th>
<th>Hours/Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute</td>
<td>3.7</td>
</tr>
<tr>
<td>Chronic</td>
<td>10.6</td>
</tr>
<tr>
<td>Preventive</td>
<td>7.4</td>
</tr>
<tr>
<td>Total or mean</td>
<td><strong>21.7</strong></td>
</tr>
</tbody>
</table>

Source: Yarnall KSH, Ostbye T, Krause KM, Pollak KI, Gradison M, Michener JL. Family physicians as team leaders: “time” to share the care. Prev Chronic Dis 2009;6(2).

Data obtained from National Ambulatory Medical Care Survey, 2006
Can We do Better?

Yes...we can

Redesigning care with the community, using teams in the office - and outside
Q: Where, how, and by whom can services be provided most effectively?
Community Care of North Carolina

- 42,000 Medicaid patients, 34 primary care sites
- Durham (DCHN), Vance, Granville, Warren, Person, Franklin Counties
- Latino population
- Teams of community health workers, DSS social workers, nurses work with patients at home
  - Patient education & support, system navigation, self-management skill training
- Electronic links among practices, hospitals, DSS, Health Depts., & care teams
- $2.50 pmpm
- $2.50 to Network
  - additional $2.50/$3.00 pmpm for high acuity enrollees
Outcomes

**MERCER DATA FOR NORTH CAROLINA**
SFY05 Savings Using Statewide Benchmark

<table>
<thead>
<tr>
<th>Category of Service</th>
<th>SFY05 Projected Benchmark PMPM</th>
<th>Actual SFY05 PMPM</th>
<th>Projected vs. Actual</th>
<th>Estimated Savings from Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient</td>
<td>$44.06</td>
<td>$23.76</td>
<td>54%</td>
<td>$158,801,272</td>
</tr>
<tr>
<td>Outpatient</td>
<td>$21.90</td>
<td>$18.16</td>
<td>83%</td>
<td>$29,276,397</td>
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<tr>
<td>Emergency Room</td>
<td>$13.64</td>
<td>$11.10</td>
<td>82%</td>
<td>$19,824,757</td>
</tr>
<tr>
<td>Primary Care, Specialist</td>
<td>$54.82</td>
<td>$49.20</td>
<td>90%</td>
<td>$43,962,817</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>$28.05</td>
<td>$29.46</td>
<td>105%</td>
<td>$(11,034,819)</td>
</tr>
<tr>
<td>Other</td>
<td>$27.59</td>
<td>$29.07</td>
<td>105%</td>
<td>$(11,615,111)</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>$190.06</strong></td>
<td><strong>$160.76</strong></td>
<td><strong>85%</strong></td>
<td><strong>$229,215,312</strong></td>
</tr>
</tbody>
</table>

Traditional Health Care
Medical Home Version 1
Walltown and Lyon Park Clinics

Duke-Durham Neighborhood Partnership

- Population: African-American, new Latino population, low-income, transient, uninsured
- High ED use, high-risk health behaviors, substance abuse, depression/anxiety
- 37% of patients surveyed would have gone to ED
- High patient satisfaction – 4.7/5.0

**Community Partners**
- Calvary Baptist Ministries
- Walltown Neighborhood Association
- PAC-2
- PAC-3
- Lincoln Community Health Center
- Planned Parenthood of Central NC

**Practice Partners**
- Community and Family Life and Recreation
- Center of the West End, Inc
- Self-Help, Inc
- Duke Community Affairs
- Duke Community Relations
- Duke University Hospital
- Community & Family Medicine Department
Just For Us

- 350 patients since 2000
- Average age 70, multiple chronic conditions
- 44% have mental illness
- All are home-bound
- 84% African-American; many with low to no family support
- Low literacy or illiterate

Community Partners
City of Durham, Housing Authority
Lincoln Community Health Center
Durham Council on Seniors
Area Mental Health Agency
Durham County Health Department
Durham County Department of Social Services

Practice Partners
Duke CFM, SON, DUH, DRH,
Center for Aging,
Department of Psychiatry
Just For Us

Outcomes

- Ambulance costs ↓ 49%
- ER costs ↓ 41%
- Inpatient costs ↓ 68%
- Prescription costs ↑ 25%
- Home health costs ↑ 52%

All patients with hypertension 79% ≤ 140/90
Diabetics with hypertension 84% ≤ 140/90
LATCH

- Durham County uninsured: Latinos
- Newly immigrated from Mexico & Central America
- No knowledge of health system; high-risk behaviors
- Community-based, bicultural support
- Medicaid outreach

Community Partners
- El Centro Hispano
- Durham County Health Department
- Durham County Department of Social Services
- Lincoln Community Health Center
- Catholic Charities

Practice Partners
- Planned Parenthood of Central NC
- City of Durham, Parks and Recreation
- DUH
- DRH
- CFM
- SON
LATCH: Outcomes at 3 years

- 9,000 uninsured Durham Latinos
- 80% now have a primary care provider
- 25% decrease in ED use among enrollees
- 235 considered ineligible enrolled in Medicaid
- Helps DUHS clarify charity policies, add bilingual billing staff, and engage with partners
Medical Home Version 2

PA/NP Micro Clinic

Home Care

Office

Specialists Hospital

Care Management
Duke Medicine Strategy for Community Engagement

Together with community partners, we...

- Ask and listen
- Analyze health care utilization and costs
- Explore barriers to appropriate care
- Identify partner needs and resources
- Plan/redesign services
- Track outcomes, share accountability
Community Redesign
GOAL: Improve health in Durham County

- Develop innovative approaches to translate best practices into community settings
- Develop a community model using advanced informatics and health services redesign
- Leverage collaborative Durham – Duke teams
- Over 500 people, 90 community groups
Final Teams

**Life Stage**
- Maternal/Fetal Health
- Adolescent Health
- Seniors’ Health

**Behaviors**
- Substance abuse/pain management

**“Hard medical”**
- Cardiovascular
- Cancer screening/survivors
- Asthma/COPD

**Medical/Behavioral**
- Obesity
- Diabetes
- STDs
Current Focus

- Classify patients’ health risks
- Use information technology
- Create a “web” of options:
  1) Specialist and primary-care
  2) PAs and NPs
  3) Care coordinators
  4) Alternative care arrangements
RESULT: Care that is ...

CLOSE  To home, neighborhood, school, workplace...

CONNECTED Individuals to health providers
Health providers to each other

ACCOUNTABLE Measurable performance
with consequences

IT IS A FUNDAMENTAL REDESIGN – NOT A SUBSTITUTION MODEL,
NOT A “LESSER” MODEL
Duke Connected Care™
Locate clinicians and services as needed to provide and coordinate care
Opportunity to be the First to Connect Transformations to Improve Health ...

Ties to larger national themes

- Accountable Care Organizations
- Learning Health Systems
- Merging personal health care and public health
- Improving health by joint consideration of the individual and the community/environment
What have we learned?

1. Physicians need to do what only they can do
   - Complex care
   - Unknown illnesses
   - System redesign

2. We need more than doctors
   - PAs, NPs, nurses
   - Psychologists
   - PharmDs
   - Social workers
   - Dietitians
   - Physical therapists
   - Case managers
   - Health educators
   - IT designers

3. We need to train teams to work together

4. We need to start now
What will this require?
Practice what we teach; teach what we practice; research how to do better

**University**
- Coordinated placement/pipeline program

**Professional Schools**
- Training and practice in teamwork
- Primary care leadership
  - PA, NP, PT
    - Expansion of program size; teamwork
- Residency
  - Restructure around improving population health
  - Clinical Leadership

**Faculty and Staff**
- Classes, Grand Rounds, online training in community engagement
- Shift practice and research to improving community outcomes
Duke Family Medicine Residency

- Shift to ambulatory specialist.
- Longitudinal model with daily clinic
- Curriculum completely restructured
  - Team based care
  - Chronic disease management
  - Community engagement
  - Leadership skills
  - Quality measurement and improvement

Community focus

- 2-year continuity experience in innovative community care delivery
- Measurement of health status of the community as a whole
- Reduce health disparities
Conclusions

- Health requires more than medicine
- Health care requires more than physicians
- Improving health requires teams in the office and in the community
- Community partners add expertise and resources
- Needs vary; one size does not fit all
- **We can do better...**