Department of Pediatrics
Faculty Meeting

TOPICS:  The Business Case for Quality (Scott Hamlin)
         Digital Health (Natalie Pageler)

Date:    June 26, 2018
Sara Kleinman
Clinical Assistant Professor
Division of Allergy and Immunology
Dr. Heidi Feldman and the Division of Developmental and Behavioral Pediatrics were awarded a continuation of their HRSA T77 DBP Training Grant.
Ann Arvin
2018 Kenneth M. Cuthberson Award for Exceptional Service to Stanford University.
Clinical Teaching Seminar Series
Program graduates

Katherine Hill, Adolescent Med
Kara Motonaga, Peds Cardiology
Carmin Powell, Neonatology
Debbie Sakai, Peds Hospital Med
Lindsay Stevens, General Pediatrics

Michelle Brooks
Carrie Johnson
Victor Cueto, General Pediatrics
Rachel Goldstein, Adolescent Med
Sara Kreimer, Peds Hem/Onc
Neha Purkey, Peds Cardiology
The New York Times

Flip the Script

Equipping Women to Stop Campus Rape
By Tina Rosenberg

No Means No

A Worldwide Teaching Program to Stop Rape
By Tina Rosenberg
Mathers Classic
Faculty - 35
Housestaff - 11
Policy Update
Pediatricians & the AAP Lead

Dr. Julie M. Linton Retweeted

Mark Del Monte @DCDelMonte • Jun 23

Where Migrant Children Are Being Held Across the U.S.

Colleen Kraft
@ColleenKraft

Current @AmerAcadPeds President and #Tweetiatian. Advocate for children. Follow me at @AAPres!

Where Migrant Children Are Being Held Across the U.S.

Children who crossed the border alone or who were separated from their parents are being held in an estimated 100 facilities in 17 states.

nytimes.com
Dr. Lewis First, Editor of Pediatrics, Tweeted that all *Pediatrics* articles related to children, parental separation and toxic stress are now available to full public access.
Where things stand

• 2,053 children in HHS custody (as of 6/23/18, per HHS)

• Reunification to occur once parents’ deportation proceedings complete

• Details and reunification plans still underway

• New families arrested are being held together
June 30: Find An Event

Join a #FamiliesBelongTogether protest on Saturday, June 30th
Saturday June 30th
Marches for Reunification
Redwood City – 10AM
Palo Alto – Noon
Mountain View – 7PM
San Francisco + San Jose
Join Us!

Join Policy Response Team
(to get weekly policy updates)
jdecoste@stanford.edu

Practice to Policy Continuum
(to have Lisa come to division meeting)
lchamberlain@Stanford.edu

Up this week: DB Peds!
The Business Case for Quality

June 26, 2018
Cincinnati Children’s
A Case Study - Profile

• Located in smaller greater metropolitan area (~2 million)

• Program development strategy:
  – Unique, highly specialized programs that require high investment costs to operationalize
  – Deliver compelling program results that stimulate and maintain sufficient volumes (market share) from very broad geographies to justify the investment and generate a reasonable return

• Extreme dependence on out-of-area referrals
  – Nearly half of inpatient revenues o/s the PSA service area
  – Virtually all inpatient and surgical growth
Cincinnati Children’s
Why Quality as the Basis for Business Model?

• Financial Survival is Dependent on Referrals from Expansive Geography

• Referring Sources/Patients must Perceive High Value
  – Better Results (medical outcomes/experience) for given cost
  – Cost (a more affordable price) for comparable results

• Quality and Continuous Improvement Address Both Components (Results & Costs) of “Value Equation”
Cincinnati Children’s
The Market Speaks


• Quality agenda translates into improved ratings through:
  – Increased volume and market share
  – Operational efficiencies
  – Better rates from commercial payers
  – Improved financial performance

• Two key facets of quality strategy:
  – Improve evidence-based clinical outcomes
  – Improve patient safety
Cincinnati Children’s
Early Focus of Quality Obsession

• Improved outcomes and error elimination
  – Preventable hospital acquired infections

• Better use of scarce and/or expensive resources
  – Discharge planning
  – Standardizing evidenced-based care

• Maximizing asset production
  – Revenue sweet spot

• Quality as cost effective risk management strategy
  – Patient Safety improvements and progressive approaches
to Risk Management & Litigation Costs
Major Barrier - “BCQ Skepticism”
Even in Cincinnati

• Quality Improvement is….. Good for payors, bad for providers

• CCHMC case study results:
  – SSI/VAP: Reduced billings & inpatient (IP) days
  – Discharge Planning: Reduced billings & IP days
  – Evidenced Based Care – Reduced billings & IP days
Game Changing Shape
My Own Transformational Moment

$0 $2,000 $4,000 $6,000
1 2 3 4 5 6 7 8 9 10
Bronchiolitis
Profile of Charges Per Day

$0
$1,000
$2,000
$3,000

1 2 3 4 5 6 7 8 9
Bone Marrow Transplant
Profile of Charges Per Day

![Graph showing the profile of charges per day for bone marrow transplant.

The x-axis represents days from 1 to 86, and the y-axis represents charges from $0 to $8,000. The graph indicates a peak in charges around day 30, after which the charges decrease significantly.]
Maximizing Revenue Production
Revenue Production Associated with SSI

Average Daily Charges

<table>
<thead>
<tr>
<th>Day</th>
<th>Pre-SSI Infection</th>
<th>Revenue Sweet Spot</th>
<th>Post-SSI Infection</th>
<th>Low Revenue Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0</td>
<td>$10,000</td>
<td>$20,000</td>
<td>$30,000</td>
<td>$40,000</td>
</tr>
</tbody>
</table>

Day of Surgery

SSI Patient vs. Matched No-SSI Patient
Average Daily Charges
90 Day Revenue Production Cycle
6 Patients Develop an SSI

Bed Cycle For SSI Patients
Average LOS for Surgery Patients With Infection = 15 Days
Total Revenue Produced in 90 Day Cycle = $622,000
90 Day Revenue Production Cycle
If No Patients Develop an SSI (18 Patient Potential)

Bed Cycle For Non-SSI Patients
Average LOS for Surgery Patients Without Infection = 4.4 Days
Total Revenue Produced in 90 Day Cycle = $892,000
Annualized Incremental Revenue = $1,080,000
The Stanford Case:
BCQ Meets Volume, Access, Smoothing:
255/292

Draft (Discussion Only)
IP Volume Variation – Month of May

Actual Census
ADC-since 5/1
IP Volume Variation – Month of May
IP Volume Variation – May vs June
Total - All Locations

Actual Census
ADC-May
Required Target (Illustrative)
ADC -June
Stanford Children’s Digital Health Program

In Our Care Anywhere

June 2018
Stanford Children’s Digital Health Program

OUR GOAL
To transform healthcare for mothers & children worldwide through technology — by making it faster, safer & easier
13,741,938 patient records exchanged since Epic Go-Live in 2014
Medical Care Disrupts Families Lives

- Missed work & school
- Restricted ability to attend after-school programs & summer camps
- Challenging transition to college / adulthood
- Delayed social and autonomy development (Stam et al. 2006. J Adolescent Health)
Stanford Children’s Digital Health Program

Flip the mode of health care delivery - Take health care to children, families, and expectant mothers

Drastically improve access – Create a robust virtual visit system to provide the right expert for the right child in the right community

Standardize high-quality inpatient and emergency care - Provide accessible, quality, unified experience via digital connectivity

Provide continuous care - Maintain a continuous connection with children and families via technology to promote health seamlessly throughout their daily lives

Disrupt health care – develop digital health solutions at Stanford Children’s Health that will improve the health of our patients and families, and can be leveraged around the world.
Building out the Virtual Care Platform

**Family Access: Device Agnostic**

Families connect via:

*Phones, Tablets, Laptops and Desktops*

**Provider Access:**

*Laptops and Telehealth Devices*

Providers connect via:

*SOM Devices, LPCH Devices,* or use Telehealth dedicated equipment
Telehealth Workflow Snapshot

**Scheduling**
Epic integrated with telehealth visit types.

**Billing**
Reimbursed similar to in-person visits.

**QI and Audits**
Patient and Provider surveys distributed.

**Family Requirements**
MyChart required to join a telehealth visit
MyChart

- Online appointment scheduling
- Online live support chat sessions
- Online medical record request
- Online remote MyChart access request
- Secure messaging
- Questionnaires
- Payment plans

- MyChart Spanish
- Online availability of After Visit Summary
- OpenNotes
- New functionality coming up
  - eCheck-in
  - Diminished capacity
  - Real-time eligibility
<table>
<thead>
<tr>
<th>Division</th>
<th>Date of Go Live</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurology</td>
<td>Jan 2016</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>Jan 2016</td>
</tr>
<tr>
<td>Development &amp; Behavior</td>
<td>Jan 2016</td>
</tr>
<tr>
<td>Transplant Nephrology</td>
<td>Jan 2016</td>
</tr>
<tr>
<td>General Surgery</td>
<td>Sept 5, 2017</td>
</tr>
<tr>
<td>ENT</td>
<td>Sept 5, 2017</td>
</tr>
<tr>
<td>Complex Care Clinic</td>
<td>Oct 24, 2017</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>March 7, 2018</td>
</tr>
<tr>
<td>Nephrology</td>
<td>March 7, 2018</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>March 7, 2018</td>
</tr>
<tr>
<td>Orthopedic Surgery</td>
<td>March 7, 2018</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>June 2018</td>
</tr>
<tr>
<td>REI</td>
<td>June 2018</td>
</tr>
</tbody>
</table>
Open Notes are AMAZING!! I wish all my son's specialists did this. It has allowed his primary care physician to understand his case better, allowed me to print out neurology reports for his school for IEP testing purposes, and to refer back to our previous care decisions (which change often with a medically complicated child). Honestly, my son's disorder is so rare and complicated we are often the experts educating other doctors. And so having access to everything makes it far easier for me to provide the full context to each new physician we meet (and there are a lot of them). I really wish that more doctors used these OpenNotes.
Pediatric health care organizations offering patient portals must devise access models that encompass the changing access needs of patients and parents over time and formulate policies guiding clinicians about which health information should be released to the portal to preserve confidentiality.
Audience Poll

Text **NATALIEP573** to **37607** once to join
Data Pipeline with CareKit App

[Diagram showing the flow from SpO2 + HR data to Epic via CareKit and Health MyChart.]
Inpatient Telehealth

ED to LPCH Telehealth Handoff Process
• Led by Paul Sharek and Handoff Executive Committee
• Piloted by Heart Center
• Next up – Oncology & PICU

Packard El Camino (PEC) to ED Telehealth Consult / Handoff
• CELT project led by Nita Srinivas

PEC Telehealth Consults / RRTs
• Let us know your use cases!
FY18: 554 telehealth visits completed in 9 months
Early Wins
Questions?