NAPNAP Workshop on Advanced Practice Provider Complex Care Models and Roles
Disclosures

Presenters

Disclosure:

• Presenters have no relevant financial or nonfinancial relationships to disclose.
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Learning Objectives

• Essential components of each model of complex care

• Key Components – Role of NP - Job descriptions and roles for models for complex care patients

• Strategies for developing models, key metrics, and presenting models to decision makers
Model of Complex Care Patient Management

1. Common Elements of Models
2. Gestation to Graduation: fetal, neonatal and surgical patients, in, out and long term follow-up
3. Hospital Based NICU focused Model
4. Outpatient Focused Medical Home and Complex Care High Risk Clinic Models
5. Inpatient, Outpatient, and Homecare Focused Patient Management Model
6. A Medical Home to Decrease Costs and Improve Outcomes: Complex Care Patient Management Clinic with Separate Complex Care Facility
Complex Care Medical Services
Why, Who, and What

Courtney Robinson, RN, MSN, ARNP
Director, Advanced Practice Services

All Children's Hospital Johns Hopkins Medicine
# Who are Medically Complex Children?

<table>
<thead>
<tr>
<th>Population</th>
<th>Common Features</th>
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<tbody>
<tr>
<td>Medically complex and fragile CYSHCN</td>
<td>Chronic, severe health conditions crossing many specialties</td>
</tr>
<tr>
<td>“Frequent Flyers”</td>
<td>Functional limitations which are often severe</td>
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<tr>
<td></td>
<td>Technology dependence / Neurologic impairment</td>
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<td></td>
<td>High tertiary center and other healthcare use</td>
</tr>
<tr>
<td></td>
<td>High cost of care</td>
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<tr>
<td>Home and Community Services</td>
<td>Tertiary Center Services</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>Medical Services: Primary Care Provider, DME, Pharmacy, Nursing Therapists</td>
<td>Access and Availability 24/7</td>
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<tr>
<td>School, recreation, Fun</td>
<td>Continuity of Care</td>
</tr>
<tr>
<td>Insurance and Benefit Coverage</td>
<td>Providers who know their child and family goals</td>
</tr>
<tr>
<td><strong>Coordination of Care</strong></td>
<td></td>
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<tr>
<td>“Go – To” person (s), Providers of Care</td>
<td></td>
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<tr>
<td>Defined roles for Difference Providers</td>
<td></td>
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<tr>
<td>Frequent Communication among different providers and families</td>
<td></td>
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<tr>
<td>Care Plan and Emergency Plan</td>
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<tr>
<td>Recognition of their contribution to and role in child’s care; development of trust relationship between family and providers</td>
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<td>Assistance with goal setting, transitions, plans for future</td>
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<td>Education and information</td>
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Identifying and Stratifying Complex Care Models

<table>
<thead>
<tr>
<th>Data Identification</th>
<th>Social Complexity</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICD Codes</td>
<td>Distance to primary or tertiary care</td>
</tr>
<tr>
<td>CRGs</td>
<td>Language and other cultural factors</td>
</tr>
<tr>
<td>Frequency of Admissions</td>
<td>Literacy and Poverty</td>
</tr>
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<td></td>
<td>Poor healthcare seeking behaviors</td>
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<tr>
<td></td>
<td>Multiple Complex Care patients in the family</td>
</tr>
<tr>
<td></td>
<td>Mental and behavioral health issues</td>
</tr>
</tbody>
</table>
**Why do we need Complex Care Management?**

<table>
<thead>
<tr>
<th>Demand</th>
<th>Cost of Care</th>
</tr>
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<tbody>
<tr>
<td>Increase in Complex Care population doubling from 1993-2005 Burns et al; Pediatrics 2010; 126:638-646</td>
<td>Children with 1 or more chronic complex conditions: 10% admissions; 26% hospital days; 40% charges Simon et al; Pediatrics 2010; 126:647-655</td>
</tr>
<tr>
<td>4.9% of children have chronic catastrophic condition Neff et al; Academic Pediatrics 2010; 10: 417-423</td>
<td>0.4% of Children’s Hospital of Wisconsin patients have 3 chronic conditions and 2 unplanned admissions over 10 days 21% of inpatient days 17% of payments</td>
</tr>
<tr>
<td>Poor care Coordination – Children are “falling through the cracks”</td>
<td>Children's Health Dallas: Heavy ED Utilization and Unnecessary admissions From 2004-2009, CMC accounted for 19% of patients 27% of discharges 49% of hospital days 53% of hospital charges.</td>
</tr>
<tr>
<td>Low Patient and family satisfaction</td>
<td>Increase in clinical and quality outcomes provides lower cost of care; Reduces preventable ER visits with medical advice, medication and equipment provided in a timely fashion, Reduce costly duplication of studies</td>
</tr>
<tr>
<td></td>
<td>&lt;1% of children are considered medically complex; yet, they account for ~1/3 of total health care spending</td>
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Complex Care Medical Services
Gestation to Graduation: fetal, neonatal and surgical patients, in, out and long term follow-up

Lori Howell, DNP, MS, RN
Executive Director of the Center for Fetal Diagnosis and Treatment
Director, Surgical Advance Practice Nurse Program
Gestation to Graduation Services Provided

**Prenatal Diagnosis & Treatment**
- Prenatal screening/testing
- Complex evaluation 3D u/s, ECHO, MRI, CT
- Genetic counseling
- Complex anomaly counseling
- Fetoscopy

**OB**
- Pre/postnatal care for mothers with babies with birth defects
- Delivery planning: site, mode, time
- Low-risk mom/high risk fetus
- Fetal anomaly obstetric/neonatal resuscitation

**OR**
- Open Fetal Surgery
- Maternal-Fetal anesthesia
- Miniaturized/custom instruments
- Fetoscopic Equipment
- Laser/RFA
- Intraop ECHO
- EXIT

**NICU & Long Term Follow Up**
- Quaternary NICU
- ECMO
- OR in NICU
- Neonatal Transport
- Pediatric Subspecialty Clinics
  - New Born Follow up
  - Pulmonary Hypoplasia Program
  - Spina Bifida
  - Hyperinsulinism
  - Urology, etc.

Ronald McDonald House
Specific Interventions

• Mutual respect, collegiality, value of APN
• EMR
• Fetal Force
• Radiant- Fetus to adult
• Surgical Pathways
• Video education
• Anticipatory planning
• Web education
Advance Practice Nursing

- Prenatal - 2 Advanced Practice Nurses, CNS (4 BSNs)
- Obstetrics - 9 FTE 3 Perinatal NPs, 6 CNMs-in and outpatient
- NICU – 22 FTE NNPs/PNP dual certified providing 24/7/365 primary coverage for surgical neonates
- General Surgery – 13 FTE - PNPs (acute and primary) inpatient (7 days/16 hours/365) and outpatient, satellites and lead niche clinics- GERD, PHP, IRP etc.
- APN Manager
Role of the APN

- Advanced Practice Nurse
  - Direct patient care
  - Education
  - Consultation
  - Research/evidence based practice/publications
  - Administration
Why is Care Coordination Important?

• Right thing to do
• Increases parent and patient satisfaction
• Improves efficiency and capacity
  - decreases LOS
  - decreases readmissions

Support Services
General Surgery
NICU
Perinatal
Patient

- Fetal/Pediatric Surgeons
- Maternal Fetal Medicine/Reproductive Genetics
- Obstetrics
- Neonatology
- Maternal, Fetal and Neonatal Anesthesiology
- Genetic Counselors
- Laboratory/Pathology
- Echocardiography
- Fetal MRI
- Fetal Ultrasound
- Social Work
- Psychology
- Psychiatry
- Chaplaincy
- Child Life Specialists
- Registration
- Administration
- Outcomes Research
Opportunities to Improve Role and Utilization of APN

- Standardize orientation, education and measure level of knowledge
- APNs at different career points, how to treat individually to support and mentor at all levels
- Communication
- Manager role
Outcomes

• Volume is a proxy for surgical Outcomes
• Real time analysis in process
• Discharge planning tool
Financial Impact

- No direct billing (yet)
- Incident to (clinic)
- ~45 APN FTE financial impact offset by high volume of surgical patients (majority hospital funded)
- Different from Primary Care APN models
- Early Discharge Planning
- Telemedicine
Challenges and Lessons Learned

- Vision (not shift nurses, patient ownership, professional model)
- Recruit and Retain the very best and incentivize
- Understand continuity (no silos)
- Role of philanthropy, grants
Future State

• 24/7/365 APN coverage for all surgical patients
• Expansion of Long-term multidisciplinary follow-up programs
• Real time outcomes on the web
• Integrated Psychosocial Support Services (psychologist, social worker, child life specialist, chaplain, music therapist)
• App (in process) for surgical guidelines from pathways
• Virtual visits after DC (in process)
• On-line support groups, on-line chat
THE PROBLEM

For TGA case today, don't forget to call CICU attending before starting.

Goal sats = 75-85% if <75% after 4 min, the escalate (increase FIO2, CPAP vs. intubate).

You might need to bring cath lab in, so make sure you know best contact.

Great - thanks Natalie!
Complex Care Medical Services
Hospital Based NICU focused Model

Erin Keels, RN, APRN, NNP-BC, DNP
Director, Neonatal Practitioner Program
Neonatal Services

Nationwide Children’s Hospital
Complex Care Medical Service Goals

• Improved short and long term outcomes:
  – Decreased variability in approaches to care
  – Evidence based, wholistic care
• Inter-professional, collaborative teamwork
• Complete, accurate and concise communications
• Family Integrated and supported care
• Smooth transitions
  – Handoffs
  – Throughput
The Comprehensive Center for Bronchopulmonary Dysplasia (CCBPD)

What does complex care mean at my organization:

– Infants with moderate to severe bronchopulmonary dysplasia (BPD) and multiple co-morbidities:
  • Pulmonary
  • Cardiac
  • Feeding/digestive
  • Neurological/Developmental
– Combination of acute and chronic care
– Ages range from several months to 3 years
– Families with multiple needs
The Problem

- Variable approaches to medical management, nursing care
- Long LOS, older infant population
- Readmissions - to floor, NICU
- Team members working in silos
- Poor and fragmented communications
- Ineffective handoffs
- Families as visitors
- Poorly coordinated discharge planning
- Staff stress
Opportunities to Improve

• Clinical Care
• Throughput
• Communication
• Family care
• Discharge planning
• Staff support
• Ambulatory care
Referral Process

Within the Service Line
- Consultation with CCBPD NP
  - Transfer into the main campus from offsite NICU
  - General management recommendations
  - For entry/transition into CCBPD program
  - Discharge planning
  - Follow up planning

Outside the Service Line
- Consultation with CCBPD NP
  - Appropriateness of transfer
  - Assist with transfer details
  - Teleconsultations for medical management

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Columbus NICUs

BPD Consult Service
- ~50 management consults/year \( \geq 32 \) weeks

BPD Inpatient Unit
- 24 beds
- 36 weeks and above
- "establish" BPD

BPD Clinic
- Medical home model
- 400 unique patients/year
Enrollment Criteria

• Moderate to severe BPD as primary condition
Services Provided

Inpatient Medical, Advanced Practice (NNP, AC PNP)

- Nursing
- Respiratory Therapy
- Nutrition
- Pharmacy
- Therapies
- Case Management

- Social Work
- Psychology
- Neurodevelopmental team
- Advanced Airway
- Palliative Care
- Pulmonary Hypertension team

Outpatient Medical Home Model (AC or PC PNP, NNP)

- Close follow up of medical needs
- Acute management in clinic
- Developmental assessments
- Social services support
- Collaboration with primary care providers
- Consultation if readmitted
Role of the Nurse Practitioner

Inpatient (NNP, AC PNP)
- Unit based team leader
- Rounds with interprofessional team
- Manages minute to minute details in collaboration with physician
- Supports nursing and other team members
- Educates
- Engages in safety, quality and process improvement initiatives

Outpatient (NNP, AC or PC PNP)
- Provides specialty consultation in NICU and other units
- Independently sees patients in clinic, sick visits
- Develops/expands processes, program
- Educates
- Engages in safety, quality and process improvement initiatives
Specific Interventions

• Diversified APP team to meet needs of older infants
  – Integration of NNP, AC PNP, PA

• Clinical care guidelines
  – Inpatient BPD management
  – Consultation and referral process

• Team based meetings for communication and planning

• Staff support system

• Medical Home model
Lessons Learned

Evolving Population
- Patient and family needs
- Staff support

Role Integration
- Scopes of practice
- Appropriate knowledge base, onboarding, competencies
- Issues with loss, trust
Impact

• 2016 30 day readmission rate = 0%
• Survival overall from BPD unit - 99%
• Survival of outside transferred patients - 96%
• Survival to 2 years of life - 99%
• Tracheostomy rate <5%
• Neurodevelopmental outcomes:
  – Moderate BPD: 10% with composite Bayley less than 70
    • NICHD similar cohort = 26%
  – Severe BPD: 11% with composite Bayley less than 70
    • NICHD similar cohort = 42%
Future State

• Continued program development
  – Refine competency based onboarding
  – Program marketing, external resources
  – Smoother admission and throughput
  – Staff training and support
  – Publish!
References


Complex Care Medical Services
Outpatient Focused Medical Home and Complex Care High Risk Clinic Models

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Pediatric Nurse Practitioner
UTP High Risk Children’s Clinic
University of Texas at Houston
UTP High Risk Children’s Clinic Goals

• Reduce fragmentation of care of CMC with coordination of care by PCP, specialists in clinic.

• Improve Patient Outcomes as evidenced by reduction in ER visits, hospital admissions and LOS

• Increase family satisfaction as measured with clinic surveys and annual CAHPS
UTP High Risk Children’s Clinic Model

• An enhanced NCQA accredited medical home for CMC providing outpatient care Monday-Friday

• 24/7 access via cell phone for patients by same providers

• Care Coordination by assigned provider

• Specialists available in clinic monthly and by phone
UTP High Risk Children’s Clinic Model

**Core Team**
- Pediatric Pulmonary Medical Director (0.25)
- Pediatrician (1.5)
- PNPs (3)
- Social Worker
- Registered Dietician
- Research Nurse
- LVN/MA support staff

**Consultative Specialists**
- Adolescent Medicine
- GI
- Infectious Disease (ID)
- Nephrology
- Neurology
- Pediatric Surgery
- Physical Medicine and Rehabilitation (PMR)
- Pulmonary
UTP High Risk Children’s Services Provided

- Medical home for CMC proving outpatient acute and chronic care
- Same day sick visit appointments
- Extended visits (average 2-3 patients per day per provider)
- Care coordination by primary NP or MD: 75-100 pt per template
- After hours: 24/7 on call emergency phone for all patients
- Extended visit (average 2-3 patients per day per provider)
- Specialists in clinic
- Hospital Consult Service (RCT)
Enrollment Criteria

- Infants and children from birth to 18 years with a chronic illness
- In the past year: ≥2 hospitalizations or ≥1 PICU admissions
- >50% risk for admission in next year based on the patient’s diagnosis and clinical course
UTP High Risk Children’s Referral Process

• Families, hospitals or outpatient pediatricians or specialists can refer

• Patients must qualify for our clinic

• Transition patients when “healthy”
Specific Interventions

• 24/7 medical advice from same providers

• Having ‘extra’ or prn medication and or supplies at home
  – Antibiotics, steroids, back-up G tubes, etc

• Daily screening of hospital records for ER/admissions

• Weekly scrutiny of all health care provided before any ER/admissions to improve care provided
UTP High Risk Children’s Outcomes

• ER/Admits: Reduced 50-70% both number of ER visits, admissions, PICU admissions and length of stay (LOS)

• Cost-Effective: Total clinic and hospital costs (assessed from a health system perspective) were reduced by $10,258 per child-year

• Improved Parent Satisfaction
UTP High Risk Children’s Role of the PNP

• Outpatient Clinical Care: provide acute and chronic care and share 24/7 call.

• Care coordination for patient templates

• Provide inpatient consults in collaboration with MD’s in clinic

• Link between specialists, patients and other providers
  – Specialty clinic in our medical home: CDH

• Research: Assist in various research projects

• Dissemination of clinical and research results via journal articles, national presentations
UTP High Risk Children’s Opportunities to Improve

• Hospital care was still costly and discharge transitions were fragmented
  • Currently providing an inpatient consult team with same PCP in a RCT study

• Patient diagnosis-based research studies
  Asthma, BPD, Cystic Fibrosis, Congenital Diaphragmatic Hernia (CDH)

• Patient diagnosis-based specialty clinics
  CDH, CCHS, CP
UTP High Risk Children’s Challenges and Lessons Learned

• Create a model that can grow and be sustainable
  – What is feasible for 50 patients, can prove difficult to maintain at 300

• Consider the impact of on-call on emotional well-being of providers

• Use providers to the scope of their license
Complex Care Medical Services
Outpatient Focused Medical Home and Complex Care High Risk Clinic Models

Siem Ia, RN, MS, CPNP
Pediatric Nurse Practitioner
Pediatric Medical Home Program
Mattel Children's Hospital UCLA

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Pediatric Medical Home Programs at UCLA

• Accredited Patient Centered Medical Home (URAC)
• Began as the Medical Home Project at UCLA in 2003
• Based on principles from the national AAP model: Medical Home for Children with Special Health Care Needs & Medical Home
  – Accessible
  – Family-centered
  – Continuous
  – Comprehensive
  – Coordinated
  – Culturally Sensitive
  – Compassionate
Pediatric Medical Home Programs at UCLA
Medical Home Team

- Care Coordinators (“Family Liaisons”)
- Nurse Practitioner
- Resident Physicians
- Attending Physicians
- Social Worker
Pediatric Medical Home Programs at UCLA
Program Components

• **Pediatric Program**
  – 226 patients; avg age 8.5 yrs (0.4 - 23.9 yrs)

• **Adolescent/Young Adult Program**
  – 70 Patients; avg age 21.5 yrs (12.7 - 29.7 yrs)

• **Parent Advisory Group**

• **Research**

• **Quality Improvement**

• **Biweekly team meetings**

• **Periodic Retreats**
Pediatric Medical Home Programs at UCLA
Enrollment Criteria

• Resides in Los Angeles County
• Condition(s) for which patient receives CCS
• At least one other chronic condition requiring ongoing subspecialty services
• Has Medi-caid
• Establish primary care with Resident’s Continuity Clinic
Pediatric Medical Home Programs at UCLA
Referral Process

- Referral sources: inpatient providers, NICU/HRIF clinic, specialists, families, community organizations, home health nursing
- Referral form
- Waitlist
- Enroll 1-2 new patients/week
Pediatric Medical Home Programs at UCLA
Services Provided

- Primary care
- Same day sick/urgent care visits
- Extended appointments
- A formal patient intake process
- “Social compact”
- Individualized patient “All About Me” binder
- Assigned lay care coordinators
- Direct access
- Advocacy
- Transition to adult specialist and primary care providers
Specific Interventions

- Registry
- Team huddle, pre-visiting planning
- Hospital-to-home transition
  - Post-discharge home visitation, self-care, health coach
- Strategies/interventions to increase parent activation/self management
  - Action plan development
- Health, developmental, educational, psychosocial and functional outcomes
- Reduced utilizations
  - Initial cohort of 30 patients who were followed for 5 years: Average number of ED visits per patient decreased from 1.1 +/- 1.7 before enrollment to 0.5 +/- 0.9 after medical home enrollment (P = .02) (Klitzner, Rabbitt, Chang, 2010)
- Increased patient and family satisfaction/improve patient experience (Hamilton, Lerner, Presson, Klitzner, 2013)
Pediatric Medical Home Programs at UCLA
ED Rates: Medical Home vs Waitlist Patients

- 1.8 ED visits per pt per year
- 0.9 ED visits per pt per year
Pediatric Medical Home Programs at UCLA
Hospitalization Rates: Medical Home vs. Wait List Patients

1.5 admits per pt per year

0.75 admits per pt per year
Pediatric Medical Home Programs at UCLA
Role of PNP

• Primary Care Pediatric NP: Outpatient clinic, outpatient management
• Oversee care coordination
• Quality improvement/Research
  • Oversee the implementation of quality improvement initiatives focusing on improving care delivery
  • Research: Aim to enhance family engagement, build family self-management skills, promote family strengths and wellbeing, and improve care while reducing hospital use for children with medical complexity
  • Example: Testing interventions to reduce hospital use through innovative tools that promote family engagement and utilize principles of the Care Transitions Intervention self-management coaching model
Pediatric Medical Home Programs at UCLA
Challenges & Lessons Learned

- Care coordinator ratio: 80-100 patients/coordinator
- After hours access to core team
- Local context will influence the program structure/components
- Include parents in planning, ongoing improvement
- Sustainability
Complex Care Medical Services
Inpatient, Outpatient, and Homecare Focused Patient Management Model

Christine Schindler, PhD, RN, CPNP-AC/PC, WCC
College of Nursing Faculty Marquette University
AC-PNP Complex Care

Wisconsin Children’s Hospital
Children’s Hospital of WI -
A Primary Care / Tertiary Care Partnership

• Established in 2002
  – Combined 2 small nurse case management programs and added a part time MD
  – 2017- 4 MDs, 8 PNPs, 9 nurse care coordinators, 9 care coordination assistants, 2
    social workers
  – 515 patients

• Care Coordination / Co-management Model
  – All patients have a local PCP / Medical Home
  – SNP Complex Care program extends the Medical Home to the Hospital

• Goal
  – Partner with Children & Families, PCPs, Specialists, Community Services, and Insurers
    to ensure seamless inpatient and outpatient care for CMC with multiple chronic
    conditions and high tertiary center use
Key Attributes of CHW Complex Care Team

• Availability
  • 24/7 call

• Continuity
  • Inpatient, Outpatient, ED, Home

• Familiarity
  • Detailed knowledge of patient needs and family goals

• Flexibility
  • Accommodate patient and provider wishes when possible

• Accountability
  • Measure outcomes / Demonstrate value
Enrollment Criteria and Process

• Referrals
  – Families, nurses, MDs, community

• Review
  – Weekly intake meeting

• Intake Visit
  – 90 minute appointment
    • Medical Review
    • Coordination Needs
    • Goals of Care

• Outcome
  • Enrollment offered if criteria met
  • Other services sought if criteria are not met
Care Coordination Team

Nurse Care Coordinators
- Intensive Care Coordination
  - Plan of care
  - Advocacy
  - Attend specialty appointments
  - Communication
  - Education
  - Support
  - Coach
  - Single point of contact
  - Access to services
- Medical triage

Physicians / PNPs
- Medical Co-Management
  - Review / synthesis
  - “Summary”
  - 24/7 call
  - ED Consultation
  - Inpatient co-management
  - Clinic visits
  - Non face to face tasks
  - Home visits
- A little coordination
Rapid Growth with Federal Health Care Innovation Award

CHW Complex Care Annual Census

- Year End Census
- Discharged
- Enrolled

Number of Patients

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The Financial Impact of Nurse Practitioners on Complex Care Teams

Model 1- 3 MD, 2.2 PNP

Model 2- 1.5 MD, 5.2 PNP

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<tr>
<th></th>
<th>Patients enrolled in SNP</th>
<th>Average Daily SNP Inpatient Census</th>
<th>Average Patients per Provider</th>
<th>SNP provider charges</th>
<th>SNP Work RVUs</th>
<th>SNP Provider Salary &amp; Benefits Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1 (Jan-June 2014)</td>
<td>224</td>
<td>9</td>
<td>43</td>
<td>$734,966</td>
<td>3994</td>
<td>$640,172</td>
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<tr>
<td>Model 2 (Jan-June 2015)</td>
<td>276</td>
<td>13.27</td>
<td>41</td>
<td>$1,597,031</td>
<td>9774</td>
<td>$432,147</td>
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</tbody>
</table>
The Financial Impact of Nurse Practitioners on Complex Care Teams

- Model 1 (Jan-June 2014)
- Model 2 (Jan-June 2015)

- MD FTE
- NP FTE
- Total FTE

- SNP provider charges
- SNP Provider Salary & Benefits Costs

- NP wRVUs
- MD wRVUs

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2016 Family Satisfaction

The Special Needs Program Team ....

Percent "Always" (number of evaluations)

- Listens and Hears Me (73)
- Spends Enough Time with Me (73)
- Helps Child Get Lab Services (70)
- Responds to Our Needs (69)
- Talks About Care Transitions (73)
- Helps When My Child is Sick (51)
- Advocates for Me and My Child (68)
- CCA Is As Available As I Need (67)
- RN CC Is As Available As I Need (69)
- PNP / MD Is As Available As I Need (71)
- PNP / MD Is As Available As I Need (71)
- PNP / MD Is As Available As I Need (69)
Children’s Hospital of Wisconsin program, 2016 parent survey

- Helps all my child’s health care providers work together (94.3% Often or Always)
- Would you recommend the SNP to other families? (94.5% Yes)
- Overall, how satisfied are you with the Special Needs Program? (94.4% Yes)
PCP Satisfaction Data

PCP Satisfaction Survey 2016 (n = 46)

Amount of Communication: too little: n = 4; just right: n = 40; no response n = 2

Amount of SNP Involvement: just right: n = 44; no response n = 2

Number of Respondents (excludes no answer or does not apply)

- Timeliness of Communication
- Value of Communication
- Ease of Contacting
- Expertise of Staff
- Clarity of Enroll Criteria
- Ease of Making Referral
- Refusing patients PCP thinks really quality
- Care Coordination Provided by SNP

Very Disatisfied
Disatisfied
Neutral
Satisfied
Very Satisfied
CHW SNP Pre and Post Data for All Patients

n = 340

Median Dollars Per Medicaid Month

- Pre Enrollment
- Post Enrollment

Median Dollars Per Day in SNP

p < 0.01

CHW Utilization Data
Future Directions

• Continue to increase research complex care
• Develop clear complex care quality metrics
• Telemedicine
• Working on Reimbursement structure with CMMI
Complex Care Medical Services
A Medical Home to Decrease Costs and Improve Outcomes
Complex Care Patient Management Clinic with Separate Complex Care Facility

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Children’s Health – Children’s Medical Center

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Complex Care Medical Service Goals

• Coordinated, high-quality services across the care continuum for children with complex needs
  – Patient-centered, comprehensive, continuous, and accessible care
  – Proactive management of chronic conditions through the creation of a written, shared comprehensive care plan
• Right care at the right place at the right time
  – same-day sick visits, telephonic access to a provider
• Decrease unnecessary utilization Emergency Department visits
• Decrease inpatient admissions and actual length of stay
• Improve the patient/family experience within CHST
Referral Process

• Open referrals - accepted from parent, physicians, schools, etc.
• 150 patients currently with about 50 waiting
  – Acceptance pending hiring providers – 2 NP positions open
• Referrals reviewed for:
  – Do they meet the criteria?
  – Matching of patients to provider based upon patient severity of illness /complexity and provider skill set
• Providers each are limited to 1 or 2 new patients per week
Enrollment Criteria

• Major Criteria:
  – > 2 significant chronic conditions
  – > 3 sub-specialists
  – > 1 hospitalization in last 2 years +/- ED visit in past 1 year

• Supplemental Criteria:
  – Age < 17 years at time of enrollment
  – Reside within 30 miles of Children’s Medical Center Dallas (Medical Home Only)
Services Provided

• Two Service Arms:
  – Primary Care Medical Home with Integrated Intensive Care Coordination
    • Complex Care Medical Services assumes the role of the primary care provider
  – Intensive Care Coordination Only
    • Allows community PCPs to retain complex patients while providing them the added benefit of participation in highly coordinated care
Our Children’s House

• Separate, stand-alone facility (42 beds)
• Focused on transitional care and rehabilitation
  – Allows discharge from the hospital acute care setting to a longer term care facility
  – Focus is on convalescence and transition to home care
• Includes an outpatient chronic vent / pulmonary clinic
• ACPNP roles in both the inpatient and outpatient settings
Care Coordination Services

➢ Care Coordination
  – Concierge service for eligible patients who remain with their PCP
  – Consolidate appointments and procedures into a more manageable schedule
  – Review and reconcile sub-specialists’ recommendations
  – Medication reconciliation
  – Create a comprehensive care plan
  – Facilitate transition planning
  – Coordinate with insurance and DME companies, schools, and community resources

➢ Medical Home
  – Includes care coordination service
  – Primary care model
  – Well child care
  – Screening and surveillance
  – Chronic condition management and co-management
  – Same day sick and urgent visits
  – 24/7/365 telephone availability

➢ Consultation
  – Facilitate decision to admit and discharge planning
  – Actively participate in care conferences during admission
Team Members

• Clinic Team
  – RN Care Coordinator
  – MD/NP Primary Care Provider
  – Scheduler
  – Social Worker
  – Clinical Dietician

• Consultative Team
  – Palliative Care
  – Psychology
  – Wound Ostomy
  – School Services
  – Medical Legal Partnership
Role of the Nurse Practitioner

• Each NP (Primary Care) has a panel of approximately 50 patients
• Patients seen as least once every 6 months
  – Most average 8 visits/year (range 4 to 16)
  – Appointments are 90 minutes in length – some as long as 2 to 4 hours, new patients 4 to 8 hours
• NP has two 4 hour sessions/week for care coordination, etc.
  – Form completion and correspondence are a major burden
• NP rotates call with MDs
  – A week at a time every 3 to 4 weeks with MD backup as needed
Specific Interventions

• The families are trained on how to appropriately use the providers and health care system
  – They are taught to call at any time for any emergencies and to not call for refills – to be proactive in meeting their needs

• Some patients arrive to the ED without first calling the on-call provider
  – EPIC system will identify and page the on-call provider at reg
  – Can re-educate regarding ED utilization as necessary
  – Avoiding ED visits for issues such as G-tube problems by establishing a plan directly with radiology to avoid going to the ED prior to a G-tube fluoroscopy check
Outcomes

• Patients and families report much higher levels of satisfaction with their care
  – Some were planning to leave our system before this service

• 2015-2016 comparisons of 50 patients:

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions</td>
<td>201</td>
<td>121</td>
</tr>
<tr>
<td>Maximum LOS</td>
<td>289</td>
<td>63</td>
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<tr>
<td>Average LOS</td>
<td>13.71</td>
<td>8.07</td>
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<tr>
<td>Total ER Visits</td>
<td>141</td>
<td>124</td>
</tr>
<tr>
<td>Acuity Level 3-5 Visits</td>
<td>80</td>
<td>57</td>
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</table>
Financial Impact

• Costly services to achieve the desired outcomes
  – Direct revenue does not cover costs
• Costs are recovered through overall reduction in health care costs by improving care coordination and reducing hospital and ED utilization
  – Have achieved reimbursement from payers for care coordination by providing evidence of overall utilization reduction
Challenges and Lessons Learned

- Caregiver fatigue and burn out
  - Burdensome work that can be exhausting and frustrating at times
    - Emotionally taxing, high-touch service
      - Lots of consoling, counseling, reassuring
    - Long appointments
    - Families often overwhelmed and exhausted
    - Many social issues
      - In and out of medicaid eligibility
  - Challenging home settings
    - Loss of utilities due to non-payment
    - Affordable housing is often sub-standard housing
Challenges and Lessons Learned

• Some of these patients are so medically complex that the opportunities to reduce utilization are minute
  – They will be admitted, but we have been able to decrease their overall LOS
  – Inpatient services once waited for patients to return completely to baseline before discharge due to poor follow-up, but now with good follow up these patients are being discharged earlier
Future State

• Fulfillment of open provider positions and acceptance of patients on our wait list
• Nurse Practitioner led remote clinics for care coordination beyond 30 miles
• Inpatient admitting service led by our complex care medical service providers
Break up into groups

JHACH MFN Institute Cohort-Based Patient Centered Medical Home

Problem Statement
Newborn infants with narcotic exposure in-utero, inflammatory bowel conditions, congenital heart disease, hypoxic-ischemic-encephalopathy, premature infants less than 1500g and newborn infants born to mothers with psychosocial stressors are at significant risk for neurodevelopmental impairment, disorders of growth and respiratory issues. Fragmented post-discharge care leads to:
- Multiple visits to care providers
- Poor compliance to health maintenance visits
- Lower vaccination rates
- Frequent visits to the emergency room
- Higher readmission rates within the first two years.

American Academy of Pediatrics recommends comprehensive and coordinated care in a "medical home setting" for those children with multiple clinical issues and specifically for those at risk for neurodevelopmental impairment as described above.

Current State
JHACH offers limited follow-up for those neonates at significant risk for adverse growth, respiratory and neurodevelopmental outcomes. Provision of care is fragmented, compliance to follow-up visits is low and the impact of clinical intervention strategies on long-term outcomes is ill defined.

Goals
- Develop cohort-based patient-centered medical home (NICHE'S) leveraging Neonatal Abstinence Syndrome, Intestinal Rehabilitation, Cardiac, Hypoxic Ischemic Encephalopathy, Extremely Low Birthweight infants and Maternal Toxic Stress cohorts as part of "Continuum of Value Based Care" concept of the MFN Institute.
- Meet the educational requirements for trainees enrolled.

Recommendation/Intervention
- Implement JHACH Cohort-Based Patient Centered Medical Home (CB-PCMH) using the model as described below.

Scope
- Provision of clinical care and neurodevelopmental assessments for at-risk infants based on Bright Futures Recommendation until age five years using multidisciplinary approach.

Proposal
- The CB-PCMH will be staffed by a Coordinator, a Navigator and two Medical Assistants.
- A full-time ARNP and 0.6 FTE Pediatrician will comprise the medical team.
- Cohort leads (neonatologists) and Subspecialists will attend clinics based on the cohorts.
- Hospital ancillary staff will continue continuum of care coverage (Case Manager, Social Worker, RD, SLP, PT and OT) in the CB-PCMH.
- Developmental Psychologist assigned to the MFN will administer Ages and Stages questionnaire at the prescribed ages and neurodevelopmental assessments at 18-22 months, and at age 3 years and 5 years.
- Cohort based PCMH will be housed in the OCC during Phase 1 and at an affiliate OCC during Phase 2 of the project.
- Patients in each cohort will be seen on a separate day of the week based on subspecialty choice and availability to conduct the multidisciplinary clinics.
- Neonates/Infants comprising the cohorts will be followed until age 5 years.
- Health maintenance visits, Triage and acute care visits will be provided by the PCMH team and disease specific follow-up during the same visit will be provided by multidisciplinary subspecialty team members.
- In collaboration with CMIO, and health informatics team a multidisciplinary EMR disease specific noted will be created.
- Technology will be leveraged for communication between parents and staff.

Benefits and Justification
- Provision of Compassionate, Coordinated, Collaborative and Continuum of care as part of population health management.
- Increase neonatal ICU length of stay through development of dedicated.

Key Metrics
- Decrease neonatal ICU length of stay in FY 2018 by 25%.
- Decrease visits to emergency room and rate of hospitalization by 25% in FY 2018.
- Provide neurodevelopmental screening for at-risk infants and offer intervention plans thru’ PMR for 80% of children.
- Target 90% vaccination rate by FY 2020.
- Target 90% compliance to CB-PCMH follow-up by 2019.
- Target 25% increase in referrals to CB-PCMH.
- Prepare for NCQA Designation in FY 2019.

Current Volume
- Neonatal Abstinence Syndrome- 160 patients;
- Intestinal Rehabilitation
- Hypoxic Ischemic Encephalopathy
- VLBW Infants

Fiscal Impact

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<tr>
<th>Line Item</th>
<th>Cost</th>
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<tr>
<td>Pediatric (0.8FTE)</td>
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<tr>
<td>ARNP- Pediatric Trained</td>
<td></td>
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<tr>
<td>CB-PCMH Navigator</td>
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<tr>
<td>Medical Assistants (2)</td>
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UTP High Risk Children’s Clinic

**Problem Statement:** Medical care for chronically ill children care is often fragmented, costly, and ineffective. Although the use of medical home has been advised, there is a lack of evidence that

**Previous State:** A clinic was available for chronic care two mornings a week. Sick visits were seen by rotation academic residents and attending physicians. After hour calls were consistently referred to ER and admitted. Care

**Intervention:** To provide a comprehensive medical home by experienced providers with the following components:
- Same day/walk in appointments
- After hour medical phone coverage
- Pedi Specialists in clinic
- Bilingual Providers in clinic/phone
- Care Coordination by PNP

**Current Clinic Population:** 335
225 CMC, 75 with severe asthma and 35 healthy siblings

**Current Activities:**
**Acute/Chronic Outpatient Care**
Continue to function as a certified medical home for children with medically complexity that is increasing in number of patients and number of specialists.

**Disease specific Specialty clinics:**
CDH, Cerebral Palsy

**Outpatient Care**
RCT: Hospital Consult Service for admitted patients with the same providers

**Key Metrics**
- Decrease number of serious illnesses (PICU admission, LOS > 8 days, death)
- Reduction in number of ER visits
- Reduction in number of hospital admissions

**Fiscal Impact: During RCT 2011-2015:**
- Medicaid payments reduced by $6,243
- Overall difference in net monetary benefit of comprehensive care relative to usual care was $10,734

**Goals:** To assess whether an enhanced medical home providing comprehensive care prevents serious illness (death, intensive care unit admission, or hospital stay >7 days) and/or reduces costs among such children.

**Disease specific research projects:**
Asthma, Cystic Fibrosis, Tracheostomies, BPD

Group Q and A

• Ask questions of the panel
  – Answer at a high level, avoid getting bogged down

  – Thank you!