**Overview**

The Hospital-Based Careers (HBC) Pathway was developed to help residents interested in primarily hospital-based careers (i.e. hospitalist, critical care, emergency medicine, neonatology, cardiology, hematology/oncology) tailor their educational experience during residency to their interests. The pathway’s basic elements are: 1) learning plan development guide, 2) mentorship and mentor meeting guide, and 3) special conferences.

**Pathway Learning Objectives**

1. Perform **evidence-based management** of pediatric conditions commonly requiring hospital-based management.
2. Coordinate care for **medically complex and technology dependent patients** presenting for management of acute problems.
3. Organize an **interprofessional team** to deliver safe and effective care.
4. Prescribe and perform **procedures** commonly used in acute and emergency settings, interpret results, and manage potential complications.
5. Manage a **deteriorating patient** within an interprofessional team.
6. Recognize opportunities for performance and **quality improvement**.
7. Provide **safe transitions of care** between settings, including triaging admissions and transitioning to discharge.
8. Identify threats to **patient safety** and determine strategies to mitigate them.
9. Recognize the impact of clinical decisions on the **cost of patient care**.

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| **Getting Started: How to use this pathway*** **Sign up now** Email Aisha Davis to be added to the distribution list and to set up a brief introductory meeting.
* **Select a Mentor & Meet** Use the mentor list or ask an attending you already know. Notify Aisha of your selection. Meet 2 times per year. Bring the *Mentor Meeting Guide* at the end of this document. Send completed document to Aisha.
* **Review HBC Pathway specific learning objectives** To ensure that the pathway meets your needs, *you* determine which objectives should be prioritized in your individualized curriculum. Select objectives to prioritize then pick from the suggested educational methods. Discuss this with your HBC mentor and portfolio advisor. Contact Aisha Davis if you need additional information regarding any options.
* **Plan to participate in special sessions** Watch for Outlook (email) invitations.
* **Consider selecting a QI project and/ or REACH Project with an inpatient focus**
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Visit the [HBC Pathway page on ResidentBook](http://www.childrensmedicaleducation.org/residents/course/view.php?id=48) for updates and information.

**Learning Objective #1 Perform evidence-based management of pediatric conditions commonly requiring hospital-based management.**

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| **Key Topics** based on Pediatric Hospital Medicine Core Competencies |
| Acute abdominal pain and the acute abdomenApparent-life threatening eventAsthmaBone and joint infectionsBronchiolitisCentral nervous system infectionsDiabetes mellitusFailure to thriveFever of unknown originGastroenteritisKawasaki Disease | Neonatal feverNeonatal jaundicePneumoniaRespiratory failureSeizuresShockSickle cell diseaseSkin and soft tissue infectionsToxic ingestionUpper airway infectionsUrinary tract infections |

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| **Opportunities to Learn****Required Rotations*** Inpatient Senior
* Holy Cross PL 2
* Emergency Department
* PICU
* NICU

**Selective Options*** Child and Adolescent Protection (CAPC)
* Infectious Diseases
* Subspecialty selectives (refer to elective and selective page of ResidentBook for options.

**Elective Options**Hospitalist Elective – Refer to information on Resident Book. Contact Anu Dayal and Aisha Davis to plan. Consider focusing on PHAST, mentored Bed Czar shifts, and incorporating Academic Team rounds observation.**Other Experiences*** Core reading – see Resident Book 🡪 [Hospitalist Academic Teams](http://www.childrensmedicaleducation.org/residents/course/view.php?id=56) 🡪 Key Topics & Core Reading
* Coordinate patient follow up session for HBC Pathway peers – Contact Aisha Davis to coordinate. Ideally occurs after an inpatient rotation or hospitalist elective. This would be an important addition to your CV.
* Present or organize an HBC Pathway talk or Journal Club related to a key topic – Contact Aisha Davis for more information. This would be an important addition to your CV. Hospitalists and Hospitalist Fellows will mentor you in preparing/ presenting these sessions.
* Metabolism online module – Coming soon to ResidentBook 🡪 Academic Teams 🡪 Key Topics & Core Readings
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**Learning Objective #2 Coordinate care for medically complex and technology dependent patients presenting for acute and emergency care.**

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| **Key Topics** |
| TracheostomyFeeding tubesVentricular shuntsGERD in medically complex patientsDysautonomiaCentral venous cathetersPost-NICU careTPN management | Autonomic dysreflexiaPalliative CarePressure UlcersSpasticityCare coordinationRehab basics: PT/ OT/ speech therapyEquipment & Assistive technologyTraumatic Brain InjurySpinal Cord Injury |

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| **Opportunities to Learn****Required Rotations*** Inpatient senior
* Emergency Department
* PICU
* NICU

**Selective Options** (See selective options on ResidentBook for more details.)* Genetics/ Metabolism
* Rheumatology
* Pulmonology
* ENT
* Neurodevelopmental disabilities
* Palliative Care

**Elective Options*** HELP (Hospitalist Evaluation and Perioperative) Consult Service – Can be scheduled alone (contact Miriam Bloom) or as part of a Hospitalist Elective (contact Anu Dayal and Aisha Davis). Be sure to spend time with the HELP case manager and social worker to learn more about cost of care and resources available to this special population.
* Palliative Care – Can be scheduled alone (contact Melanie Anspacher and Conrad Williams) or as part of a Hospitalist Elective (contact Anu Dayal and Aisha Davis).
* Perioperative Care Clinic (POCC) – POCC is an outpatient clinic staffed by both anesthesiologists and hospitalists. Although most pre-op patients see the anesthesiologist in POCC, the hospitalist only sees the medically complex patients, patients likely to be admitted to a hospitalist team, or those likely to be co-managed by a hospitalist on a surgical service post-op. The goal is to create pre- and post-op plans of care which minimize peri-operative risks. The clinic is in the afternoons on Mon, Wed, and Thurs. During the other times of day, the hospitalist is co-managing medically complex Orthopedics patients on the floors. This can be scheduled alone (contact Anjna Melwani) or during a Hospitalist elective (contact Anu Dayal and Aisha Davis).
* Outpatient Complex Care – Contact Karen Fratantoni and Cara Biddle to be guided to the right person for this opportunity.
* Physical Medicine and Rehabilitation – Contact Justin Burton. Be sure to attend specialty and equipment clinics.

**Other Experiences*** Hospitalist Children with Medical Complexity Modules – These modules will be released to residents soon. Contact Aisha Davis for more details.
* Complex Care Emergencies Simulation – Look out for this on the schedule of HBC Pathway events. It’s was created by CNHS Hospitalists and has been presented at national meetings for attendings around the country several times. Don’t miss this opportunity!
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**Learning Objective #3 Organize an interprofessional team to deliver safe and effective clinical care.**

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| **Opportunities to Learn****Required Rotations*** Inpatient senior
* Emergency Department
* CHC – senior block

**Selective Options*** Palliative care – See information on ResidentBook under electives/ selectives. Contact Melanie Anspacher and Conrad Williams for details.

**Elective Options*** Hospitalist Elective – Refer to information on Resident Book. Contact Anu Dayal and Aisha Davis to plan. Consider focusing on PHAST, mentored Bed Czar shifts, and incorporating Academic Team rounds observation.
* Transport elective – This is an outstanding opportunity and required in some residency programs! Contact Jen Schuette for planning. See Resident Book for additional information.
* Critical Care Elective – This is not just another PICU rotation. Contact Amanda Levin to discuss how you could focus on team dynamics and spend time with the CAT and Code Blue Teams as a first responder.

**Other Experiences*** Peer or faculty observation during rounds – This can be done as a part of a Hospitalist elective or separately. The 7E Discharge huddle would be useful. Contact Aisha Davis for help with planning.
* RN/ RT shadowing – Contact Heather Walsh or Jen Duval for details.
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**Learning Objective #4 Prescribe and perform procedures commonly used in acute and emergency care settings, interpret results, and manage potential complications.**

**Learning Objective #5 Manage a deteriorating patient within an interprofessional team.**

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| **Procedures**Per the ACGME, all pediatric residents should be proficient in the left column. Procedures in the right column should be required “if pertinent to future career”. If you’re considering a hospital-based career, many of these will be important for you. |
| **All pediatric residents** | **If pertinent to your future career** |
| * Bag-mask ventilation
* Bladder catheterization
* Giving immunizations
* Incision and drainage of abscess
* Lumbar puncture
* Neonatal endotracheal intubation
* Peripheral intravenous catheter placement
* Reduction of simple dislocation
* Simple laceration repair
* Simple removal of foreign body
* Temporary splinting of fracture
* Umbilical catheter placement
* Venipuncture
* Pediatric Advanced Life Support certification (including simulated placement of IO line)
* Neonatal resuscitation certification
 | * Arterial line placement
* Arterial puncture
* Chest tube placement
* Endotracheal intubation of non-neonates
* Thoracentesis
* *Circumcision*
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| **Opportunities to Learn****Required Rotations*** Inpatient Senior
* Holy Cross PL 2
* Emergency Department
* PICU
* NICU
* Neurology
* Well Baby Nursery

**Selective Options*** Pediatric Anesthesia
* ENT

**Elective Options*** Sedation elective (Georgetown) – See elective information on ResidentBook for details and contact information.
* Transport elective – This is an outstanding opportunity and required in some residency programs! Contact Jen Schuette for planning. See Resident Book for additional information.
* Critical Care Elective – This is not just another PICU rotation. Contact Amanda Levin to discuss how you could focus on team dynamics and spend time with the CAT and Code Blue Teams as a first responder.
* ED Procedures
* Holy Cross Deliveries – Contact Sandra Cuzzi regarding this opportunity to augment your delivery/ resuscitation skills and learn neonatal procedures.

**Other Experiences*** Resuscitation Day (required)
* Hospitalist Children with Medical Complexity Modules – These modules will be released to residents soon. Contact Aisha Davis for more details.
* Complex Care Emergencies Simulation – Look out for this on the schedule of HBC Pathway events. It’s was created by CNHS Hospitalists and has been presented at national meetings for attendings around the country several times. Don’t miss this opportunity!
* PALS
* NRP
* BLS
* STABLE program for pre-transport care of newborns – Very useful if you may be practicing in a community hospital. Contact Allison Markowsky for details.
* HBC Pathway *ICU Procedures ½ day* session Look out for dates and details. Discuss with the Chiefs to see whether you can arrange for coverage if you have clinical duties that day.
* HBC Pathway *You’re the Code Leader* session Look out for dates and details.
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**Learning Objective #6 Recognize opportunities for performance and quality improvement.**

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| **Opportunities to Learn****Requirements*** Quality improvement curriculum & project

**Elective Options*** Hospitalist Elective – Refer to information on Resident Book. Contact Anu Dayal and Aisha Davis to plan.
* Quality Improvement & Improvement Science - Although this is not an established elective, Amina Khan, Padma Pavuluri, and/ or David Stockwell may be willing to help you craft an experience.

**Other Experiences*** IHI Open School – Take this outstanding opportunity to take a $2000 online course for free!! See instructions on ResidentBook 🡪 Pathways & Tracks 🡪 HBC Pathway 🡪 Pathway rotations
* Divisional M&M – Contact Aisha Davis to be invited to Hospitalist M&Ms. If interested in other department’s M&Ms, then contact the division chief or resident rotation director.
* Medical Unit Care Delivery Team Meeting – Consider asking Padma Pavuluri and/ or Sade Ogunlesi (co-directors of 7East) whether you can join the care delivery team for that unit, or just one meeting. Inquire about unit initiatives, what their aims are, and how they’re tracking them.
* Join a quality improvement committee – Membership on a quality improvement committee can count for a significant portion of your QI requirement for residency. It is also an outstanding way to understand better how hospitals work.
* Consider a REACH project with an improvement science mentor.
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**Learning Objective #7 Provide safe transitions of care between settings, including triaging admissions and transitioning to discharge.**

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| **Opportunities to Learn****Required Rotations*** Inpatient senior
* Emergency Department
* Primary Care

**Elective Options**Hospitalist Elective – Refer to information on Resident Book. Contact Anu Dayal and Aisha Davis to plan. Consider focusing on Bear Direct and Bed Czar shifts. **Other Experiences*** 7E Discharge Huddle – Attend the discharge huddles on 7E during an elective to observe how
* Follow up rounds – Arrange a time to discuss with your mentor, Aisha Davis, or coordinate a session for other HBC Pathway residents to discuss follow up on your most recent HAR, ED, PICU, or inpatient experience. Be sure to answer the following questions:
	+ What was your clinical picture of them when you saw them?
	+ Did their ultimate diagnosis differ from what you originally thought?
	+ In hindsight, could you have done anything when you saw them to improve the quality, cost, or process of their care?
	+ Select a subset of patients to call after discharge. Did their care go as planned after discharge? In hindsight, is there anything you could have done differently to facilitate this?
* REACH or QI project opportunity – Consider a REACH or QI project focused on transitions of care (outpatient/ ED 🡪 inpatient, between inpatient services, or inpatient 🡪 outpatient)
* IPASS module – Available on Resident Book.
* Reading – Consider compiling a literature review on the topic and sharing with the other HBC Pathway residents via the ResidentBook forum.
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**Learning Objective #8 Identify threats to patient safety in daily practice and incorporate strategies to mitigate them.**

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| **Opportunities to Learn****Required Rotations** Reflection during all clinical rotations.**Elective Options**Hospitalist Elective – Refer to information on Resident Book. Contact Anu Dayal and Aisha Davis to plan. Consider focusing on PHAST, Bear Direct, mentored Bed Czar shifts, and incorporating Academic Team rounds observation. Discuss this goal in particular with your mentor daily.**Other Experiences*** Patient safety & Risk management – Consider contacting Lisa Scafidi to discuss opportunities to shadow.
* Improvement science – Consider contacting May-Brit Sten to discuss opportunities to shadow.
* Medical care unit care delivery team – Contact MUD for unit of interest.
* Incident report review with Chief Residents – Contact Chief Residents
* M&M committee – Contact Amina Khan. This also counts toward your QI project requirement.
* Divisional M&Ms – Contact division chief or education director for division of interest for schedule.
* Consider a REACH project which addresses patient safety.
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**Learning Objective #9 Recognize the impact of clinical decisions on the cost of patient care.**

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| **Opportunities to Learn****Required Rotations** Communication with case management during all clinical rotations. **Elective Options**Hospitalist Elective – Refer to information on Resident Book. Contact Anu Dayal and Aisha Davis to plan. Consider focusing on PHAST, mentored Bed Czar shifts, and incorporating Academic Team rounds then subsequent discussion with CM or utilization review regarding cost of care for patients on that team.**Other Experiences*** Follow up rounds/ case review – Follow up on cost of care for cases of interest. Discuss with your mentor or organize a session for your peers on this topic.
* Utilization review and case management review of cases during clinical rotations
* Web-based billing course – More information coming soon.
* REACH project opportunity
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**Resident Name:**

**Mentor Name:**

**Dates Updated:**

Of the activities listed for Learning Objectives 1-9 above, which have you completed. Were they helpful in achieving your goals? If so, how?

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| **PL 2** |

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| **PL 3** |

***TENTATIVE* AY 15 Schedule of Events**

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| **Date** | **Topic** | **Facilitators** |
| July 2014 | **Annual kick off meeting: How to get the most out of this pathway** |  |
| August 2014 | **Complex Care Emergencies – Part 1** |  |
| September 2014 | **How to Stay Current with the Literature** |  |
| October 2014 | **Top 10 Articles in Inpatient Medicine – Part 1** |  |
| October 2014 | **Quality Improvement 201** |  |
| November 2014 | **Top 10 Articles in Inpatient Medicine – Part 2** |  |
| December 2014 | **Complex Care Emergencies – Part 2** |  |
| January 2015*Evening*  | **Career Day Dinner** |  |
| January 2014 | **Resident-Led Topic Symposium** |  |
| February 2015 | **You = Code Team Leader (Group 1)** |  |
| February 2015 | **You = Code Team Leader (Group 2)** |  |
| March 2015 | **The Cost of Inpatient Care** |  |
| April 2015½ day | **Procedure Lab** |  |
| May 2015 | **Cases in Patient Safety** |  |
| June 2015*Evening* | **HBC Pathway Graduation & Welcome Dinner** |  |
|  | **Other potential topics:** |  |
|  | Advocacy for the inpatient providerShare your QI projectThe interprofessional teamLeadership skills for healthcare teamsTransitions of careIdentifying latent safety threats |  |

**Resident:**

**Mentor:**

1. **Current career interests** Career planning is a process. What are your current thoughts about your post-residency goals? If an area appeals to you, why?
2. **Individualized Curriculum Worksheet** Which HBC Pathway objective(s) have you already addressed (pg 12)? Which will you include in your individualized curriculum worksheet for the coming 6 months? Which educational methods will you include (use the learning plan development guide).

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| **√** | **Learning Objectives** |
|  | 1. Perform evidence-based management of pediatric conditions commonly requiring hospital-based management. [key topics list]
 |
|  | 1. Coordinate care for medically complex and technology dependent patients presenting for management of acute and emergency care.
 |
|  | 1. Organize an interprofessional team to deliver safe and effective care.
 |
|  | 1. Prescribe and perform procedures commonly used in acute and emergency care settings, interpret results and manage potential complications. [Procedures List]
 |
|  | 1. Manage a deteriorating patient within an interprofessional team.
 |
|  | 1. Recognize opportunities for performance and quality improvement.
 |
|  | 1. Provide safe transitions of care between settings, including triaging admissions and transitioning to discharge.
 |
|  | 1. Identify threats to patient safety and determine strategies to mitigate them.
 |
|  | 1. Recognize the impact of clinical decisions on the cost of patient care.
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1. **Quality Improvement** A solid understanding of QI methodology is important to all hospital-based careers and of increasing importance in all clinical settings. Have you acquired a basic understanding of QI through modules and/ or didactics? What is your QI project? Does it have an inpatient focus? What is your SMART aim? What are your outcome metrics? Who is your mentor? Will there be a scholarly product?
2. **REACH Project**
3. **Special Session Suggestions** Based on your career goals and current learning goals, are there any learning opportunities you would like for us to arrange?
* Complete ≥ 4 to earn a certificate
* Complete ≥ 7 to earn a certificate with distinction
* **4 educational units** focused on meeting HBC Pathway learning objectives. Documented in your individualized curriculum worksheet (ICW). An educational unit =
* Presentation and/ or coordination of a HBC Pathway session.
* Completion of **online QI or safety modules**

[IHI Open School](http://app.ihi.org/lms/onlinelearning.aspx) Modules: PS 100-106, L101, QI 101-106, PFC 101-102

 Code:

 Print and upload the certificate to your MedHub portfolio.

* **QI project** with hospital-based focus which **meets the following criteria**:
	+ **SMART aims** Specific, Measurable, Achievable, Realistic, Time-based
	+ Incorporation of **process, outcome, and/ or balancing metrics**
	+ **QI tools** utilized

 As reviewed by your HBC Pathway mentor or QI faculty.

* **REACH project** with hospital-based focus or expected. Upload project proposal and any scholarly products to your MedHub portfolio.
* **Attendance** at >50% of special HBC Pathway sessions
* **Scholarly product** of QI, REACH, or other work. Upload to your MedHub portfolio.
* Attend a **national conference** for one of your areas of interest.