

Beth A. Spurlin, M.D., Ph.D., MBA

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EDUCATION

08/1990-12/1993 B.S. in Biology, Indiana University, Bloomington, IN
08/1990-05/1994 B.A. in Chemistry, Indiana University, Bloomington, IN
08/2000-06/2005 Ph.D. in Biochemistry and Molecular Biology, Indiana University School of Medicine, Indianapolis, IN
06/2005-08/2006 Postdoctoral Fellow, VitaCyte, Indianapolis, IN
08/2006-05/2010 M.D., Indiana University School of Medicine, Indianapolis, IN
07/2010-06/2013 Residency, Pediatrics, St. Vincent Pediatric Residency Program, Indianapolis, IN
07/2015-6/2018 Fellowship, Pediatric Emergency Medicine, University of Louisville, Louisville, KY
08/2017-5/2019 Professional MBA – University of Louisville, Louisville, KY

ACADEMIC APPOINTMENTS

09/2013-05/2014 Instructor in Pediatrics
Department of Pediatrics
Division of Pediatric Emergency Medicine
University of Louisville School of Medicine
Louisville, KY

05/2014-07/2015 Assistant Professor
Department of Pediatrics
Division of Pediatric Emergency Medicine
University of Louisville School of Medicine
Louisville, KY

07/2018-Present Assistant Professor
Department of Pediatrics
Division of Pediatric Emergency Medicine
University of Louisville School of Medicine
Louisville, KY

01/2022-Present Assistant Professor
School of Business
University of Louisville
Louisville, KY

CERTIFICATION AND LICENSURE

2010-2015	Indiana Medical License (#01072143A)
06/2013-Present	PALS Provider
07/2013-Present	Kentucky Medical License (#46316)
08/2013-Present	American Board of Pediatrics, General Pediatrics Certification
2013 – Present	DEA (FS3791399)
06/2016-06/2020	Advanced Trauma Life Support (ATLS) Certified
09/2017-Present	Basic Ultrasound Training and Certification
3/2018-Present	PALS Instructor (05180684780)
4/2019-Present	American Board of Pediatrics, Pediatric Emergency Medicine Certification

PROFESSIONAL MEMBERSHIPS AND ACTIVITIES

2006-Present	American Academy of Pediatrics <ul style="list-style-type: none"> • Member, Section on Emergency Medicine • Member, Council on Children and Disasters
2009-Present	American College of Emergency Physicians <ul style="list-style-type: none"> • Member, Section Pediatric Emergency Medicine • Kentucky Chapter – Board of Directors (10/2020)

HONORS AND AWARDS

2001-2003	Pre-Doctoral Fellowship-Center for Diabetes Research, Indiana University School of Medicine
2004	Sigma Xi Graduate Research Competition-Honorable Mention

COMMITTEE ASSIGNMENTS AND ADMINISTRATIVE SERVICES

2016-2017	Medical Appraisal Committee
2017-2018	Code 300 Committee
2017-Present	Disaster Preparedness/Mass Casualty Planning Committee
8/2018-Present	Chair of Disaster Preparedness/Mass Casualty Committee
1/2018 -10/2019	Search Committee for Emergency Medicine Chair Position
10/2018-7/2020	Assistant Medical Director of Pediatric Emergency Medicine, University of Louisville
10/2018-Present	Director Pre-Hospital Care/EMS
10/2018-Present	ED Clinical Practice Team (CPT) Committee
10/2018-7/2020	Emergency Department Operations Committee (EDOC)
10/2018-Present	PEM Services Committee
10/2018-Present	Pediatric Emergency Medicine Communications Committee
10/2016-Present	Just for Kid's Transport Committee
8/2019-Present	AAP Council on Disaster Preparedness Advisory Council/Council for Children & Disaster
9/2019-Present	Healthcare Operations Team – Financial Analysis on various projects
10/2009-Present	American College of Emergency Physicians
10/2020-Present	American College of Emergency Physicians – Board of Directors

CLINICAL/EDUCATIONAL ACTIVITIES (LECTURES/PRESENTATIONS/WORKSHOPS)

Director of Business of Healthcare Certificate Program – School of Business, University of Louisville	
1/2022-Present	Director

- Designing a new certificate program that focuses on providing healthcare professionals or those who wish to get into healthcare with the knowledge and skills needed to bridge clinical medicine with managerial roles with the focus on business topics such as strategy, operations, economics, accounting and finance, population management, conflict management & negotiations as well as how to build a service line in the healthcare industry.
- Responsible for finding instructors to teach in the program

School of Medicine

DISASTER PREPAREDNESS/MASS CASUALTY COMMITTEE

8/2017-Present

Chair – University of Louisville/Norton Children’s Hospital

- Training residents, fellows and attendings on disaster preparedness and DECON training
 - Yearly lecture to incoming fellows as well as 4-5 lectures/year to residents on procedural rotation
 - Designed a training webinar for all PEM faculty/fellows
- Prepared Code Yellow Stat – 80 paged - Emergency Operations Plan
- Continue to develop policies, job aides and procedures that incorporates the entire hospital for mass casualty events and evacuation scenarios
 - 6/19 – Hospital Wide Disaster Drill – 15 patients with GSW scenario
 - 8/19 – Hospital Wide Disaster Drill – 10 patients, school shooting
 - 6/21 – Hospital Wide Disaster Drill – 10 (6 live/4 paper), roller coaster incident
 - 6/22 – Hospital Wide Disaster Drill – 11 live patients, bus accident c explosion

CENTER FOR HEALTH PROCESS INNOVATION – UNVIERSITY OF LOUISVILLE MEDICAL SCHOOL

7/2019-Present

1. Co-Director - Distinction Track in Business and Leadership (DIBL) – Medical School Students

- Design & Implement new track consisting of articles, TED talks, Medscape™ collaboration for specific topics in the business of medicine
- Teach 2 (4 week) courses a year on the topic: Business of Medicine (BoM) elective to medical students
 - Design coarse work base on multiple business topics

2. Steering Committee - Distinction in Business leadership – Educational program for Medical Students

- Monthly topics of discussion include:
 - Racial disparities and social injustices
 - Financial topics/loan repayment options
- Virtual Children’s Hospital Model – Co-lead a project that evaluates the effectiveness of the use of a virtual hospital care system during high peak respiratory season
- Pediatric Emergency Medicine – study reviewing the cost effectiveness of the Master’s program versus certificate at University of Louisville compared to other fellowship programs

- Creating a new Biodesign Institute at the University of Louisville, Bluegrass Biodesign. Project will launch in 2021 with the collaboration of the School of Medicine, Business and Engineering.
 - Palliative Care Project – study cost effectiveness of starting a new palliative care program for Norton Children’s Hospital.
 - Case Social Workers in a General Outpatient Clinic – cost effectiveness as well as overall medical and behavioral benefit of adding a social worker to this environment.
3. Independent Assignments – Hospital Operations Team
- Financial Analysis - Multi-Institution Healthcare benefits for LGBTQ (2019)
 - Cost and market analysis for a pediatric cardiac anesthesiologist – recruitment strategies (2019)
 - Market Healthcare analysis in Owensboro, Evansville, In and the Tri State area – economic study focused on healthcare needs in Kentucky, southern Indiana and Eastern Illinois. (2020)
 - Created PEM Fellow - Business Track – Pediatric Emergency Medicine Fellows (2018)
 - Provides opportunity for the PEM fellows to gain experience with various administrative duties, provides insights to personal finance as well as reimbursement, billing/coding and leadership in medicine
4. Co-Director – Business of Medicine Elective
- Teach 2 (4 week) elective courses per year on the topic: Business of Medicine (BoM) elective to fourth year medical students
 - Design coarse work base on multiple business topics including finance, career opportunities, reimbursement, communication and leadership

JUST FOR KIDS (JFK) TRANSPORT LIAISON

7/2019-Present

1. Community Out Reach Program
 - 5/20 - Status epilepticus and Sepsis Scenario Simulations – Clark Memorial ED
 - 5/21 – Asthma and Seizure Scenario Simulations - Georgetown Hospital ED
 - 7/21 – Myocarditis/arrhythmia and Meningitis/Seizure Simulations – Winchester hospital ED
 - 2/22 – Asthma/Meningitis/Seizure Simulations – Ephraim Hospital ED, Danville KY
2. Procedural Labs for JFK Team
 - 8/20 – Proper placement/technique of Intraosseous placement; Defibrillation/Cardioversion/Pacing
 - 8/21 – Cricothyrotomy, Needle cricothyrotomy with Jet Ventilation

DIRECTOR OF PRE-HOSPITAL/EMS CARE – NORTON CHILDREN’S HOSPITAL

7/2018-Present

- Simulation for Pediatric Assessment, Resuscitation and Communication program (SPARC) EMS node

- Created curriculum - didactics/lectures/Simulations
 - 3/19 - Lecture on proper patients for trauma activation/ED radio dispatch – St. Matthews EMS
 - 5/4/21 – Pediatric Respiratory Emergencies – Jeffersontown Fire/EMS
 - 5/5/21 – Pediatric Chronic Care – Jeffersontown Fire/EMS
 - 5/6/21 – Asthma & Seizure Simulations – Buechel Fire/EMS
 - 8/23/21 – Status Asthma Simulation/didactic – Shelby Co EMS
 - 8/27/21 – Asthma Simulation/didactic – High View EMS
 - 8/30/21 – Asthma Simulation/didactic – PRP EMS
 - 9/15/21 – Asthma Simulation/didactic – Spencer Co EMS
 - 9/29/21 – Asthma Simulation/didactics – St. Matthews Fire/EMS group A
 - 9/30/21 – Asthma Simulation/didactics – St. Matthews Fire/EMS group B
 - 10/7/21 – Asthma Simulation/didactics – St. Matthews Fire/EMS group C
 - 11/1/21 – Asthma Simulations/didactics – Jeffersontown EMS/Fire group A
 - 11/3/2021 - Asthma Simulations/didactics – Jeffersontown EMS/Fire group B
 - 12/2/2021 - Asthma Simulations/didactics – Jeffersontown EMS/Fire group C
 - 4/13/22 – Asthma Simulations/didactics – Anchorage EMS/Fire Group A
 - 4/27/22 – Asthma Simulations/didactics – Anchorage EMS/Fire Group B

- Review issues/transport concerns – improve communication and rapport
- Reviewing Pediatric data for St. Matthew’s EMS project – Ketamine use for pediatric analgesia – current project

TEACHING COURSES/INVITED LECTURES – UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE

1. Introduction into Clinical Medicine
 - a. Health Care Costs and Quality in the US 3/21
 - b. Health Care Costs and Quality in the US 3/22

2. Humanism and Compassion in Medicine (HCM)
 - a. 2021-2022 – lead discussion on various topics with first year medical student on a monthly basis
 - i. Belongingness, culture/identities & strength finder

3. Business of Medicine Elective – 4 week elective in various business topics
 - a. Course if offered twice a year since 2020

CLINICAL PRACTICE TEAM/PEM SERVICES COMMITTEES – NORTON CHILDREN’S HOSPITAL
7/2018-Present

1. Committees focus on quality improvements, implementation of new test protocols and processes in the ED

- Appendicitis Algorithm
- Femoral Nerve Block

PEDIATRIC EMERGENCY MEDICINE FELLOWS CONFERENCE

10/2015	Lidocaine in RSI, Lecture, Department of Pediatric Emergency Medicine, University of Louisville School of Medicine
3/2016	Hip Dislocation and Reduction Techniques, Lecture, Department of Pediatric Emergency Medicine, University of Louisville School of Medicine
7/2020	Mass Casualty/Disaster Preparedness, Department of PEM, University of Louisville, School of Medicine
9/2020	Disaster triage, Lecture, Department of PEM, University Louisville, School of Medicine
7/2021	Mass Casualty/Disaster Preparedness, triage, Department of PEM, University of Louisville, School of Medicine

ADULT EMERGENCY MEDICINE RESIDENT CONFERENCE

11/2016	One Pill Can Kill, Lecture, Department of Pediatric Emergency Medicine, University of Louisville School of Medicine
9/2017	Pediatric Cardiology, Lecture, Department of Pediatric Emergency Medicine, University of Louisville School of Medicine

PEDIATRIC EMERGENCY MEDICINE MORBIDITY CONFERENCE

7/2016	Trachea Decannulation
9/2016	Hyponatremia
2/2017	Respiratory Failure & ECMO

RESIDENT LECTURES

8/2015-Present	Resident Lectures, Department of Pediatrics, University of Louisville School of Medicine, Norton Children's Hospital <ul style="list-style-type: none"> • Recognition and Management of Kawasaki Disease • Approach to Animal Bites/Stings • Common Ingestions • Recognition and Management of Henoch-Schonlein Purpura • Metabolic Disorders • Recognition and Management of Increased Intracranial Pressure
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PEDIATRIC EMERGENCY MEDICINE PROCEDURAL COURSE

10/2015-Present	Department of Pediatric Emergency Medicine, University of Louisville – Resident/Fellow teaching. <ul style="list-style-type: none"> • Suturing • Splinting • Incision and Drainage • Lumbar Punctures • Disaster Preparedness and DECON training
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PEDIATRIC EMERGENCY MEDICINE SIMULATIONS

8/2017	Status Asthmaticus for Residents
11/2017	Pulmonary Hypertension Crisis for Fellows
5/2020	Status epilepticus and Sepsis Simulations – JFK outreach program – Clark Memorial ED

PEDIATRIC EMERGENCY MEDICINE TRAUMA CHOREOGRAPHY

7/2015-Present Yearly training as leader in trauma scenarios

PEDIATRIC EMERGENCY MEDICINE – OTHER

8/2020 ED Trauma Nurse - Procedural training – Chest tube placement, I/O placement, Needle decompression, Needle tracheostomy and Intubation

NATIONAL, STATE CONFERENCES AND LOCAL PRESENTATIONS – INVITED LECTURES

2/2016 A Multicenter Analysis of Value of Time, Presentation, National Fellow’s Conference, Ann Arbor MI

6/2017 How Effective Team-Work Can Improve Care in a Medical Crisis – Pediatric Ground Rounds, Norton Children’s Hospital – live scenario participant

8/2019 Mass Casualty/Disaster Preparedness - Nursing Ground Rounds – Norton Children’s Hospital

7/2020 Hodgepodge of Summertime Pediatric Emergencies; Cumberland Family Medical Centers Symposium

PEDIATRIC ADVANCED LIFE SUPPORT (PALS) INSTRUCTOR

5/2018 “Respiratory and Shock”, Hospital Personnel, Norton Children’s Hospital

2/2019 “BLS and AED”, Hospital Personnel, Norton Children’s Hospital

9/2019 Cardiac and Respiratory Shock, Hospital Personnel, Norton Children’s Hospital

2/2020 Cardiac and Respiratory Shock, Hospital Personnel, Norton Children’s Hospital

11/2020 Cardiac Shock and Defibrillation/synchronize/pacing, Hospital Personnel, Norton Children’s Hospital

2/9/2021 Cardiac and Respiratory Shock, Hospital Personnel, Norton Children’s Hospital

3/2022 Cardiac and Respiratory Shock, Hospital Personnel, Norton Children’s Hospital

4/2022 Cardiac and Respiratory Shock, Hospital Personnel, Norton Children’s Hospital

PROFESSIONAL LEARNING

9/2018 NIH Stroke Certificate

11/2018 Ultrasound Sonopalooza: PEM Faculty vs PEM Fellows – participation

12/2018 Critical Airway Simulation – participation

1/2019 Improving shock/CPR time Simulation – participation ground rounds, Norton Children’s Hospital

5/2019 Sepsis Recognition – Training

5/2019 Communication - Simulation - participation

8/2019 & 8/2021 Procedures Credentialing – Cardiac Pacing, Tube Thoracotomy, Melker/Needle Cricothyrotomy, Pericardiocentesis, Percutaneous Trans-Tracheal Ventilation

12/2019 Bedside Ultrasound – cardiac

10/2020 Simulations – sepsis recognition

MENTORING AND ADVISING

	Advisee	Current Position
7/2018-2020	Rosina Hussain, MD	Assistant Professor, Children’s Minnesota
7/2020	Dominique Elmore DO – SOC PEM project – Incorporating Pediatric Specific Education Into Emergency Medical Services Training	
9/2020-2021	Tajalia Tillman – Porter Scholar’s	
9/2020-2021	Juliana Bastien – Porter Scholar’s	
9/2021-Present	Akriti Bhargava MD – SOC PEM project – Cost Effectiveness of POCUS in the Pediatric	

Emergency Department.

MISSION TRIPS

5/2017

Introduction to FAST and Cardiac Ultrasound in Chiapas, Mexico

PUBLICATIONS

Financial Barriers to Medical Care – Helping Uninsured and Underinsured Patients Pay for Their Treatment; John Dickens; In Kim MD, MBA; **Beth Spurlin MD, PhD, MBA**, Medscape Academy; <https://www.medscape.com/courses/business/100027>; April 2022

Spurlin BA, Thomas RM, KIM HJ, Noh HL, Shulman GI, Kim JK and Thurmond DC. Insulin Resistance in Tetracycline-Repressible Munc18c Transgenic Mice. *Diabetes*. 2003 Aug; 52(8): 1910-1917

Spurlin BA, Park SY, Nevins AK, Kim JK and Thurmond DC. Syntaxin 4 Transgenic Mice Exhibit Enhanced Insulin-Mediated Glucose Uptake in Skeletal Muscle. *Diabetes*. 2004 Sep; 53(9): 2223-2231

Oh E, **Spurlin BA**, Pessin JE, and Thurmond DC. Munc18c Heterozygous Mice Display Increased Susceptibility For Severe Glucose Intolerance. *Diabetes*. 2005 Mar; 54(3): 638-647.

Spurlin BA, Thurmond DC. Syntaxin 4 Facilitates Biphasic Glucose-Stimulated Insulin Secretion From Pancreatic b-cell. *Molecular Endocrinology*. 2006 Jan; 20(1): 183-193.

McCarthy RC, **Spurlin BA**, Wright MJ, Breite AG, Sturdevant LK, Dwulet CS, Dwulet FE. Development and Characterization of a Collagen Degradation Assay to Assess Purified Collagenase Used in Islet Isolation. *Transplant Proc*. 2008 Mar; 40(2): 339-342.

ORAL PRESENTATIONS: Local/State/National

Using Quality Improvement to Bring Value to Your Organization: The Business Case; Hannah Fischer, MD; Kerry Caperell MD, MS, MBA, Stephen A Pearlman, MD, MSHQS, **Beth Spurlin MD, PhD, MBA**, and Scott D. Duncan, MD, MHA; Pediatric Academic Societies – Workshop, Denver, Colorado; April 2022

Using Quality Improvement to Bring Value to Your Organization: Financial and Economic Analysis: Hannah Fischer, MD; Kerry Caperell MD, MS, MBA, Stephen A Pearlman, MD, MSHQS, **Beth Spurlin MD, PhD, MBA**; In Kim, MD, MBA and Scott D. Duncan MD, MHA; Pediatric Academic Societies – Workshop, Denver, Colorado; April 2022

Holland S, Brueckner-Collins J, Dickens J, **Spurlin B**, Kim IK, Haustein D. The Development and Implementation of a Business of Medicine Elective to Deepen Medical Student Knowledge. Celebration of Teaching and Learning Conference, Delphi Learning Center, February 2, 2021, Louisville, KY.

Holland S, Brueckner-Collins J, Dickens J, **Spurlin B**, Kim IK, Haustein D. The Development and Implementation of a Business of Medicine Elective to Deepen Medical Student Knowledge. Oral Presentation presented at University of Southern California Innovations in Medical Education Online Conference, February 18th, 2021 Los Angeles, CA.

Cho YR, Park SY, **Spurlin BA**, Kim HJ, Higashimori T, Thurmond DC, Kim JK. *Transgenic Mice with*

Overexpression of Syntaxin 4 are Protected from Diet-Induced Insulin Resistance. Oral presentation presented at American Diabetes Association Conference 64th Session in Orlando, FL, June 2004.

Spurlin BA, Nevins AK, Park SY, Kim JK, and Thurmond DC. *Syntaxin 4 Transgenic Mice Exhibit Increased Insulin Sensitivity.* Oral presentation presented at American Diabetes Association Conference 64th Session in Orlando, FL, June 2004.

Spurlin BA. *Regulation of Glucose Homeostasis by Munc18c and Syntaxin 4.* PhD Thesis, Department of Biochemistry and Molecular Biology, Indiana University School of Medicine in Indianapolis, IN, June 2005.

Spurlin BA, Thurmond DC. *Syntaxin 4 Facilitates Biphasic Insulin Secretion in Pancreatic β -Cells.* Oral presentation presented at American Diabetes Association Conference 65th Session in San Diego, CA, June 2005.

POSTER PRESENTATIONS: Local/State/National

Optimizing Nurse Navigator Caseloads in a Pediatric Multidisciplinary Clinic Using a Novel Pediatric Patient Acuity Tool. Bryce Marshall; Austin VonAxelson; Jennifer Thomas DNP; Brienne Merten; Luke Byerly; James Young; Cynthia Downard MD; In Kim MD, MBA; **Beth Spurlin MD, PhD, MBA.** Norton Children's Medical Group and University of Louisville School of Medicine; Research Louisville. October 26th, 2021. Louisville KY.

A Financial Model for a Virtual Children's Hospital. Yates, Nicholas; Gupta, Ankur; Ahmed, Faizan; Das, Victoria; Woomer, Bethany MD; Rodgers, George MD; Kim, In MD, MBA; **Spurlin, Beth MD, PhD, MBA.** University of Louisville School of Medicine, Research Louisville. October 26th, 2021. Louisville KY.

Financial Model for Case Social Workers in a General Pediatrics Academic Outpatient Clinic. Gupta, Ankur; Das, Victoria; Delong, Courtney; Kim, In MD, MBA; **Spurlin, Beth MD, PhD, MBA;** Pendleton, Amber MD. Research Louisville. October 26th, 2021. Louisville, KY.

Patient Acuity Tool: A Novel to Optimize Nurse Navigator Caseloads. Marshall B, VonAxelson A, Byerly L, Young J, Downard C, Thomas J, Merten B, Kim IK, **Spurlin B.** Academy of Oncology Nurses and Nurse Navigators Meeting. November 17th, 2021.

Byerly, Luke T; Rizenbergs, Kyle; Yates, Nicholas; **Spurlin, Beth;** Kim, In; Graff, Danielle. Pediatric Emergency Medicine Fellowship Master's Degree Cost and Curricula Analysis. Pediatric Academic Societies Meeting, Philadelphia, PA, April 28, 2021.

Spurlin BA, Thomas RT, Kendrick NS, Thurmond DC. *Glucose Homeostasis in Tetracycline-Repressible Munc18c Transgenic Mice.* American Diabetes Association Conference 62nd Session in San Francisco, CA, June 2002.

Park SY, **Spurlin BA**, Kim HY, Higashimori T, Choi H, Yoon, Kim YJ, Noh HL, Thurmond DC, Kim JK. *Transgenic Mice with Overexpression on Syntaxin 4 Have Increased Insulin Sensitivity but Mice with Overexpression of Munc18c are Insulin Resistant in Skeletal Muscle.* American Diabetes Association Conference 63rd Session in New Orleans, LA, June 2003.

Grants:

Health Response and Service Administration (HRSA)- Regional Pediatric Pandemic Network (RPPN) – Purpose to coordinate among the nation's children's hospitals and their communities in preparing for and responding to global health threats, including the coordination, preparation, response, and real-time dissemination of

research-informed pediatric care for future pandemics. The University of Louisville (as part of Norton Children's Hospital in Louisville) agrees to establish this subaward with University Hospitals Cleveland Medical Center, Cleveland, Ohio, in response to a cooperative agreement with the *HRSA 21-104 Regional Pediatric Pandemic Network*. Mary Fallat MD, PI; **Beth Spurlin MD, PhD, MBA** – Expert matter in disaster Preparedness and Mass Casualty – 5 year grant 2021-2026