

# Anu Banerjee, PhD MS MHM HRM ERM

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## *Professional Profile*

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- As a Chief Quality and Innovation Officer, I am responsible for identifying and implementing variety of initiatives focused at improving patient care quality across the enterprise through an Integrated Care Delivery System approach (Population Health Model).
- Am a quality focused mentor, analytic problem-solver and primarily patient centered and upper-echelon patient satisfaction leader.
- Been providing vision and strategy continuously to motivate quality performance through professional mentoring, recognition and standardization.
- Developing and leading continuous improvement programs throughout the enterprise to sustain excellence in quality and patient safety domains.
- Innovating Predictive Healthcare Analytics by strengthening data and information capabilities of the enterprise.

## *Recent Quality and Patient Safety Milestones*

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- A Rapid Improvement Event – 12 week lean method – Bar Code Medication Administration rate was improved from 48% to 90%.
- The Falls Prevention Bundle to predict and prevent major and moderate falls was designed to reduce 12 % in year 1 and 45% in year 2.
- The Hospital Acquired Pressure Ulcer Bundle to real time prediction and prevention was implemented to reduce 71% in one year.
- The Central line Associated Urinary Tract Infection (CAUTI) was reduced from a rate of 2.5% to 0% in 11 months using invasive bundle strategies.
- Clostridium Difficile aka C-Diff Rates dropped from 17.7 to 2.5 in 12 months using innovative workflow processing and predictive analytics.
- Readmission Reduction Bundle: One initiative the development of a risk adjusted assessment tool to identify high risk patients and provide better coordinated care. It resulted in a reduction of 17% and is more accurate (93%) in prediction, compared to LACE (66%).

- Patient Flow Rapid Improvement Activities: Lean and six sigma activities like the A3 sigma tool to perform rapid improvement events like patient discharge process, central scheduling, admissions process, ED door to floor times, and post discharge processes.

## *Professional History*

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### **Arnot Ogden Medical Center**

#### **Chief Quality and Innovation Officer**

**- present**

Responsible for operations metrics, policy and procedure development, project management, reimbursement and revenue modeling, budget oversight, predictive analytics, team building, system integration and partner collaborations.

- Built and refined a ground-up strategy for better workflow processes based on clinical and evidence-based practices.
- Developed new, efficient processes to expedite and promote quality work utilizing the same resources in order to reduce costs.
- Advocated for staff empowerment by providing guidance through mentoring and providing experience in order for them to gain confidence in their duties.
- Promote superior employee relations by collaborating with staff as a colleague as opposed to superior to facilitate strong cooperative bonds and avoid micromanaging.

### **Siemens Medical Solutions**

#### **Senior Director, Workflow Center of Excellence and Analytics**

##### **Assistant Research Scientist**

**March 2014 – January 2015**

Helmed cost effective, skilled operations with strategic methods for enhancing patient responsiveness and staff productivity; encouraged product development to facilitate greater openness between physician and patient, strengthened collaborative efforts between employees, and acted as go to leader for operational efficiency.

- Granted insight into new healthcare regulations and implemented resolutions to increase accuracy in diagnosis.
- Researched hospital compliance difficulties to facilitate more efficient healthcare workflow processes.
- Strategized and organized future goals for the department by creating realistic, timeline project work-plans with short-term and long-term goals.
- Maintained budget parameters while providing optimal solutions to accommodate patient demand.
- Collaborated with other senior management to meet aims more effectively such that all aspects of the organization were streamlined towards an equal level of excellence.

## **United Health Services**

### **Senior Business Intelligence Leader**

**2005-2014**

Spearheaded comprehensive analyses of product-line operations to determine cost-effective measures; tireless collaboration with senior management to provide extensive understanding of procedural strategies and revenue control; initiated clinical and financial systems integration, synthesizing major elements of the hospital for more efficient leadership.

- Combined financial and clinical systems to guide senior management personnel to more comprehensive approaches for streamlining all hospital departments.
- Developed innovative solutions to optimize patient care and minimize healthcare costs, improving inpatient and outpatient care, emergency department efficiency and ambulatory surgery.
- Performed data analysis to advance core measures to meet JCAHO regulations while still promoting partnership and collaboration between the departments.
- Built, support, and enhanced hospital data system using both financial and clinical decision support systems to assist senior management and physicians in making informed decisions.
- Reduced manual hospital reporting efforts and increase accuracy in all patient care data through automated reporting systems.
- System level data integration and standardization to provide comprehensive product-line analysis.
- Supervised a central data warehouse for the entire hospital to manage data across the departments and use a single source reporting tool for more inclusive management standards.
- Mentored data analysis administrators and system analysts, and worked with the director of product-lines, to manage secure databases and ensure strict HIPAA confidentiality regulations.
- Developed project plan and timelines to maintain project coordination with other systems, and exchanged information between the four hospitals of UHS.
- Trained and oversaw business intelligence team members to prompt in-depth support systems to maintain management standards and group collaboration.

## Education

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**Doctoral of Business in Healthcare Management** - Binghamton University

**Masters of Business in Healthcare Management** - University of Scranton

## **Masters of Science in System and Industrial Engineering (Concentration: Healthcare Process Engineering) - Binghamton University**

### Faculty - University Courses

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- Modeling for Healthcare – School of Engineering
- Data Analytics and Databases – School of Management
- Decision Modeling and Analysis – School of Management
- Database Programming and Query – School of Management

### Community & National Volunteer Positions

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- Healthcare Advisory Board member – HANYS – Hospital Association of New York State
- ACHE American College of Healthcare Executives – Member
- Healthcare Panel – Syracuse University School of Management
- Flood Relief Committee for Southern Tier
- Team Leader, Day of Caring – September 11
- Translator for the Autistic children at the Children Handicapped Association
- Committee member at the India Cultural Center

### Published professional publications

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1. S. Agnihotri, and A. Banerjee, “Capacity Management at a Preadmission Testing Center INFORMS”, November 2014, INFORMS San Francisco
2. S. Agnihotri, and A. Banerjee, “EHR and its Impact to Healthcare”, INFORMS; November, 2014 INFORMS San Francisco
3. S. Agnihotri, and A. Banerjee, “ “EHR and its Impacts on Healthcare”, Decision Science Institute 2014 Conference; November 2014
4. S. Agnihotri, and A. Banerjee, “Reducing Patient Wait in a Preadmission Testing Center”, Decision Science Institute 2014 Conference; November 2014
5. PATENT filed: “ System and Method for Monitoring Patient Health”, US PATENT OFFICE, March 18, 2014
6. S. Agnihotri, and A. Banerjee, “Impact of Mobile Health Monitoring for Diabetes and Hypertension on Patient care”, POMS, Washington DC, May 2015
7. S. Agnihotri, and A. Banerjee, “Increasing Nursing Staff Efficiency in a Cardiac Catherization Laboratory”, POMS, Washington DC, 2015
8. S. Agnihotri, and A. Banerjee, “EHR and its Impact on Healthcare Systems Process Improvement Conference 2015, Society for Health Systems Leader, February, 2015i

9. S. Agnihotri, and A. Banerjee, "Designing Customized Rules for Intervention when using Home Based Monitoring Systems for Diabetes", INFORMS 2015, October 2015
10. S. Agnihotri, and A. Banerjee, "Improving Patient Care using Integrated Health Monitoring Systems for Diabetes and Hypertension", INFORMS 2015, October, 2015
11. A. Banerjee, Ramanujan, R. A. and S. Agnihotri. "Mobile Health Monitoring: Analysis of an app in a Diabetes and Hypertension Clinic," Proceedings of the 49th Annual Hawaii International Conference on System Sciences (HICSS), January, 2016; Kauai, HI.
12. S. Agnihotri, and A. Banerjee, "Analytics to Improve Service in a Pre-Admission Testing Clinic," Proceedings of the 48th Annual Hawaii International Conference on System Sciences (HICSS), January 5-8, 2015; Grand Hyatt, Kauai, HI.
13. A. Banerjee, "Case Study: Decrease Health Care Costs by Reducing Readmissions Health Care Predictive Analytics Summit Encourage DataDriven Decisions to Increase Efficiency, Improve Outcomes, and Manage Population Health" October, 2015

#### **Reviewed Publications:**

1. T. Pereira, et.al, "Do Data-Mining Methods Support the Three-Group Diagnostic Model of Primary Progressive Aphasia?" Knowledge, Discovery, and Data Conference, (2014).
2. Y. Zhao, et al., "Mining Medical Records with a KLIPI Multi-Dimensional Hawkes Model," Knowledge, Discovery, and Data Conference, (2014).
3. S. Jaroszewicz, et.al. "Uplift modeling with survival data," Knowledge, Discovery, and Data Conference, (2011).
4. B.Lahiri and N. Agarwal, "Predicting Healthcare Expenditure Increase for an Individual from Medicare Data," Knowledge, Discovery, and Data Conference, (2014).
5. R. Yan, et.al, "Security Defenses for vulnerable Medical Sensor Network," ICHI 2014 Conference Papers, (2014).
6. T. Schmidt and U. K. Wiil, "Designing a 3-Stage Patient Deterioration Warning System for Joint Emergency Departments," ICHI 2014 Conference Papers (2014).
7. G. Bruno, et. al., "A Clustering-Based Approach to Analyze Examination Pathways for Diabetic Patients," ICHI 2014 Conference Papers, (2014).

#### **Awards:**

1. Nations Top Healthcare Executives under 40 by Becker's Hospital Review – 2017
2. Nominated 4 times for Innovation Spotlight by HANYS – 2016 - 2017
3. Member of Review Board : Program committee of HIKDD 2014 (ACM SIGKDD Workshop on Health Informatics 2014), August 15, 2014
4. Member of Review Board : Program committee of Healthcare Systems Process Improvement Conference Committee 2015, November 7, 2014
5. CHAIR and Member of Review Board for Healthcare Track Program committee for INFORMS Healthcare Track WC 38, SFO, Annual Meeting 2014, November 12, 2014

6. Awards for Outstanding Research Foundation, Binghamton for \$20,000 Foundation Award, winning solution that reduced provider treatment waiting time and process, and gave the patients a better touch of care through Intensivists and technology.
7. Awards for Outstanding Healthcare Research : ARC Committee, June 10, 2006
8. Awards for Innovative Healthcare, Siemens Innovator Award, August 10, 2011

## Patents

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### Filed Patents

- “System and Method for Monitoring Patient Health” – The present invention claims priority US Patent application number 61/811503. This invention relates generally to systems and methods for enabling secure, encrypted, HIPAA-compliant, real-time communication of health states including hypertension and diabetes, and subsequent medical recommendations between patient and health care providers.

### Patent In-Work

- Workflow Intelligence and Analytics for Workflow Management: Optimize workflow processes and provide real-time analytics back to user to provide care to patients while increasing physician and staff productivity while overall decreasing healthcare cost, profiting healthcare organizations.

## Healthcare Journals and Research Group Memberships

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- HANYS
- ACHE
- ASHRM
- HFMA
- INFORMS
- POMS
- Decision Science Institute
- Innovation Center at SMS