Possible Topics for Health Services Research Relevant to Nurse Anesthetists Postdoctoral Fellowship

The AANA Foundation Postdoctoral Health Services Fellowship Research Award focuses on the preparation of individuals with the expertise to develop and conduct health services research regarding nurse anesthetists. The AANA has prepared a list of possible topics for research by the postdoctoral fellow relevant to the focus of this fellowship program which has been reviewed and modified by program faculty. The topics are not limited to the ones below. The postdoctoral fellow must prepare a statement of their research interests as part of their application. Some of the main areas of concern to nurse anesthesia in health services research fall into the study categories below. A list of research publications related to these topics follows.

Study Categories

Quality and Safety
- Studies of the cost-effectiveness of nurse anesthesia from the perspective of health care institutions, payers and other stakeholders to inform alternative payment models for anesthesia services.
- The influence of autonomous practice, the presence or absence of supervision requirements, the impact of removing supervision (specifically in the Veterans Health Administration (VHA)) on improved efficiency, decreased waiting times, reduced costs, and improved quality of care and patient outcomes.
- Studies of the comparative effectiveness of nurse anesthesia practice examining quality outcomes in comparison to other provider disciplines.

Health Work Force Studies
- Supply and Demand study from an epidemiologic perspective (Population Health-needs assessment) regarding population demand based on need for surgical and anesthesia services (including pain services) to address appropriate workforce.
- Econometric supply and demand model for anesthesia services.
- Demonstrating a continued and growing need for anesthesia providers for surgical and nonsurgical cases in rural and urban areas are very good topics for consideration.

Variation in the Quality of Surgical Mortality and Anesthesia
- Quality variation in surgical hospital mortality looking at severity indices and differences regarding anesthesia delivery models.

Identifying Appropriate Variables for Risk Adjustment in Anesthesia
- Attribution of surgical morality to anesthesia in relationship to proximity of death and complications (e.g., 48 hours, 7 days, 30 days).
- Identification of risk indicators and anesthesia specific variables.
- Episode of care variables and attribution to anesthesia services.
Alternative Payment Models
- Bundled payment and how much risk should anesthesia take on with this type of payment modality. Analyze the current bundled payment programs. What are the risks to anesthesia?
- Role of anesthesia in an ACO.
- Value Based Modifiers and how would you propose the quality and cost composite score for anesthesia services regarding beneficiary attribution?

Regional Variation in Anesthesia Services and Costs
- Looking at Medicare, Medicaid, and Commercial payers.
- Medicaid and CRNAs providing services by state examining patient health (Cost and Impact).
- Evaluating Commercial plan policies regarding CRNA coverage and trends by states.
- Cost Effectiveness Studies: How do CRNAs save the system money?

Optimizing Surgical and Anesthesia Care
- What metrics would you use to determine outcome measures?
- How does the model improve quality care?
- Determine the model for the most efficient team in the PSH.
- How do you optimize anesthesia preoperative and postoperative assessment in the form of process measures to develop a composite score for quality?

Examples of Related Research

Risk adjustment for comparing hospital quality with surgery: how many variables are needed?  
Dimick JB1, Osborne NH, Hall BL, Ko CY, Birkmeyer JD.  

Impact of present-on-admission indicators on risk-adjusted hospital mortality measurement.  
Dalton JE1, Glance LG, Mascha EJ, Ehrlinger J, Chamoun N, Sessler DI.  

Quality and Safety Indicators in Anesthesia: A Systematic Review  
Anesthesiology 5 2009, Vol.110, 1158-1175. doi:10.1097/ALN.0b013e3181a1093b  
Guy Haller, M.D., M.Sc., Ph.D.;  

Kash BA; Zhang Y; Cline KM; Menser T; Miller TR.  
Kurtz SM¹, Ong KL¹, Lau E¹, Bozic KJ¹.

Weiss AJ, Elixhauser A.
Healthcare Cost and Utilization Project (HCUP) Statistical Briefs [Internet]. Rockville (MD): Agency for Health Care Policy and Research (US); 2006-. 2014 Mar.

The changing distribution of a major surgical procedure across hospitals: were supply shifts and disequilibrium important?
Friedman B, Elixhauser A.

Demographics and trends in nonoperating-room anesthesia.
Lalwani K².

The Economic Impact of a Rural General Surgeon and Model for Forecasting Need, 2010
http://digitalprairie.ok.gov/cdm/ref/collection/stgovpub/id/24192

Variability in the measurement of hospital-wide mortality rates.
Shahian DM¹, Wolf RE, Iezzoni LI, Kirle L, Normand SL.

Variability in General Surgical Procedures in Rural and Urban U.S. Hospital Inpatient Settings
Mark Doescher, Elizabeth Jackson, Meredith Fordyce, Dana Lynge
March 2015
https://www.ruralhealthresearch.org/publications/963

Broadly applicable risk stratification system for predicting duration of hospitalization and mortality.
Anesthesiology. 2010 Nov;113(5):1026-37. doi: 10.1097/ALN.0b013e3181f79a8d.
Sessler DI¹, Sigl JC, Manberg PJ, Kelley SD, Schubert A, Chamoun NG.

VMB Attribution of Quality and Cost Measures
2015 Physician Value-based Payment Modifier
Summary of 2015 Physician Value-based Payment Modifier Policies [PDF, 182KB]

Design and Use of Performance Measures to Decrease Low-Value Services and Achieve Cost-Conscious Care
David W. Baker, MD, MPH; Amir Qaseem, MD, PhD, MHA; P. Preston Reynolds, MD, PhD; Lea Anne Gardner, PhD, RN; Eric C. Schneider, MD, MSc, on behalf of the American College of Physicians Performance Measurement Committee*

Bundled payments for care improvement initiative: the next evolution of payment formulations: AAHKS Bundled Payment Task Force.

Roles for specialty societies and vascular surgeons in accountable care organizations.
Goodney PP, Fisher ES, Cambria RP.

Attention To Surgeons And Surgical Care Is Largely Missing From Early Medicare Accountable Care Organizations
James M. Dupree, Kavita Patel, Sara J. Singer...
doi: 10.1377/hlthaff.2013.1300 Health Aff June 2014 vol. 33 no. 6 972-979
http://content.healthaffairs.org/content/33/6/972.abstract

Reforming payments to healthcare providers: The key to slowing healthcare cost growth while improving quality?
M McClellan - The Journal of Economic Perspectives, 2011 - JSTOR

Analysis of Bundled Payment

Bundled Payment Fails To Gain A Foothold In California: The Experience Of The IHA Bundled Payment Demonstration
M. Susan Ridgely, David de Vries, Kevin J. Bozic, Peter S. Hussey
doi: 10.1377/hlthaff.2014.0114 Health Aff August 2014 vol. 33 no. 8 1345-1352
http://content.healthaffairs.org/content/33/8/1345.abstract
Growth of Ambulatory Surgical Centers, Surgery Volume, and Savings to Medicare
Lane Koenig and Qian Gu
doi:10.1038/ajg.2012.183
http://www.nature.com/ajg/journal/v108/n1/full/ajg2012183a.html

General surgery contributes to the financial health of rural hospitals and communities.
Doty B¹, Heneghan SJ, Zuckerman R.

Cost effectiveness analysis of anesthesia providers.
Nurs Econ. 2010 May-Jun;28(3):159-69.
Hogan PF¹, Seifert RF, Moore CS, Simonson BE.

Supply, Demand, and Equilibrium in the Market for CRNAs.

Salaries, Recruitment, and Retention for CRNA Faculty.

Clinical Faculty: Major Contributors to the Education of New CRNAs.

New Estimates for CRNA Vacancies.