

CURRICULUM VITAE

PERSONAL DATA

Name: Sarah L. Krein, Ph.D., R.N.

EDUCATION

- 1982-1985 Eureka High School (co-Valedictorian), Eureka, SD
- 1985-1989 BSN (Bachelor of Science in Nursing, Suma Cum Laude), University of Mary, Bismarck, ND
- 1991-1997 Ph.D. (Health Services Research, Policy and Administration, advisor: Jon Christianson), University of Minnesota, Minneapolis, MN

ACADEMIC APPOINTMENTS

- 1998-2001 Adjunct Research Associate, Division of General Medicine, Department of Internal Medicine, University of Michigan, Ann Arbor, MI
- 2001-present Research Investigator, Division of General Medicine, Department of Internal Medicine, University of Michigan, Ann Arbor, MI

SCIENTIFIC ACTIVITIES

Reviewer

- 1996-2003: Journal of Rural Health
- 1999- Journal of the American Medical Association (JAMA)
- 2000- Health Services Research (HSR)
- 2002- Canadian Medical Association Journal
- 2003- Diabetes Care, Journal of the National Medical Association, Medical Care, Health Care Financing Review, American Journal of Managed Care

GRANT SUPPORT

Current

DIB 98-001 R. Hayward (PI) 10/01/98 – 09/30/2004
VA

Quality Enhancement Research Initiative - Diabetes Mellitus (QUERI-DM)

This project is part of a comprehensive effort by the VHA to enhance the quality of care provided by using research to help inform the quality improvement process. QUERI-DM is charged with helping to identify, implement, and evaluate ways to improve diabetes care.

Role: Co-Director

IIR 99-238 J. Inadomi (PI) 07/01/01 – 06/30/2004

VA

Economic Impact of Guidelines for Gastroesophageal Reflux Disease

This study will compare healthcare expenditures, patient quality of life and satisfaction for patients treated according to the VA's drug treatment guideline for Gastroesophageal Reflux Disease versus those receiving usual care.

Role: Co-Investigator/Health Economist

IIR 01-074 M. Valenstein (PI)

07/01/02 – 06/30/2005

VA

Improving Antipsychotic Adherence in Patients with Schizophrenia

This study is a randomized controlled trial to examine the effectiveness and cost of a pharmacy-based intervention for improving medication adherence among poorly adherent patients with schizophrenia.

Role: Co-Investigator/Health Economist

R18 DK62323-01 B. Anderson (PI)

08/01/02 – 07/31/2006

NIH NIDDK

Evaluating Nurse-Managed Collaborative Diabetes Care

This randomized controlled trial is designed to compare the effectiveness of a Diabetes Self-Management Consultant (DSMC) intervention for adults with type 2 diabetes with unsatisfactory glucose control (i.e., HbA1c \geq 8%).

Role: Co-Investigator/Health Economist

5P60DK-20572 W. Herman (PI)

12/01/02–11/30/07

NIH NIDDK

Michigan Diabetes Research and Training Center

The major goals of the Diabetes Research and Training Center are to meet the needs of investigators and thereby support and strengthen the University's interdepartmental activities in research, training and outreach in the field of diabetes, its complications, and related endocrine and metabolic disorders.

Role: Co-Investigator

DIT 02-064 R. Hayward & S. Bernstein (Co-PIs)

6/01/2003 – 5/31/2005

VA

An Evaluation of a Coordinated Proactive Eye Care Program

The objective of this study is to develop and evaluate a coordinated and targeted system-level intervention designed to: 1) improve optimal timing of photocoagulation for patients with diabetes in the VA healthcare system; 2) improve compliance with retinopathy screening and surveillance guidelines; 3) improve patient and provider satisfaction; 4) reduce diabetic eye care visit rates; 5) decrease health care resource use; and 6) improve the cost-effectiveness of eye care for patients with diabetes.

Role: Co-Investigator/Health Economist

IIR 03-200

M. Maciejewski (PI)

1/01/2004 – 6/30/2006

VA

VA Prescription Drug Copayments and Veterans with Diabetes or Hypertension

The purpose of this study is to evaluate the effect of the increase in the VA medication copayment from \$2 to \$7 on prescription drug use, health outcomes and health care use for veterans with diabetes and/or hypertension in 4 sites.

Role: Co-Investigator

IIR 02-225

E. Kerr/T. Hofer (Co-PIs)

1/01/2004 – 12/31/2007

VA

Addressing Barriers to Translation for Treatment of Hypertension

The objectives of this study are to: 1) identify important clinician, organizational and patient factors that contribute to inadequate treatment of elevated blood pressure among patients with diabetes; and 2) understand the relative contributions of these factors in the failure to initiate appropriate treatment among patients with uncontrolled hypertension.

Role: Co-Investigator

SDR 03-318

E. Kerr(PI)

05/01/04 – 04/30/2005

VA

Translating Research Into Practice for Diabetes in the VA, phase 2

The purpose of this planning study is to determine the feasibility of continuing our collaboration with the CDC in a second phase of the TRIAD study (TRIAD-VA), which was designed to provide a better understanding of the effectiveness of different systems and organizational features of health care delivery within the VHA to improve the processes and outcomes of care for veterans with diabetes and allow benchmarking of diabetes care in VA with diabetes care provided in the private sector.

Role: Co-Investigator

IIR, # SAF 04-031

S. Krein/S. Saint (Co-PIs)

funded, start date pending

VA

Translating Infection Prevention Evidence to Enhance Patient Safety

The objective of this research is to identify and develop strategies to optimize the successful implementation of key practices in the field of patient safety and nosocomial infection prevention.

Role: Co-PI

Completed Research Support

IIR 97-0771

S. Krein & R. Hayward (Co-PIs)

09/01/98 – 08/31/2002

VA

Proactive Diabetes Case Management

This project uses a randomized controlled trial to evaluate a proactive case management intervention for patients with type 2 diabetes.

Role: Co-PI

TRH 01-031 J. Lowery & S. Krein (Co-PIs) 07/01/01 – 3/31/2003
VA

A Customfit Approach to Guideline Implementation

This project will test and validate a physician classification instrument that can be used by clinicians and managers to tailor the design of their research translation or guideline implementation efforts to the types of physicians in their organizations, thereby improving the effectiveness of their efforts.

Role: Co-PI

IIR 98-500 S. Duffy (PI) 10/01/00 – 03/31/2004
VA

A Smoking, Alcohol and Depression Intervention for Head and Neck Cancer

This study will determine whether a combined intervention for smoking, alcohol use and depression is effective in improving the quality of life of veterans diagnosed with head and neck cancers.

Role: Co-Investigator/Health Economist

SDR 01-019 R. Hayward & E. Kerr (Co-PIs) 03/01/01 – 2/28/2004
VA

Translating Research Into Practice for Diabetes in the VA

This study is designed to provide a better understanding of the effectiveness of different systems and organizational features of health care delivery within the VHA to improve the processes and outcomes of care for veterans with diabetes and allow benchmarking of diabetes care in VA with diabetes care provided in the private sector.

Role: Co-Investigator

Pending

RESEARCH ACTIVITIES

- 1991-1992 Research Assistant, “The Use of Psychotropic Drugs in Nursing Homes,” University of Minnesota, Institute for Health Service Research, Minneapolis, MN
- 1991-1993 Research Assistant, “Diabetes PORT,” University of Minnesota, Institute for Health Services Research, Minneapolis, MN
- 1993-1997 Research Assistant, University of Minnesota Rural Health Research Center, Institute for Health Services Research, Minneapolis, MN
- 1997-present Research Health Science Specialist, Research Investigator, Center for Practice Management and Outcomes Research, Ann Arbor Health Services Research and Development Field Program, Ann Arbor VA, Ann Arbor, MI

- 1998-2001 Adjunct Research Associate, Division of General Medicine, Department of Internal Medicine, University of Michigan, Ann Arbor, MI
- 2001-present Research Investigator, Division of General Medicine, Department of Internal Medicine, University of Michigan, Ann Arbor, MI

CERTIFICATION AND LICENSURE

Nursing Licensure: Registered Nurse, State of Michigan, since 1997

MILITARY SERVICE

None

HONORS AND AWARDS

- 1985-1989 Presidential Laureate Scholarship Recipient
- 1989 Sigma Theta Tau (nursing honor society)
- 1998 Special Contribution Award, Department of Veterans Affairs

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

AcademyHealth
International Health Economics Association (iHEA)
AOPA

TEACHING ACTIVITIES

- 1993 Teaching Assistant, University of Minnesota, Institute for Health Services Research

EXTRAMURAL INVITED PRESENTATIONS

“QUERI-DM: A Clinical/Research Partnership to Enhance Diabetes Care for Veterans.” Oral presentation, VA Diabetes Educators Specialty Practice Group, Orlando, FL, August 16, 1999.

“QUERI: Translating Research into Practice.” Oral presentation, VA Diabetes Educators Specialty Practice Group, San Diego, CA, August 8, 2000.

“Proactive Diabetes Case Management: Translating Research into Practice.” Oral presentation, Evidence-Based Practice 2001 – Clinical Relevance and Practice Realities, Ann Arbor, MI, March 23, 2001.

“Diabetes Care Management: Example VA Ann Arbor Healthcare System.” Oral presentation, VA Diabetes Educators Specialty Practice Group, Louisville, KY, August

13, 2001.

COMMITTEE AND ADMINISTRATIVE SERVICES

1998 – present	Quality Enhancement Research Initiative – Diabetes Mellitus (QUERI-DM) Executive Committee, Veterans Health Administration
1998 – present	Co-director QUERI – DM Research Coordinating Center
2000 – present	Healthy Hair Starts with a Healthy Body/Heart of a Community Statewide Advisory Committee
2000 – present	VA-University of Michigan-Trinity Health Evidence-Based Practice Conference Planning Committee
2001 – present	VISN 11 Care Management Committee
2002	VA Health Care Atlas Steering Committee
2002 – 2003	Michigan Department of Community Health, Diabetes Prevention and Control Program, Strategic Planning Task Force and Steering Committee
2003 – present	VA Ann Arbor Healthcare System Care Management Committee

BIBLIOGRAPHY

Publications in Scientific Journals

Peer-Reviewed Publications

1. Yawn, B., Wellever, A., Hartley, D., Casey, M., Krein, S., and Moscovice, I. Availability of rural Minnesota obstetric services: Is it a problem? The Journal of Rural Health. 1995; 11(3): 192-203
2. Krein, S. The employment and use of nurse practitioners and physician assistants by rural hospitals. The Journal of Rural Health. 1997; 13 (1): 45-58
3. Krein, S. L., Christianson, J. C., and Chen, M. The composition of rural hospital medical staffs: The influence of hospital neighbors. The Journal of Rural Health. 1997; 13 (4): 306-319
4. Yawn, B., and Krein, S. Rural enrollment in MinnesotaCare. Minnesota Medicine. 1997;80 (4): 42-49
5. Yawn, B., Krein, S., Christianson, J., Hartley, D., and Moscovice, I. Rural radiology: Who is producing images and who is reading them? The Journal of Rural Health. 1997; 13 (2): 136-144
6. Moscovice, I., Casey, M., and Krein, S. Rural managed care: Patterns and prospects. Health Affairs. 1998; 17 (1): 172-179
7. Krein, S., and Casey, M. Research on managed care organizations in rural communities. The Journal of Rural Health. 1998; 14(3): 180-199
8. Christianson, J., and Krein, S. NorthMed HMO. The Journal of Rural Health. 1998; 14(3): 233-243.
9. Krein, S. L. The adoption of provider-based rural health clinics by rural hospitals: A study of market and institutional forces. Health Services Research. 1999; 34(1): 33-60.
10. Krein, S. L., Hayward, R.A., Pogach, L., and BootsMiller, B.J. Department of Veterans Affairs Quality Enhancement Research Initiative for Diabetes Mellitus. Medical Care. 2000; 38(6): I38-I48.
11. Krein, S.L. and Klamerus, M. Michigan diabetes outreach networks: a public health approach to strengthening diabetes care. Journal of Community Health. 2000, 24(6): 495-511.

12. Hayward, R.A., Hofer, T.P., Kerr, E.A., and Krein, S.L. Quality improvement initiatives: issues in moving from diabetes guidelines to policy. Diabetes Care. 2004; 27(S2):B54-B60
13. Kerr, E.A., Krein, S.L., Vijan, S., Hofer, T.P., and Hayward, R.A. Avoiding pitfalls in chronic disease quality measurement: A case for the next generation of technical quality measures. The American Journal of Managed Care. 2001, 7(11): 1033-1043.
14. Krein, S.L., Hofer, T.P., Kerr, E.A., and Hayward, R.A. Whom should we profile? Examining diabetes care practice variation among primary care provider, provider teams and healthcare facilities. Health Services Research. 2002, 37(5): 1159-1180.
15. Krein, S.L., Vijan, S., Pogach, L.M., Hogan, M.M., and Kerr, E.A. Aspirin use and counseling about aspirin among patients with diabetes. Diabetes Care. 2002, 24(6): 965-970.
16. Kerr E.A., Smith D.M., Hogan M.H., Krein S.L., Pogach L., Hofer T.P., and Hayward R.A. Comparing diabetes quality measures derived from different data sources. Joint Commission Journal on Quality Improvement. 2002; 28(10): 555-565.
17. Heisler, M., Smith D.M., Hayward R.A., Krein, S.L., and Kerr E.A. How well do patients' own assessments of their diabetes self-management correlate with actual glycemic control and receipt of recommended diabetes services? Diabetes Care. 2003;26(3):738-743.
18. Heisler, M., Smith, D.M., Hayward, R.A., Krein, S.L., and Kerr, E.A. Racial disparities in diabetes care processes, outcomes, and treatment intensity. Medical Care. 2003;41(11):1221-1232.
19. Kerr, E.A., Smith, D.M., Hogan, M.H., Hofer, T.P., Krein, S.L., Bermann, M., and Hayward, R.A. Building a better quality measure: Are some patients with "poor quality" actually getting good quality care? Medical Care. 2003;41(10):1173-1182.
20. Krein, S.L., Klamerus, M.L., Vijan, S., Lee, J.L., Fitzgerald, J.T., Pawlow, A., Reeves, P. and Hayward, R.A. Case management for patients with poorly controlled diabetes: A randomized trial. American Journal of Medicine. 2004;116(11): 732-739.
21. Kerr, E.A., Gerzoff, R.B., Krein, S.L., Selby, J.V., Piette, J.D., Curb, J.D., Herman, W.H., Marrero, D.G., Narayan, K.M.V., Safford, and M.M. Mangione, C.M. A Comparison of Diabetes Care Quality in Veterans Affairs and Commercial Managed Health Care Systems: Results from the TRIAD Study. Annals of Internal Medicine. In press

Articles submitted for Publication

1. Krein, S.L., Heisler, M., Piette, J.D., Makki, F., Kerr, E.A. The effect of chronic pain on diabetes patient's self-management. Under Review
2. Choe, H.M., Mitrovich S., Dubay D., Hayward R.A., Krein S.L., Vijan S. Proactive case management of high-risk patients with type 2 diabetes by a clinical pharmacist.

Dissertation

Krein, S. L. Rural hospitals and rural health clinics: The influence of market and institutional forces. University of Minnesota, Minneapolis, MN, June 1997.

University of Minnesota, Rural Health Research Publications

1. Casey, M., Krein S., Connor R. , Wellever A., and Yawn B. Literature review and policy analysis of primary care workforce options in rural areas, prepared under contract to the Agency For Health Care Policy and Research, Contract No. 282-93-0037 (DO #2), AHCPR Rural Center, University of Minnesota, Institute for Health Services Research, March 1995
2. Wellever, A., Casey, M., Krein, S., Yawn, B., and Moscovice, I. Rural physicians and HMOs: An uneasy partnership. Rural Health Research Center Working Paper Series #17, University of Minnesota, Institute for Health Services Research, December, 1996
3. Moscovice, I., Wellever, A., and Krein, S. Rural health networks: Forms & function. Rural Health Research Center, Division of Health Services Research and Policy, School of Public Health, University of Minnesota, Minneapolis, MN, September 1997

Presentations

1. "The Employment and Use of Nurse Practitioners and Physician Assistants By Rural Hospitals," Paper presented at the National Rural Health Association Conference, Minneapolis, MN, May 1996.
2. "Rural Hospitals and Rural Health Clinics," Poster presentation at the National Rural Health Association Conference, Seattle, WA, May 1997.
3. "VHA's Quality Enhancement Research Initiative for Diabetes Mellitus (QUERI-DM)," Poster presented at the 1st Annual National VA Diabetes Symposium, Washington, D.C., March 1999.
4. "Michigan Diabetes Outreach Networks (MDONs): Evaluating the Impact on Care Process and Patient Outcomes," Paper presented at the CDC Diabetes Translation Conference, Albuquerque, NM, April 1999.

5. "Michigan Diabetes Outreach Networks (MDONs): A Public Health Approach to Improve Diabetes Care and Outcomes," Poster presented at the Association for Health Services Research 16th annual meeting, Chicago, IL, June 27, 1999.
6. "Examining Variation at Provider, Team and Facility Level for Performance Indicators Related to Diabetes Care," Paper presented at the HSR&D Service 18th Annual Meeting, Washington, D.C., March 23, 2000.
7. "Aspirin Use and Counseling About Aspirin Among Patients With Diabetes in VA" Krein SL, Kerr EA, Smith DM, Hogan MM, Hayward RA. Poster presented at the HSR&D Service 19th Annual Meeting, Washington, D.C., February, 15-16, 2001.
8. "Proactive Diabetes Case Management: Expectation Versus Reality" Krein SL, Klamerus ML, Vijan S, Pawlow A, Reeves P, Hayward, RA. Poster presented at the HSR&D Service 20th Annual Meeting, Washington, D.C., February, 14-15, 2002.
9. "Case Management: Is it Meeting Expectations?" Krein SL, Klamerus ML, Vijan S, Lee J, Fitzgerald T, Hayward, RA. Poster presented at the Academy for Health Services Research and Policy Annual Research Meeting, Washington, D.C., June, 25, 2002.
10. "Use of Electronic Medical Record Data and Automated Clinical Databases For System-wide Quality Improvement" Krein SL. Oral presentation as part of panel session on Informatics Strategies to Support Evidenced-based Practice at the Information Technology Conference/ Office of Information, Austin, TX, August 6, 2003.
11. "Chronic Pain and Self-management Among Veterans with Diabetes." Krein SL, Heisler M, Piette JD, Makki F, Kerr EA. Poster presented at the HSR&D Service 22nd Annual Meeting, Washington, D.C., March 10, 2004.