

Center for Health Information & Research

A Division of the L. William Seidman Research Institute
School of Health Management and Policy



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The Center for Health Information and Research (CHIR) is a division of the L. William Seidman Research Institute and the School of Health Management and Policy (SHMP) in Arizona State University's W. P. Carey School of Business. CHIR is a multidisciplinary team whose focus includes health care, the health care workforce, occupational illness and injury, medical malpractice, health care economics, disability, and clinical quality. CHIR is home of the Arizona HealthQuery (AZHQ), a community-university partnership, created by the voluntary participation of health care providers, insurers, and employers in Arizona. AZHQ is a community health warehouse containing health information on millions of Arizona residents.

CHIR Membership—2006

William G. Johnson, PhD, is a Professor of Economics in the School of Health Management and Policy (SHMP) and the Department of Economics in the W. P. Carey School of Business at Arizona State University. He is also the Director of CHIR and Affiliate Professor in the Biomedical Informatics Department of the Ira A. Fulton School of Engineering at Arizona State University. His previous appointments include the economics department at Rutgers University, Syracuse University and the medical schools of Rutgers University, the State University of New York, and the University of Arizona. He has directed many large research projects under the sponsorship of private foundations, state governments, and corporations.

Professor Johnson authored the first empirical studies of labor market discrimination against persons with disabilities and is the author or co-author of nearly every subsequent empirical study of the problem. He completed the first interview study of the families of asbestos-related death and disease victims in the United States and Canada. Professor Johnson was principal investigator or co-investigator on the first studies of workers' compensation health care costs in the United States, the first interview study of injured men and women workers in the United States, and the largest interview study of injured workers (conducted in Ontario). He is one of the authors of the Harvard Medical Practice Study, the largest study to date of medical malpractice.

Professor Johnson teaches undergraduate, graduate, and executive education courses on health economics. His professional activities include:

- Member, *National Academy of Social Insurance* and *North American Spine Society*
- Fellow, Collegium Ramazzini (Carpi, Italy) and Employee Benefit Research Institute (Washington)
- Associate Editor, *The Spine Journal*
- Associate Scientist, *Institute of Work and Health* (Toronto)
- Member, Enhanced Administrative and Research Services (EARS), one of 40 faculty appointed to the program which facilitates sponsored research by the university's most heavily-funded faculty
- Co-editor, *Journal of Disability Income and Work Injury Compensation (National Academy of Social Insurance)*

William.G.Johnson@asu.edu; WilliamJohnson1@cox.net; office 480.965.7442; home 602.840.4293

Mary Rimsza, MD, FAAP, FSAM, is Co-Director and Research Professor of CHIR. Currently the Chair of Arizona's Child Fatality Review Program, Dr. Rimsza previously served as Chair of the Department of Pediatrics at Maricopa Integrated Health System, CEO of MedPro, and Director of Health at ASU. Board-certified in both Pediatric and Adolescent Medicine, Dr. Rimsza is also a Professor of Pediatrics at Mayo Graduate School of Medicine and the University of Arizona College of Medicine. In addition to being Editor of the Pediatrics Review and Education Program for the American Academy of Pediatrics, she has produced numerous publications on adolescent medicine and collaborates on research projects in pediatric populations in Maricopa and Yuma Counties.

Mary.Rimsza@asu.edu; office 480.965.1622

Kathleen Bailey, MA, is a part-time Program Manager. She has experience working with the elderly, the physically disabled, and persons with serious mental illnesses. She received her Masters in Social Work and is pursuing a doctorate in Social Work at Arizona State University.

Marjorie L. Baldwin, PhD, a Professor of Health Economics in SHMP, has published extensively in the areas of discrimination against workers with disabilities and employment outcomes following work-related injuries. Professor Baldwin's most recent work focuses on persons with mental disorders in the labor market.

Wade Bannister, MS, is the Data Analytics Manager for CHIR. He has substantial experience in analyzing health care data and in the design and implementation of massive data warehouses. He designed and built the *AZHQ* data warehouse and also developed all of the automated data loading processes for the warehouse. He currently manages the Data Team at CHIR which is charged with providing all of the database, programming, and analytic support for the Center. In addition to his role with CHIR, he is also pursuing his doctorate in Industrial Engineering at ASU.

Amy Bartels, MPH, is a Senior Research Analyst for health policy and research at CHIR where she conducts research on health care access, racial disparities and community health. She has extensive experience in the analysis of large data sets, including health care encounter databases and public use surveys. Ms. Bartels holds an MPH from the University of Arizona and is a doctoral student in Public Affairs from Arizona State University.

Richard "Dick" Butler, PhD, is an Econometrician and Professor of Economics in the Department of Economics at Brigham Young University. A renowned expert in complex econometric analyses of patterns of work and disability, Dr. Butler has published extensively about the topics of insurance, worker's compensation, discrimination, income equality, and education. Dr. Butler is on the editorial board of the *Journal of Risk and Insurance* and was elected to the National Academy of Social Insurance in 1996, elected President of the Risk Theory Society in 1999, and listed in *Who's Who in Economics* in both 1999 and 2003. In 2004, Dr. Butler was appointed the Martha Jane Knowlton Coray Professor of Brigham Young University.

Pierre Côté, DC, PhD, is an Adjunct Faculty with SHMP and Assistant Professor of Epidemiology in the *Department of Public Health Sciences at the University of Toronto*. His research includes the epidemiology of disability related to musculoskeletal pain and depression, including the impact of health care delivery on the recovery of soft-tissue injuries.

Miwa Edge is the Senior Applications Systems Analyst with CHIR. She has extensive database statistics, analysis, and data management experience coupled with expertise in statistical research, programming, and documentation. In her previous position, she analyzed large health care encounter data sets, skills transferable to the data warehouse where she assists with its implementation, data reporting, and analytics.

Tameka Jackson, MBA, is an Administrative Specialist. She brings a wealth of administrative and technical expertise from several supervisory and support positions from the early childhood level to secondary education. She is responsible for general administration, staffing, community relations, and student worker supervisory functions as well as grant account management and some project oversight.

Megan Jehn, PhD, is an Assistant Professor with SHMP. She was formerly involved in research at Johns Hopkins Bloomberg School of Public Health where she studied blood pressure, obesity, and diabetes in several federally-funded projects. She also published several articles from these studies. She received her PhD in Clinical Epidemiology from Johns Hopkins.

Kathleen Russell is a Program Manager. She spent nearly two decades in the Virginia public behavioral health care system, specializing in the improvement of health care for individuals with mental health, mental retardation, and substance abuse disorders as well as chronic physical illnesses and disabilities. Through her management experience, she has supervised large domains of data, policies, and budgets. She combines a vast knowledge of administrative systems and a sociology academic background with extensive clinical experience within the public health field.

Dawn Schwenke, PhD, is an Associate Professor of Research in SHMP and Research Health Scientist at Carl T. Hayden VA Medical Center. She is studying the influence of the Look AHEAD lifestyle intervention on biomarkers of oxidative stress. Her research interests are epidemiology with an emphasis on cardiovascular disease, diabetes, and breast cancer.

Michelle Segal, MA, is the Management Research Analyst. She has many years of data analysis experience. In her previous positions, she has conducted research programming within both university and government systems using large administrative databases. She has also developed data modeling tools for use by econometricians.

Matthew Thibault is Art Director for CHIR and a graphic design undergraduate in the School of Design in the College of Architecture and Environmental Design at Arizona State University. He designs many of the graphics, illustrations, and reports for the research group.

CHIR Research Consultants

Michelle Malonzo formerly worked with CHIR as Senior Editor. With a background in English Literature, she continues to provide expertise in this capacity while pursuing her doctorate in English at Brown University.

Mark R. Speicher, MBA, is Founder and President of OptiMed Resources, Inc. and Principal with MedSpectrum. He has extensive experience in health administration and medical technology and provides technical expertise to the Physician Workforce Study and other research projects in CHIR. Mark is a doctoral student in Public Administration at Arizona State University.

Rebecca White, MPH, formerly worked with CHIR as a Senior Research Associate and Project Director. Her primary research interest is public mental health with a focus on serious mental illnesses. She provides research assistance on proposals and scholarly papers. She is currently pursuing her doctorate in Family and Human Development at Arizona State University.

CHIR Faculty Associates (actively involved in research grants and/or writing of scholarly publications)

K. Selçuk Candan, PhD
Associate Professor
Computer Science and Engineering Department
Ira A. Fulton School of Engineering
Arizona State University

Benjamin Druss, MD, MPH
Rosalynn Carter Chair in Mental Health
Associate Professor of Health Policy and Management
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Tricia Johnson, PhD
Senior Economist
Assistant Professor
Department of Health Systems Management
Rush University Medical Center

Steven Marcus, PhD
Research Associate Professor
School of Social Work
University of Pennsylvania

Mark Reiser, PhD
Associate Professor
School of Health Management and Policy and
Department of Economics
Arizona State University

Jeremy Rowe, PhD
Director of IT, Research and Strategic Planning and Policy
University Technology Office
Arizona State University

George Runger, PhD
Professor
Ira A. Fulton School of Engineering
Arizona State University

Computational Resources

CHIR utilizes very large databases containing confidential health care information for over seven million Arizona patients and has the technological capability to efficiently store, manage, and analyze this vast amount of data. CHIR owns four dedicated servers optimized for processing, analyzing, and storing this data. CHIR owns a Network Appliance® Network Attached Storage (NAS) file server with capacity for over four terabytes (TB) of data, along with two IBM application servers each running dual Intel processors for the processing, summarizing, and analyzing of the data using cutting edge industry standard software tools. In addition, these servers are secured behind a firewall server and are maintained in a secure facility on the ASU campus. All appropriate physical and electronic security protocols have been implemented to restrict access to this highly sensitive data.

Security Protocol

Only authorized researchers have access to either the electronic or the physical data. Different levels and means of access are defined by the CHIR Director in consultation with the Data Manager, depending upon the functions and requirements of the individual, authorized researcher. Authorized researchers limit their access to patient-specific information to only what is necessary for the execution of the research tasks. All authorized users must sign a confidentiality agreement, signifying compliance to the data security protocol.

The CHIR servers are hosted by ASU's Central Information Technology (Central IT) and are continuously monitored by authorized Central IT staff. Physical access to the servers is restricted to authorized Central IT staff members and the Data Manager, and the servers are secured behind pass-coded doors with video surveillance monitoring. All electronic data files containing personally identifiable information are stored only on these servers.

The CHIR servers are kept distinct from the rest of the ASU network, and as such comprise a demilitarized zone. Remote access to the server can be accomplished only through a password authenticated Virtual Private Network connection, and all access attempts are restricted and logged by a dedicated CHIR-owned firewall. Logon privileges are granted only to authorized researchers using secure passwords via access lists maintained on the firewall server.

The CHIR office suite is secured by a series of secure locks, providing access only with combined usage of an ASU personal identification card and a unique, randomly generated pass code. There are three levels of secure access for both the physical media storage and the CHIR data personnel offices. The building in which the CHIR office suite is located grants after hours access to the building only by individually assigned pass cards and provides building security twenty-four hours per day, seven days per week.

Current Projects

AHCCCS 2005 Survey of Providers

Primary Contact: Kathleen Russell Kathleen.M.Russell@asu.edu 480.965.3533
Principal Investigator: Dr. William Johnson
Co-investigator: Dr. Mary Rimsza

Sponsor: Arizona Health Care Cost Containment System (AHCCCS)

A survey of all physicians, dentists, and office managers currently treating AHCCCS patients in one of the nine AHCCCS managed care plans. Project will conclude with an analysis of the survey data to measure the administrative efficiency and overall provider satisfaction with the plans.

Arizona HealthQuery

Primary Contact: Wade Bannister Wade.Bannister@asu.edu 480.965.1623
Principal Investigator: Dr. William Johnson
Co-investigator: Dr. Mary Rimsza

Sponsor: St. Luke's Health Initiatives; ASU Office of the Vice President for Research & Economic Affairs

The purpose of this project is to develop and maintain a community health data system that stores comprehensive health information for the entire population of Arizona. This data system serves as a community resource for health services researchers and policymakers to answer clinical, epidemiological, management, and policy questions as they arise. Voluntary public and private employers, insurers, health care providers, and other health-related organizations supply the health information to build the integrated data warehouse. To date, the data warehouse contains health information on more than five million Arizona adults and children. This warehouse provides the unique capability of tracking patients across health care systems and over time. As the data system continues to expand to include more services, efforts are focused on building additional partnerships with large employers, third party administrators, and physician groups.

Asthma in Maricopa County: A Case Study in Medical Data Understanding

Primary Contact: Dr. Mary Rimsza Mary.Rimsza@asu.edu 480.965.1622
Principal Investigator: Dr. William Johnson
Co-investigator: Dr. Mary Rimsza

Sponsor: ASU Office of the Vice President for Research & Economic Affairs

This project formed an interdisciplinary team of ASU researchers to create a case study of application of data mining and multidimensional visualization to Arizona HealthQuery (AZHQ) data related to asthma in Arizona. The combination of data mining and scientific visualization offers powerful new capabilities for finding meaningful patterns and relationships embedded within large complex public health data that have not been possible using current analysis, and that appear to have significant capacity for obtaining external funding once prototyped successfully. The initial proof of concept will be a case study that will form the core of a 2006 NIH proposal and other requests for funds.

ASU Healthy Back Study

Primary Contact: Kathleen Russell Kathleen.M.Russell@asu.edu 480.965.3533
Principal Investigators: Dr. William Johnson and Dr. Marjorie Baldwin

Sponsor: Arizona State University

This study is an inception cohort study of injured workers with low back pain. It is designed to collect all the data, including injured worker interviews, workers' compensation claims data, and detailed medical billing data for a comprehensive analysis of the factors that determine the costs and outcomes of different modes of care for occupational back pain. Initial findings have been released and additional multivariate analyses are in progress.

Biomarkers of Oxidative Stress in Look AHEAD

Primary Contact: Kathleen Russell Kathleen.M.Russell@asu.edu 480.965.3533
Principal Investigator: Dr. Dawn Schwenke

Sponsor: National Institutes of Health

Look AHEAD is a national multi-center clinical trial that investigates the influence of lifestyle (caloric restriction and increased physical activity) on cardiovascular end points in obese or overweight persons with type 2 diabetes. The goal of this study is to investigate the influence of the Look AHEAD lifestyle intervention on biomarkers of oxidative stress. This study investigates two hypotheses: first, that the Look AHEAD intervention will initially (first 2-4 months) increase oxidative stress. Second, that after prolonged (12-24 months) participation in the Look AHEAD program, metabolic adaptation to the increased physical activity, together with reduced weight and improved plasma lipoproteins (expected as a result of both the increased physical activity and weight loss) will reduce oxidative stress below the starting value.

Child Fatality Review Program

Primary Contact: Tameka Jackson Tameka.Jackson@asu.edu 480.727.6397
Principal Investigator: Dr. Mary Rimsza

Sponsor: Arizona Department of Health Services

This program conducts detailed reviews of the circumstances surrounding the deaths of children, birth to 17 years, in Maricopa County and determines the preventability of each death. Reviews include data collected from all agencies and organizations involved in each death and submission of reports to state teams to develop data-driven recommendations for reducing preventable childhood deaths.

Community Health Needs Assessments

Primary Contact: Kathleen Russell

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480.965.3533

Principal Investigator: Dr. Mary Rimsza

Sponsor: Catholic Healthcare West d/b/a St. Joseph's Hospital and Medical Center and Chandler Regional Hospital

These community health needs assessments were a result of collaboration between CHW and CHIR. Key stakeholders determined relevant indicators and assisted in the identification of data sources to be utilized. Arizona HealthQuery data, combined with other selected data sources, provide the opportunity to study community concerns at the community level. The results of community health needs assessments are intended to serve as a guide for future strategic planning efforts.

Health Patterns of Hispanic and Non-Hispanic Children

Primary Contact: Amy Bartels

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480.727.0527

Principal Investigator: Dr. William Johnson

Co-investigator: Dr. Mary Rimsza

Sponsor: National Institute for Child Health and Human Development

This study addresses important public health and public policy questions relating disparities in the health and health care utilization of Hispanic children age 0 through 19. The study compares nearly 34,000 Hispanic children, primarily of Mexican descent or origin, to more than 15,000 non-Hispanic children living in an agricultural county on the Arizona-Mexico-California border. It uses data from the Yuma County HealthQuery (YHQ) to make cross-sectional estimates for each of three years (1999-2001) and to analyze patterns of insurance coverage and episodes of uninsurance among a subset of the children for which the YHQ includes three continuous years of data.

The Impact of Demographic and Labor Force Participation Changes on the Social Security Disability Insurance and Medicare Programs (completed)

Primary Contact: Dr. Tricia Johnson

Tricia.J.Johnson@rush.edu

312.942.7107

Principal Investigator: Dr. William Johnson

Sponsor: Disability Research Institute, funded by the U.S. Social Security Administration

This project will examine the effects of the changing size and composition of the baby boom-aged labor force on the Social Security Disability Insurance and Medicare programs using secondary data. The proposed project puts forth a comprehensive model to analyze the effects of the impact of the baby boom generation on health care costs with special attention to the more general effects of the large increase in the absolute number of women with disabilities. These women may have sufficient employment histories but do not meet the impairment and income level requirements so would not qualify for Supplemental Security Income.

Physician Workforce

Primary Contact: Dr. Mary Rimsza

Mary.Rimsza@asu.edu

480.965.1622

Principal Investigator: Dr. William Johnson

Co-investigators: Dr. Michael Grossman (University of Arizona) and Dr. Mary Rimsza

Sponsors: St. Luke's Health Initiatives; the Flinn Foundation; BHHS Legacy Foundation

CHIR, in partnership with the University of Arizona and the Arizona Medical Education Consortium (AzMEC) has created a longitudinal data system tracking the health care workforce in Arizona. The data are used to analyze and forecast the supply and demand for physicians.

Risk Factor Trajectory and Variability: Predictors of Vascular Disease (completed)

Primary Contact: Wade Bannister

Wade.Bannister@asu.edu

480.965.1623

Principal Investigator: Wade Bannister and Dr. Dawn Schwenke

Sponsor: Department of Veterans Affairs, Carl T. Hayden VA Medical Center

This project investigates the potential of temporal patterns (trajectory and variability) in measures of cardiovascular risk to predict incidence of cardiovascular disease and microvascular disease in persons with Type 2 diabetes. Interest is in whether the temporal patterns of risk factors contribute to risk of cardiovascular and microvascular disease independent of the average values of these risk factors.

Recent Publications

Journals

- Baldwin, M. L., Butler, R. J., & Johnson, W. G. The effects of occupational injuries after returns to work: Work absences and losses of on-the-job productivity. *Journal of Risk and Insurance* (forthcoming).
- Cassidy, J.D., Côté, P., Carroll, L.J., & Kristman, V. (2004). The annual incidence and course of low back pain in the general population: a population-based cohort study. *Pain*, 112(3), 267-273.
- Cassidy, J.D., Carroll, L., Côté, P. Berglund, A., & Nygren, A. (2004). Mild traumatic brain injury after traffic collisions: a population-based inception cohort study. *Journal of Rehabilitative Medicine*, Feb(43 Suppl), 15-21.
- Côté, P., Baldwin, M., & Johnson, W.G. (2005). Early patterns of care for occupational back pain. *Spine*, 30(5), 581-587.
- Greydanus, D.E., Rimsza, M.E., & Matytsina, L. (2005). Contraception for the college student. *Pediatric Clinics of North America*, 52(1), 135-162, ix.
- Johnson, T.J., Rimsza, M.E., & Johnson, W.G. (2006). Reducing SCHIP coverage: saving money or shifting costs? *American Journal of Public Health*. Published online February 28, 2006. doi: 10.2105/AJPH.2004.059758.
- Johnson, W.G. (2005). Cost-based evaluations of the treatment of back pain: A primer for health care professionals. *The Spine Journal*, 5(4), 361-9.
- Johnson, W.G. (2004). Back pain, acute injury or chronic disease? *Workers' Compensation Policy Review*, 4(5), 9-18.
- Johnson, W.G., Baldwin, M.L., & Johnson, T.J. (in press) Does network care prolong work absences? *Industrial Relations: A Journal of Economy & Society*.
- Johnson, W.G. & Rimsza, M.E. (2004). The effects of access to pediatric care and insurance coverage on emergency department utilization. *Pediatrics*, 113(3 Pt 1), 483-487.
- Page, J.C., Newswander, B., Schwenke, D.C., Hansen, M., & Ferguson, J. (2005). Negative pressure wound therapy in open foot wounds with significant soft tissue defects. *Ostomy Wound Management*, 51(2A Suppl), 9-14.
- Page, J.C., Newswander, B., Schwenke, D.C., Hansen, M., & Ferguson, J. (2004). Retrospective analysis of negative pressure wound therapy in open foot wounds with significant soft tissue defects. *Advanced Skin Wound Care*, 17(7), 354-364.
- Rimsza, M.E., & Kirk, G.M. (2005). Common medical problems in the college student. *Pediatric Clinics of North America*, 52(1), 9-24, vii.
- Rimsza, M.E. (2005). Sexually transmitted infections: New guidelines for an old problem. *Pediatric Clinics of North America*, 52(1), 217-228, vii.

Rimsza, M.E., & Moses, K. (2005). Substance abuse on the college campus. *Pediatric Clinics of North America*, 52(1), 307-320, xii.

Sahmoun, A.E., D'Agostino, R.A., Jr., Bell, R.A., & Schwenke, D.C. (2003). International variation in pancreatic cancer mortality for the period 1955-1998. *European Journal of Epidemiology*, 18(8), 801-816.

Schwenke, D.C. (2005). Insulin resistance, low-fat diets, and low-carbohydrate diets: time to test new menus. *Current Opinion in Lipidology*, 16(1), 55-60.

Wagner, J.D., Schwenke, D.C., Greaves, K.A., Zhang, L., Anthony, M.S. Blair, R.M., et al. (2003). Soy protein with isoflavones, but not an isoflavone-rich supplement improves arterial LDL metabolism and atherosclerosis. *Arteriosclerosis, Thrombosis, and Vascular Biology*, 23(12), 2241-2246.

Abstracts

Dajani, T., Rimsza, M.E., Schackner, R. (2004) Arizona state drowning fatalities: A look at trends. *Ambulatory Pediatrics*, May.

Rimsza, M.E., & Johnson, W.G. (2004). Health insurance and children's reliance on the emergency department for non-urgent care. *Ambulatory Pediatrics*, May.

Books

Greydanus, D., Rimsza M.E., & Patel D. (Eds.). (2005) *College health: Pediatric clinics of North America*. W.B. Saunders: Philadelphia, PA.

Reports

Butler, R.J., Johnson, W.G., & Rimsza, M.E. (2006). *The effect of AHCCCS disenrollment on health care utilization in Maricopa County*. Tempe, AZ: Center for Health Information and Research, L. William Seidman Research Institute, Arizona State University.

Johnson, W.G., Rimsza, M.E., Garcy, A., & Grossman, M. (2005). *The Arizona physician workforce, part 1: The numbers of practicing physicians 1992-2004*. Tempe, AZ: Center for Health Information and Research, L. William Seidman Research Institute, Arizona State University.

Johnson, W.G., & Johnson, T.J. (2005). *The impact of demographic and labor force participation changes on the Social Security Disability Insurance and Medicare programs, a report to the Social Security Administration*. Washington, DC: Department of Health and Human Services.

Rimsza, M.E., Johnson, W.G., & Speicher, M. (2005). *The Arizona psychiatric physician workforce, part 1: The numbers of practicing psychiatrists 1992-2004*. Tempe, AZ: Center for Health Information and Research, L. William Seidman Research Institute, Arizona State University.

Community Reports

Rimsza, M.E., Bartels, A.M., & Bannister, W. (2006). *Asthma in Maricopa County: A report to the Maricopa County community from Arizona HealthQuery*. Tempe, AZ. Center for Health Information and Research, L. William Seidman Research Institute, Arizona State University.

Rimsza, M.E., Johnson, W.G., Johnson, T.J., & White, R. (2004). *Kids and asthma: A report to the Yuma community*. School of Health Management & Policy, Arizona State University, Tempe.
(Recipient of the 2005 President's Medal for Social Embeddedness, Arizona State University)

Rimsza, M.E., Johnson, W.G., Garcy, A., & White, R. (2004). *Children with diabetes: A report to the Yuma community*. School of Health Management & Policy, Arizona State University, Tempe.

Rimsza, M.E., Johnson, W.G., Garcy, A., & White, R. (2004). *Children and thyroid disease: A report to the Yuma community*. School of Health Management & Policy, Arizona State University, Tempe.

Rimsza, M.E., Johnson, W.G., White, R., & Bannister, W. (2005). *Children with asthma: A report to the Maricopa County community*. School of Health Management & Policy, Arizona State University, Tempe.

Working Papers

Baldwin, M., Butler, R.J., Johnson, W.G., & Côté, P. *Self-reported severity measures as predictors of return-to-work outcomes in occupational back pain*. Tempe, AZ. Center for Health Information and Research, L. William Seidman Research Institute, Arizona State University.

Johnson, W.G., Butler, R.J., Baldwin, M., & Côté, P. *It pays to be nice: Employer-worker relationships and the management of low back pain*. Tempe, AZ. Center for Health Information and Research, L. William Seidman Research Institute, Arizona State University.