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INTRODUCTION

UF Health Jacksonville, like all healthcare institutions, is adjusting to rapidly changing dynamics, notably of healthcare accountability, performance-based reimbursement, electronic information, and disparities in population health.

The Center for Health Equity & Quality Research (CHEQR) provides an organizational structure that strategically utilizes and synthesizes the broad range of individual and clinical capacities to embrace the mission, vision and values of UF Health. CHEQR made substantial contributions to the UF Health Academic Health Center missions in Jacksonville during the 2014-15 academic year.

Apart from building foundations for faculty to grow external funding, CHEQR staff have acquired external funding for population health and health equity research. However, CHEQR’s major role and return on investment is its support of UF Health missions in education and research. CHEQR also provides extensive support for the Academic Health Center service mission through data analysis supporting quality improvement and performance measurement as well as supporting evaluation of implementation and dissemination of evidence based medicine and healthcare.

Support for Education Mission

CHEQR’s primary accomplishment is its service as a campus wide research center. For example, ACGME RRC requirements for graduate medical education residencies require resident engagement in research. Support CHEQR provides resident and fellow research helps offset heavy clinical demands on faculty. Thus, CHEQR also helps many faculty with significant clinical effort overcome the major challenges to engage in their own research as well as mentor research of residents and fellows. Scholarship reported in the Campus Research Support Center illustrates this critical role in support of the education mission of the UF Health Jacksonville.
Support for Research Mission
CHEQR provides extensive support for the research mission overall and with particular emphasis in community engagement in research. Community engagement through participatory research and empowerment evaluation studies complements the UF Health commitment to our community. However, these research efforts in engagement and participatory studies also support and complement broader UF Health efforts to obtain external funding for research through mechanisms such as the CTSI and PCORI. These accomplishments are illustrated in the Campus Research Support Center, Community Engagement section of this Report.

Funding for Sponsored Programs
CHEQR has been successful in supporting research grant proposals for faculty from a broad range of clinical departments, including: background research efforts, program and research plan development, evaluation plans where appropriate, and completion and submission of requisite forms. CHEQR faculty and staff have also been successful in acquiring grants and contracts for local and state community services and research in public health systems and community based participatory research.

Faculty scholarship to build research portfolio
External funding for a wide range of research opportunities that typify academic health centers require demonstrated expertise reflected in scholarship for the areas for which external funding is requested. Suitable faculty scholarship that befits the role of a principal investigator is a prerequisite for success grant requests. Thus CHEQR works with faculty to bolster individual and institutional portfolios needed to win more external funding in an era when such funding is increasingly competitive.

This Annual Report is intended to summarize accomplishments of CHEQR in the past year as well as to describe its ongoing role in further developing capacity of UF Health Jacksonville to undertake research, clinical analytics, and community engagement.

The Report is organized by major types of services that CHEQR provides as these align with the Mission, Vision and Values of UF Health:

- Campus Research Support Center
- Clinical Analytics for Patient Care
- Community Engagement
- Statewide Initiatives
The UF Clinical and Translational Science Institute (CTSI) is a multi-campus resource offering research support services, research initiatives, education and community engagement. Within UF Health Jacksonville, CHEQR aims to mirror and expand at the local level resources and services similar to and increasingly aligned with the CTSI.

The CHEQR focus on faculty, residents and fellows in the College of Medicine, College of Pharmacy, College of Nursing, and UF Health to support education, research, grant development and scholarship.

**Education**

CHEQR provides research education programs tailored to specific needs that increase research capacities of faculty and trainees at UF Health Jacksonville.

We provide a the following lecture series in an online platform:

- Research Design Course
- Introductory Biostatistics Course
- Grant Writing Seminar Series

These courses and seminars are available on the UFHealth Jacksonville Intranet at http://1b-esx-infonet.umc.ufl.edu/cheqr/Pages/default.aspx.

In addition CHEQR faculty also provide lectures and tutorials by request, on topics such as grant writing, manuscript development, and effective research presentations.

**Research**

CHEQR provides research design and analysis consultation services including IRB preparation, protocol development, data collection, statistical analysis, and assistance with manuscripts and grants. Consultations include navigation towards an end result of either scholarship or grant submission.

Requests for services are triaged through a Consultation Request Form on the CHEQR website (using a REDCap form - consulting and research services form) at http://hscj.ufl.edu/cheqr/BiostatisticalServices.aspx.

In 2015, CHEQR received over 100 REDCap for requests for consultation. Fewer than half of the projects had a study design selected and 65% needed assistance to achieve IRB approval. Research design and analysis consultation was provided to a wide array of faculty, fellows and residents on campus.
Grants

CHEQR assists with grant submissions across campus. Mentoring new investigators is a top priority. A publication and research track record is needed to achieve extramural funding in today’s research climate. Often, funding begins small through foundations or internal funding sources but this is an important early step by which research experience and portfolio is eventually built. Over time, some preliminary studies lead to more federal grants such as R01 or K-awards.

Grant preparation also includes developing relationships between researchers, various experts, and the community. CHEQR has a successful track record of linking researchers; between campuses, between universities, and with the community. Below are recent grants CHEQR provided support for; some with preparing the application, others with funding by/for CHEQR Faculty. Grants are broken down by active/continuing, newly funded, pending, and non-funded.

Active/Continuing Grants
Lori Bilello, PhD (CHEQR) Evaluation of the Fostering Systems of Care Initiative (SOCI) Program. Sub-Award SAMHSA. $1,200,000 (CHEQR: $199,581).

William Livingood, PhD. (CHEQR) Public Health PBRN Cost Study for STI Services. RWJF. ($150,000).

William Livingood, PhD. (CHEQR) Adolescent Obesity and Digital Health Intervention and CBPR. NIH. $35,000.

Steven Cuffe, MD (Psychiatry) Project to learn about youth (PLAY) - Mental Health Jax. CDC. $499,911 (CHEQR: $19,357.00).

Jeffrey Goldhagen, MD, MPH. Faculty Development in Community and Societal Pediatrics. HRSA. $1,046,741. (CHEQR: $7,709).
**CHEQR Supported applications—Active/Continuing Grants**


**New—Funded Grants**

William Livingood, PhD. (CHEQR) Study of local agency QI interventions to improve cost effectiveness of delivering STI services. RWJF. $277,642.

Sarah Osian, PhD. (CHEQR) Evaluating the Impact of Oncology Massage in an Underserved Hospital. Private Foundation. $30,000.

Lori Bilello, PhD. (CHEQR) Partnerships to Improve Community Health. Sub-award CDC/Broward Regional Health Planning Council. $77,055.

Lori Bilello, PhD. (CHEQR) Measuring integration between health care and public health to improve HIV early detection and control. RWJF Sub-award/RTI. $25,133.


**CHEQR Supported applications—New Funded Grants**

Fahem Guirgis, MD. (Medicine) Dysfunctional HDL role in sepsis prognosis. Society of Critical Care Medicine. $50,000.

Fahem Guirgis, MD. (Medicine) Role of dysfunctional HDL in Sepsis. Dean’s Fund. $10,000.

Laurie Ramataur, MD. (Medicine) Arterial Stiffness in cocaine drug users. Dean’s Fund. $10,000.

Kaeley, MD. (Medicine) Association of dysfunctional HDL with coronary artery calcium score and carotid intima media thickness in high risk South Asian Immigrants. Dean’s Fund. $10,000.

Carlos Arrango, MD. (Community Health and Family Medicine) Archanobacterium Hemolyticum: Pathophysiology, symptomatology and antimicrobial susceptibility in patients visiting pediatric and primary care clinics. Dean’s Fund. $10,000.

Christopher Scuderi, MD. (Community Health and Family Medicine) Practice Transformation: Improving Quality and Safety using a Team-based Care Approach. UF Martin Smith Patient Quality and Safety Award. $22,000.

**Pending/Resubmit Grants**

Sunita Dodani, MD. (CHEQR) New iHEALS: A Randomized Lipid Control Health Behavior Intervention Comparing Individualized and Community-Level Customization Strategies for high risk African American Patients. (Pfizer) LOI accepted, submission pending.

William Livingood, PhD. (CHEQR) Adolescent Obesity Digital Health Intervention and Community Based Participatory Research. NIH R03 Resubmit.

**Non-Funded Grant Submissions**

William Livingood, PhD. (CHEQR) Impact of Affordable Care Act on Emergency Department use for Cancer Care. American Cancer Society.

Emma Robertson Blackmore, PhD. (CHEQR/Psychiatry) Evaluation of Stepped Care Approach for Perinatal Depression Treatment in Obstetric and Gynecology Clinics. CDC.

Sunita Dodani, MD. (CHEQR) HEALS Lifestyle Intervention through African American churches to control hypertension. NIH R01.

Sunita Dodani, MD. (CHEQR) Healthy Eating And Living Spiritually (HEALS). Florida Health Equity Research Institute.


Carl Pepine, MD (Medicine, Gainesville) Hypertension Network grant on "G2G -Grandmother to grandchild: a community engaged hypertension control program." AHA.

Linda Cottler, PhD. Grandmother to Grandchildren (G2G) Study: A hypertension control and prevention program. NIH R01.

Scholarship

CHEQR is committed to supporting scholarship including peer reviewed publications, white papers, abstracts, reports, presentations and posters. CHEQR strives to support faculty, residents and fellows to publish in high-impact, peer reviewed journals. Such publications disseminate important research being conducted on the campus and increase the likelihood of external funding. Highlighted scholarship through the support of CHEQR Faculty and staff are listed below:

Pending Scholarship by Department

Cardiology

Emergency Medicine

Nicholas Wilkes, MD. Comparison of the single use Ambu-aScope3 to flexible fiberoptic bronchoscope for nasotracheal intubation in simulated difficult airway. Poster presentation at American Academy of Emergency Medicine, March 3, Austin TX

Petra Duran, MD. Improvement of Vascular Access through the Use of Ultrasound by ED Technicians to Decrease Bloodstream Infection Rates. Submitted to Journal Ultrasound in Medicine

Internal Medicine
Gurjit Kaeley, MD. An examination of musculoskeletal ultrasound use in USA Medicare beneficiaries. Abstract accepted for publication

Neurology
Orthopaedic Surgery and Rehabilitation
Cody Martin, MD. Effects on a Level 1 Trauma Center by a Level 2 Trauma Center in Close Proximity. *Journal of Orthopaedic Trauma— revise and resubmit*

Pathology and Laboratory Medicine
Maryna Tarbunova, MD. Well Differentiated Non-Small Cell Lung Carcinoma: To Stain or Not To Stain. *Abstract submitted to USCAP 2015*

Pediatrics
Danish Vaiyani, MD. Comparison of Two Different Magnesium Infusion Regimens in the Treatment of an Acute Asthma Exacerbation. *Abstract submitted to PSA 2016*

Pharmacy
Brittany Bissell, PharmD. Comparison of Endocrine Supplementation for Hemodynamic Support in the Treatment of Septic Shock. *Published in 10/2015 in Journal of Critical Care*
Eric Pyles, PharmD. A Retrospective Comparison of Oral Metronidazole versus Oral Vancomycin for the Initial Treatment of Clostridium difficile-associated Infection in Patients Age 65 Years and Older. *Manuscript in preparation*
Jason Ferreira, PharmD, BCPS. The impact of patient weight on vasopressor response and requirements in shock patients. *Manuscript submitted*

Pharmacy
Kayla Jones, PharmD. Rates of secondary bacterial infections in patients with hepatic disease managed with rifaximin with or without lactulose versus lactulose alone. *Manuscript in preparation*
Kirsten Busey, PharmD. Treatment efficacy and tolerability of Ampicillin/ Sulbactam un comparison to alternative beta-lactams for the treatment of severe Acinetobacter infections. *Manuscript submitted*
Kristin Bohnenberger, Pharm D. Retrospective review of conduction disturbances following diphenhydramine overdoses reported to Florida poison control centers. *Manuscript submitted*
Petra Estep, PharmD. Clinical and economic impact of an antimicrobial stewardship program's evaluation of patients prescribed Aztreonam. *Manuscript in preparation*
Evaluation of oral phosphate replacement in hospitalized patients with acute hypophosphatemia during an intravenous phosphate drug shortage. *Manuscript accepted - AJHP Resident's Edition*

CHEQR
William Livingood, PhD. Culture Change from Tobacco Accommodation to Intolerance: Time to Connect the Dots. *Health Education and Behavior. First submitted in 2014-2015, Now In Press*

Other
Charlotte Bedsole, RN. OMFS Nutrition Management. Analysis complete - presented internally to department

Michel Sabra, MD. Laparoscopic converted to open esophagectomy. Analysis complete - presented internally to department

Publications & Scholarship


Dodani S, Dong L, Guirgis FW, Reddy ST. Carotid intima media thickness and low high-density lipoprotein (HDL) in South Asian immigrants: could dysfunctional HDL be the missing link? Archives of Medical Science. 2014; 10(5):870-9.


**Abstracts & Presentations**


ANALYTICS FOR CLINICAL CARE

CHEQR is well positioned to provide synthesis and analysis of data from a broad range of data systems used by UF Health. Researchers and staff have considerable expertise in managing and analyzing these data systems.

CHEQR has the ability to merge and analyze from multiple data systems that can offer novel, critical insights on institutional performance related to patient outcomes, quality of care, financial reimbursement. Specific areas include:

- **Analysis of data** to identify opportunities and modifications of EHRs to enable clinical decision supports including alerts concerning need for timely care based on algorithms built from clinical observations/results, and alerts concerning questionable or non-recommended treatments.

- **Identification of priority areas** for introducing these supports can be initiated by clinical observations and developed through analysis of data reflecting opportunities for institutional performance (patient care improvements and reimbursement ACC related).

- Development of **dashboards** to prominently display key organizational analytics: Effective Quality Improvement that cuts across departmental and clinical boundaries.

- Integrate systematic use of data **analytics with quality improvement** efforts across the enterprise. Because of the breadth of UF Health clinical settings and its extensive use of data to capture patient status and types and amounts of care provided through electronic digitized systems, UF Health has numerous opportunities for quality improvement and applied research.

- **Use of Analytics for health services and epidemiological research.** Existing data systems, particularly high quality data systems also provide opportunities for Health Services research and epidemiological research. Merging multiple sources of data substantially enhances the opportunities for this research. CHEQR experience with integrating data systems and demonstrated scholarship for supporting, conducting and disseminating these types of research is highly complementary and supports increased scholarship.

CHEQR has worked with several clinical areas to exploit the major capacity for utilizing data to support quality improvement and practice-based research.

David Tomlin was hired to work with Gigi Lipori, Chief Data Officer, to support UF Health Jacksonville data to be further integrated into the IDR. By working with Mr. Tomlin, data resources have been able to be utilized which surpass the past level of access and integration. For example, CHEQR biostatisticians were able to complete a more refined time to event analysis with Mr. Tomlin providing detailed data/time data.

CHEQR's experience with accessing, managing and analyzing these data places it in a unique position to expand the utilization of data to inform improved practice and to translate that practice into scholarship.
COMMUNITY ENGAGEMENT IN RESEARCH

CHEQR, as an extension of the UF CTSI, is focused on the community through partnerships with community agencies to educate of potential research participants, with a focus on improving health and ending health disparities and inequities. Examples of this work include:

Jacksonville Health Equity Research Organization (JaxHERO)
CHEQR provides management and research support to JaxHERO. This is registered by the Agency for Health Research and Quality (AHRQ) as a Primary Care Practice-Based Research Network. JaxHERO is composed of primary care centers from UF Health Jacksonville, Florida Department of Health-Duval, Mayo Clinic and St. Vincent’s Family Residency program. This network of primary care centers serve over 150,000 patients, many who are disproportionately minority and poor with high rates of diabetes, hypertension, cancer and other conditions. This network is also part of the OneFlorida Clinical Research Consortium funded by the Patient Centered Outcomes Research Institute (PCORI). JaxHERO has collaborated with UF researchers on numerous research projects in the areas of diabetes (Dr. Hall), obesity (Dr. Tucker), pain management (Dr. Harle), and health risk assessments (Dr. Shenkman). These projects have resulted in multiple publications and grants.

Florida Public Health Practice-Based Research Network (FL-PBRN)
CHEQR is also the Statewide Coordinating Center for the FL-PBRN. The FL-PBRN includes all 67 county health departments, the Florida Department of Health, and university partners representing the major public health colleges throughout the state. The network has been awarded two Robert Wood Johnson Foundation research grants.

Academic Community Partnership & Youth Advisory Board
An NIH supported academic–community partnership grant supports CHEQR efforts to engage the broader Jacksonville community, an adolescent youth research advisory board, and the youth serving primary care practitioners to develop intervention research using digital health to prevent and control adolescent obesity. NIH support enabled CHEQR to submit applications for a NIH limited competition announcement, and illustrates the application of engagement and participatory research with a broad range of communities.

Project to Learn About Youth (PLAY) - Mental Health Jax.
This is a CDC funded community-based study to examine the epidemiology of specific mental health issues in youth facilitated through the Duval County Public Schools. CHEQR provides biostatistical and research assistance to this project. Dr. Steven Cuffe, Chair of Psychiatry, is the PI and Emma Robertson-Blackmore, PhD (CHEQR/Psychiatry Faculty) is a Co-PI. The project has multiple implications for the community including for the SAMHSA JSOCI grant (CHEQR evaluates).

Jacksonville Regional Healthcare Collaborative (JRHC)
CHEQR faculty participate in the Jacksonville JRHC, a collective of entities committed to improving population health. The JRHC is comprised of healthcare providers, healthcare businesses, educators, and other interested parties throughout the region. JRHC aims to be a convening environment for synergistic collaboration that improves urban health, and stimulates economic growth through research, education and innovation across a spectrum of health industries and community development initiatives. CHEQR faculty and staff has extensive experience providing program evaluation and
EVALUATION SERVICES

quality improvement consulting including to:
- non-profit organizations
- local and state public health organizations
- K-12 public school systems

Evaluation is a critical component of many community, health care, and health professions grants. We provide tailored evaluations that are rigorous and meaningful to programs and funders.

During the past year, we provided evaluation services to two multi-million dollar federal grants – SAMHSA System of Care Initiative and the CDC Partnerships to Improve Community Health.

SAMHSA System of Care Initiative – Jacksonville System of Care Initiative (SOCI) was awarded a cooperative agreement by the Substance Abuse and Mental Health Services Administration (SAMHSA) to benefit the system for children’s mental health services within Duval County, Florida. Subsequently, CHEQR was awarded a sub-contract through the City of Jacksonville and Managed Access to Child Health (MATCH, Inc.) to evaluate the Initiative. This evaluation is required by the SAMHSA Comprehensive Community Mental Health Services for Children and Families Initiative (CMHS). In addition, each grantee has local evaluation activities that focus on key issues that are important to the local initiative and the community. For SOCI, this includes an analysis of the Medical Home for Homeless Children Program (MHHCP), High Fidelity Wraparound Program and the Mirror Project, an organizational self-assessment designed to help organizations evaluate strengths and areas for improvement in the area of cultural and linguistic competency (CLC).

CDC Partnerships to Improve Community Health – Broward Regional Health Planning Council was granted a Partnerships to Improve Community Health (PICH) award, one of only 39 grants awarded throughout the United States. The PICH initiative is a true collaborative working with multi-sector community organizations and agencies to reduce tobacco use and exposure to secondhand smoke, improve nutrition, increase physical activity and improve access to programs for preventing and managing chronic diseases. Over 25 organizations are part of the PICH initiative and includes 20 community based projects. CHEQR is the lead evaluator for this 3 year grant and is provides evaluation and implementation support of several of county-wide projects.

W. Martin Smith Interdisciplinary Patient Safety Awards Program – CHEQR is the evaluator of a grant received by Dr. Christopher Scuderi, the chair of JaxHERO, for a project called “Practice Transformation Improving Quality Using a Team Based Approach.” This a pilot study using AHRQ’s TeamSTEPPS program to improve team based care in six of the primary care practices in the UF Jacksonville Primary Care Network. We are evaluating the impact of Team STEPPS program on employee satisfaction and the management of chronic care patients.