UMSAEP UM-UWC Final Program Report
2020-2024 Project

SANADA – South Africa - North America
Data Analytics Collaboration

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UWC and MU

Introduction

The South Africa and North America Data Analytics Collaboration (SANADA) is a dynamic partnership between the University of the Western Cape (UWC) in South Africa and the University of Missouri (MU) in the United States. Led by Dr. Verona Mathews (UWC) and Prof. Iris Zachary (MU), SANADA was established, supported by the UWC-MU program exchange, to address the growing need for health data analytics competencies among healthcare professionals. The initiative works on the bridging of knowledge gaps, enhancing digital health literacy, and facilitating the exchange of expertise across continents. Since the beginning in 2021, SANADA has made significant strides in research, capacity-building, and academic exchange, contributing peer-reviewed publications, international conference presentations, and institutional knowledge-sharing initiatives. Through sustained collaboration, the project has evolved into a successful interdisciplinary initiative. This report reflects on SANADA's achievements from 2021 to 2024, outlines research outputs, and provides a roadmap for future activities.

Project Goals and Progress

Major Activities & Achievements (2021-2024)

1. Research and Academic Contributions

A key focus of SANADA has been developing a skills and competencies framework for health data analytics to enhance the expertise of healthcare professionals in South Africa and the United States. This multi-phase research project followed a structured approach to inform curriculum development. The first phase involved a desk review assessing existing health data analytics training in both countries, identifying strengths and gaps in available coursework. The second phase expanded the analysis through a scoping review of international literature on curriculum development, establishing a comparative framework for improving education in this field.

The third phase gathered insights from key informant interviews with healthcare professionals to determine essential skills and competencies for effective data analytics in healthcare settings. The final phase used the Delphi Method, where an expert panel reached a consensus on core competencies, refining the framework for curriculum integration.

These four phases provide a foundation for developing wide-reaching health data analytics training programs. The findings support curriculum improvements at UWC and MU while contributing to the broader field of public health informatics and advancing digital health literacy among healthcare professionals.

2. Research Outputs and Achievements

- **Secured a UWC research grant of R28,900**, funding a research assistant who completed data collection for Phases 1 and 2.
- **Conducted a synchronized data review workshop** using Covidence software to facilitate the scoping review.
- **Presented findings at the PHASA (Public Health Association of South Africa) Conference in 2022**, where a poster on health data analytics competencies was well received.
- Dr Verona Mathews **Visit UM** October-November 2022
- Sanada organized **session in Health Informatics and Information Section (HIIT) at APHA** (American Public Health Association) Annual Meeting 2022 Boston November 6-9 2022 Session title: Learning Environment on Health Data Analytics for healthcare professionals and community health workers through networks and education – South Africa and North America Data Analytics Collaboration (SANADA).
- **Published a scoping review protocol in BMJ Open (2023)**, marking an important milestone in SANADA's research contributions.
- **Scoping Review manuscript outcome**: Findings were published in BMJ Open as: Publication BMJ - Nkwanyana A, Mathews V, Zachary I, et al. (2023). Skills and competencies in health data analytics for health professionals: a scoping review protocol. BMJ Open;13: e070596. doi: 10.1136/bmjopen-2022-070596
- **Drafted a Desk Review manuscript**, currently undergoing revision for resubmission.
- **Received funding from the National Research Foundation (NRF) in 2024**, securing research support for 2024-2026.
- **Publication** on Desk Review (currently under revision for **resubmission**)

- Funding application to **National Research Foundation (NRF) for Research Project** (awarded 2024 (award period 2024-2026)
- Dr Mathews attended **Precision Medicine Conference (Attendee) Precision Medicine Conference**, Ghent-MU-UWC, 27-31 March 2022
- **Dr Mathews** presented on the Research Project at the 2024 "**People, Place, and Policy for Community Wellness**" The Network: TUFH Annual Conference September 10, 11, or 13, 2024. Presented by The Network: Towards Unity for Health (TUFH) and Rural WONCA (The Working Party on Rural Practice). This conference is being co-hosted by 5 partners in Cape Town, South Africa: University of the Western Cape; University of Cape Town; Stellenbosch University; Cape Peninsula University of Technology, and the Department of Health and Wellness – Western Cape Government. Poster: Digital Transformation: health professionals' skills and competency requirements in health data analytics
- Dr Mathews attended **Fifth Global Forum on Human Resources for Health**. Protecting, safeguarding, and investing in the health and care workforce. 3-5 April 2023.
- Prof Iris **Zachary Visit UWC** July – August 2024
- Innovation Research grant UWC – Health System Readiness: the use of digital health technology by nurses in the public health sector

Next Steps (2024 and Beyond)

1. Expanding Knowledge Sharing through Quarterly Webinars

To broaden public engagement and professional training, SANADA will launch a webinar series featuring global experts:

2. Strengthening Research and Publications

By the end of 2025, SANADA aims to publish additional manuscripts.

3. Sustaining Institutional Collaboration

SANADA will continue to:

- Host monthly meetings between UWC and MU, ensuring continuous project progress.
- Develop an elective course in health data analytics, integrating it into UWC's graduate certificate program.

Conclusion

Over the past four years, SANADA has emerged as an interdisciplinary initiative in global health informatics education, producing impactful research, strengthening international partnerships, and bridging the digital divide in public health training. The publication of the Desk Review findings in BMJ Open represents a major research milestone, providing a foundation for ongoing curriculum development and health data analytics training initiatives. Looking ahead, the project remains committed to advancing knowledge-sharing, empowering healthcare professionals, and building a sustainable digital health network. The achievements of SANADA underscore the power of collaborative innovation, demonstrating how partnerships across South Africa and North America can drive meaningful change in healthcare education and practice.

Appreciation

We would like to express our gratitude for the support from the UMSAEP Program. We were able to establish an ongoing partnership that has already benefited several students and faculty and will benefit many in the future as we expand the collaboration. This project is possible with support from UMSAEP.