

## 1. Rethinking Health Systems Responsiveness in LMICs

**Collaborating University:** Aga Khan University (AKU)

**Funding Agency:** Internal institutional funding (AKU-led initiative)

**Duration:** Ongoing (2023–2025)

**Brief Description:**

Rawalpindi Medical University (RMU), in collaboration with Aga Khan University, is engaged in a landmark research project aimed at reimagining health system responsiveness in low- and middle-income countries (LMICs). Led by Dr. Meesha Iqbal (AKU), this project seeks to revise the WHO's framework for health systems responsiveness, validate tools for LMIC contexts, and assess health service responsiveness across multiple levels of care in district Rawalpindi. RMU facilitates field access, ethical approvals, and research logistics, contributing to improved health system performance and policy reform in LMIC settings.

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## 2. WHO TDR Regional Training Centre Initiative

**Collaborating Organization:** WHO Special Programme for Research and Training in Tropical Diseases (TDR)

**Funding Agency:** WHO TDR (pending approval)

**Duration:** Under proposal (2024–2026, proposed)

**Brief Description:**

JRMC, through ORIC RMU, is collaborating with WHO TDR to establish a Regional Training Centre at RMU. This initiative focuses on building regional research capacity in tropical diseases, translating research into evidence-based policies, promoting health equity, and fostering inter-institutional collaboration. If approved, this centre will play a pivotal role in regional health innovation, offering specialized training programs and creating a hub for public health leadership in LMICs.

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## 3. RMU Capacity Building Program for University Management

**Collaborating Agency:** Higher Education Commission (HEC), NAHE (National Academy of Higher Education)

**Funding Agency:** HEC NAHE

**Duration:** January 27–31, 2025

**Brief Description:**

In partnership with HEC NAHE, JRMC and RMU conducted a five-day capacity-building program designed to enhance the competencies of administrative and academic staff. The training focused on governance, leadership, digital literacy, financial management, and institutional compliance.

Thirty participants from across the university benefited from expert-led sessions, case studies, and interactive learning modules. The program significantly improved administrative efficiency, leadership skills, and interdepartmental collaboration, setting a benchmark for higher education management in Pakistan.

### *1. Transforming Health Systems Responsiveness: RMU & Aga Khan University*

**Title:** *Rethinking Health Systems Responsiveness in Low-and Middle-Income Countries (LMICs)*

**Collaboration:** Rawalpindi Medical University (RMU) & Aga Khan University (AKU)

**Principal Investigator:** Dr. Meesha Iqbal (AKU)

**Funding:** No direct funding

**Summary:** This project focuses on enhancing health system responsiveness in LMICs by updating WHO's health systems framework and adapting it to local contexts, particularly in Rawalpindi. RMU contributes by providing allied hospital access for data collection.

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### *2. RMU's Strategic Collaboration with WHO TDR*

**Title:** *WHO TDR Regional Training Centre Proposal*

**Collaboration:** Rawalpindi Medical University (RMU) & World Health Organization (WHO)

**Funding:** Pending approval

**Summary:** RMU has submitted a proposal to establish a WHO TDR Regional Training Centre, aimed at strengthening research capacity, promoting evidence-based practices, and addressing health inequities in LMICs.

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### *3. Mathematical Modeling of Infectious Diseases*

**Title:** *Transmission Dynamics of Infectious Diseases in Pakistan*

**Collaboration:** Rawalpindi Medical University (RMU) & Georgia State University (GSU), USA

**Principal Investigators:** Dr. Shireen Rafiq (RMU) & Dr. Gerardo Chowell (GSU)

**Funding:** Non-funded technical assistance

**Summary:** This project uses mathematical modeling to predict and map the transmission dynamics of infectious diseases in Pakistan. It aims to provide early intervention strategies for disease outbreaks and mitigation in local populations.

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### *4. IMPACT Smoking Cessation Support for Severe Mental Illness*

**Title:** *IMPACT 4S: A Trial for Combined Behavioral and Pharmacological Smoking Cessation*

**Collaboration:** University of York, UK, & RMU (Pakistan)

**Principal Investigators:** Prof. Asad Tamizuddin Nizami (RMU) & Dr. Noreen Mdege (University of York)

**Funding:** 5,521,175 PKR

**Summary:** This randomized controlled trial evaluates a combined intervention for smoking cessation among people with severe mental illness in South Asia, testing feasibility and acceptability across multiple sites in India, Pakistan, and the UK.

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## *5. Investigating Mental and Physical Comorbidity in Severe Mental Illness*

**Title:** *Impact SMI Survey*

**Collaboration:** University of York, UK, NIMHANS (India), & RMU (Pakistan)

**Principal Investigators:** Prof. Asad Tamizuddin Nizami (RMU) & Dr. Kamran Siddiqi (University of York)

**Funding:** 2,799,577 PKR

**Summary:** This survey investigates the prevalence of physical disorders in individuals with severe mental illness across South Asia. The project aims to understand the impact of physical and mental health comorbidity and guide public health interventions.

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## *6. Behavioral Activation for Depression in Non-Communicable Diseases*

**Title:** *Behavioral Activation for Depression in People with Non-Communicable Diseases (BEACON)*

**Collaboration:** University of York, Health Services Academy (Pakistan), & RMU (Pakistan)

**Principal Investigators:** Prof. Asad Tamizuddin Nizami (RMU) & Prof. Jerome (University of York)

**Funding:** 2,992,000 PKR

**Summary:** This project tests the feasibility of delivering brief psychological therapy for depression in individuals with non-communicable diseases in low-and middle-income countries, focusing on intervention delivery through non-specialist health workers.

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## *7. RMU-LSHTM Research Collaboration*

**Title:** *Pakistan National Coordinating Centre (PNCC)*

**Collaboration:** Rawalpindi Medical University (RMU) & London School of Hygiene and Tropical Medicine (LSHTM), UK

**Funding:** Varies by project

**Summary:** A collaborative academic research center focused on improving public health trials in Pakistan. The collaboration has led to several high-quality research projects aimed at tackling public health challenges.

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## *8. Woman 2 Trial*

**Title:** *Tranexamic Acid for the Prevention of Postpartum Bleeding in Women with Anemia*

**Collaboration:** London School of Hygiene and Tropical Medicine (LSHTM) & Rawalpindi Medical

University (RMU)

**Principal Investigators:** Prof. Ian Roberts & Prof. Haleema Shakur (LSHTM)

**National Coordinator:** Prof. Rizwana Chaudhri (RMU)

**Funding:** Wellcome Trust & Bill and Melinda Gates Foundation

**Total Budget:** £99,848

**Duration:** 2019-2022

**Status:** Ongoing

**Summary:** This international, randomized, double-blind trial investigates the effect of Tranexamic Acid on preventing postpartum bleeding in anemic women. The trial includes 10,000 women across 50 hospitals in Pakistan. Over 1,000 patients have been recruited so far, with ethical approvals from DRAP and National Bioethics obtained.

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### *9. Factors Behind the Growing Rate of Unnecessary Caesarian Sections*

**Title:** *Factors Behind the Growing Rate of Unnecessary Caesarian Sections in Rawalpindi*

**Collaboration:** WHO & Centre for Global Public Health Pakistan (CGPH-Pakistan)

**Principal Investigator:** Prof. Rizwana Chaudhri (RMU)

**Funding:** WHO

**Total Budget:** \$8,000

**Status:** Completed (Analysis in Progress)

**Summary:** This project, a collaboration with CGPH-Pakistan, aims to identify factors leading to unnecessary caesarean sections. It analyzed 1,800 patients across three RMU hospitals and provides recommendations to reduce the cesarean rate.

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### *10. STI Transmission in Antenatal Patients*

**Title:** *Screening for Chlamydia, Gonorrhea, and Trichomonas in Antenatal Care*

**Collaboration:** Cepheid, UCLA David Geffen School of Medicine, RMU

**Principal Investigator:** Prof. Rizwana Chaudhri (RMU)

**Funding:** Cepheid & UCLA

**Total Budget:** \$43,037

**Status:** Ongoing

**Summary:** This cross-sectional study, involving 1,000 pregnant women in Rawalpindi, examines the prevalence and acceptability of screening for STIs. The project aims to improve maternal health by identifying and managing infections early in pregnancy.

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### *11. The Global Maternal Sepsis Study (GLOSS)*

**Title:** *Global Maternal Sepsis Study*

**Collaboration:** WHO & RMU

**Principal Investigator:** Prof. Rizwana Chaudhri (RMU)

**Funding:** WHO

**Status:** Completed (Under Review at Lancet)

**Summary:** GLOSS is part of the "Global Maternal and Neonatal Sepsis Initiative" aimed at reducing preventable maternal and neonatal deaths from sepsis. The research, conducted across 53 countries, assessed the identification, management, and prevention of maternal sepsis. The findings have been submitted for publication in *The Lancet*.

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## *12. Feeding Practice and Gut Comfort in Infants*

**Title:** *Feeding Practice and Gut Comfort in Healthy Full-term Infants*

**Collaboration:** Nestec Ltd Switzerland, Covance (USA), Dimension Research (Pakistan)

**Principal Investigator:** Prof. Rai Asghar (RMU)

**Funding:** N/A

**Status:** Ongoing

**Summary:** This multi-country observational study assesses the gastrointestinal tolerance and comfort of formula-fed infants compared to breastfed infants. The project aims to improve formula characteristics to enhance gut health in infants.

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## *13. Safe Childbirth Checklist*

**Title:** *Improving Maternal and Neonatal Outcomes through Safe Childbirth Checklist*

**Collaboration:** RMU, Fatima Jinnah Medical University, Health Services Academy

**Principal Investigator:** Prof. Saima Ameen (RMU)

**Funding:** N/A

**Status:** Suspended

**Summary:** This academic project investigates the implementation of a Safe Childbirth Checklist to improve maternal and neonatal outcomes. It focuses on overcoming provider resistance and improving the uptake of evidence-based practices in childbirth.

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## *14. Classification of Liver Diseases Using Neural Network*

**Title:** *Classification of Liver Diseases Using Neural Networks*

**Collaboration:** National University of Computer and Emerging Sciences (FAST), RMU

**Principal Investigator:** Syed Moiz Hussain (FAST), Rabia Samad Afridi (RMU)

**Funding:** N/A

**Status:** Ongoing

**Summary:** This innovative project uses ultrasonic sensors and neural networks to classify liver diseases, such as cirrhosis and hepatitis, at an early stage. The device offers a non-invasive, cost-effective solution to diagnose liver conditions and assist early intervention.