INDIVIDUAL PLAN REVIEW REPORT

PhD SECOND-YEAR PROGRESS ASSESSMENT

Name of PhD Scholar: Mohd Faizan Siddiqui
PhD Program: Public Health
Institution: Department of Public Health, International Medical Faculty, Osh State University, Kyrgyzstan
Year of Study: Second Year

Research Mentor and Report Reviewer: Dr. Aftab Alam
Date of Review: 25 Dec, 2025

1. Summary of Research Objectives

The doctoral research focuses on the integration of artificial intelligence (AI) and real-world clinical data to strengthen precision medicine and drug repurposing strategies within resource-limited healthcare systems, with specific contextual application to Kyrgyzstan and other LMICs. Thesis Topic: **Transforming Preventive Healthcare through AI and Digital Health: Impacts and Challenges in Kyrgyz Republic's Public Health System**

2. Phase 1: Theoretical Framework (Completed)

2.1 Study Design:
Systematic Review and Bibliometric Analysis

2.2 Scope:
The scholar conducted a comprehensive analysis of 10 years of global scientific literature on AI-driven and computational drug repurposing, examining methodological trends, collaborative networks, and translational gaps relevant to LMIC healthcare systems.

2.3 Key Outcomes:

- Development of a conceptual and methodological roadmap for AI-based drug repurposing in resource-constrained settings
- Establishment of a strong theoretical foundation for precision medicine applications in Kyrgyzstan

2.4 Scholarly Output:

- **Manuscript Title:**
  AI-driven network-based drug repurposing: A roadmap for precision medicine in Kyrgyzstan's and LMICs' resource-limited healthcare systems
- **Journal:** *Artificial Intelligence in Precision Drug Design* (Springer Nature)
- Publication Status: ACCEPTED **(In Press)**

This phase has been completed successfully and meets international academic standards expected at the doctoral level.

3. Phase 2: Data Collection (In Progress)

3.1 Study Site:
University Clinic, Medical Faculty, Osh State University, Osh City, Kyrgyzstan

3.2 Data Sources:

- Electronic Health Records (EHR)
- Clinical and laboratory data from patients diagnosed with **Diabetes Mellitus (DM)** and **Hypertension (HTN)**

3.3 Research Objective:
To collect and curate **Real-World Data (RWD)** for validation and contextual testing of AI-based network predictions derived from Phase 1.

3.4 Ethical Approval:

- Data extraction protocols have received approval from the **Institutional Review Board (IRB), Osh State University**
- Ethical compliance and patient data confidentiality are ensured

3.5 Current Status:

- Initial dataset compilation has commenced
- Data access and coordination with the University Clinic have been established
- Preliminary data preprocessing and harmonization are underway

Progress in this phase is satisfactory and aligned with the approved research timeline.

4. Overall Progress Evaluation

Mr. Mohd Faizan Siddiqui has demonstrated:

- Strong independent research capability
- Effective translation of theoretical work into applied research
- High-quality peer-reviewed publication output
- Adequate progress in transitioning to data-driven validation studies

The research trajectory is coherent, feasible, and methodologically sound.

5. **Recommendations for the Next Review Period**

For the subsequent phase of doctoral research, the following actions are recommended:

1. Completion of full-scale data extraction and validation
2. Implementation of AI-based network modeling using local clinical data
3. Preparation of at least one original research manuscript from Phase 2
4. Continued interdisciplinary collaboration with clinicians and data scientists

6. Mentor and Reviewer's Statement

Based on the progress achieved during the second year of study, I confirm that the PhD scholar is making satisfactory and timely progress toward the completion of the doctoral degree. The research meets institutional and international doctoral standards. I recommend approval of the Second-Year Individual Plan Review and progression to the next phase of the PhD program.

Reviewed and Approved by:

Dr. Aftab Alam
Department of Medical Microbiology and Immunology, College of Medicine and Health Sciences,
United Arab Emirates University, Al Ain, United Arab Emirates
aftabal@uaeu.ac.ae

Signature:

Date: 25 Dec, 2025