

# AREESH FATMEE, MPH

Research Analyst @ Research and Development Solutions

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## RESEARCH INTERESTS

- Infectious disease modeling; Global vaccinology; Health disparities; Outbreak investigation; Pediatric health

## EDUCATION

### The University of Warwick

Sept 2024 - Sept 2028

MPhil/PhD in Public Health *Pandemic response planning at the Institute of Global Pandemic Planning*

### The George Washington University

Aug 2021 - May 2023

Master of Public Health- Epidemiology (*Fulbright Scholar*) (*Epidemiology department Student spotlight*)

*A Quantitative extrapolation of Severity of Symptoms by HIV Status and Racial Stratification in JYNNEOS Vaccine Administration*

### Arid Agriculture University

Sept 2015 - June 2020

B.Sc (Hons.), Human Nutrition and Dietetics (*Cgpa:3.92*)

### University of Central Missouri

Fall 2018

Human Nutrition; Exchange Semester (Global UGRAD) (*Dean's List*)

## WORK EXPERIENCE

### Research Analyst - Research and Development Solutions

June 2023 - Present

#### Bill and Melinda Gates Foundation: Global Burden of Disease

- *First author*: Utilized spatial mapping techniques to identify clusters of operational zero-dose and incomplete measles immunization in Pakistan, exploring associations with migration patterns.
- *First author*: Developing an evaluation protocol to assess the incidence of 'zero-dose' children aged 13-24 months in Pakistan, incorporating maternal healthcare access during the prenatal period, and identifying clustering patterns to pinpoint hot spots for equity analysis.
- *Co-author*: Prepared evaluation toolkit and leading quantitative checks on Third-party evaluation of health facility assessment for immunization services.
- *Co-author*: Refined the analytical framework to examine the impact of antenatal care (ANC) and family planning (FP) indicators on infant, neonatal, and perinatal mortality rates in Pakistan, with enhancements to the research write-up.
- *First author*: Analyzed 15-year longitudinal patient visitation data to gauge quantum of healthcare facility utilization.
- *First author*: Evaluated the burden of missed opportunities for vaccination (MOV) for Pentavalent and Measles vaccines among children under five in Pakistan, utilizing data from the Pakistan Social and Living Standards Measurement Survey (PSLM) 2019-2020.

#### Family Planning and Reproductive Health

- Prepared a concept note to identify unaddressed areas within Pakistan's contraceptive prevalence rate (CPR) landscape that could be served by private stakeholders, specifically DKT.
- *Co-author*: Reviewed and assisted in the manuscript preparation on research conducted to determine the utilization of social franchising specifically DKT and MSS in Family Planning Services in Pakistan, comparing the periods before and during the COVID-19 pandemic.

### Research Fellow - Walter Reed Army Research Institute

Feb 2023 - May 2023

- Planning and implementation of research methodologies to describe the prevalence of asymptomatic parasitemia among the participants of the African Cohort Study (AFRICOS).
- Developing research approaches to capture the hematological outcomes to address the burden of asymptomatic malaria in the AFRICOS population.

### Research Assistant - DC Department of Health

July 2022 to Feb 2023

- *First author*: Conducted multi-variable regression analysis of JYNNEOS vaccination administration data among DC residents subgrouped by Mpox infection status to determine racial disproportion based on demographic and clinical variables.
- Abstracted and reported Monkey Pox data from the interview database for visualization on the DC DOH public site on a rolling basis.
- *Co-author*: Collaborated with the CDC to assess HIV and Sexually transmitted infections among Monkey Pox patients based on clinical and demographic variables.

### Research Assistant - Elizabeth Glaser Pediatric AIDS Foundation

May 2022 to Nov 2022

- Consultation services to draft a U=U research plan to review clinical data beyond MER indicators to determine the impact of COVID-19 on access, coverage, utility, and outcome of pediatric HIV services.
- Designed and supported data collection methodology to quantify anecdotal and clinical variables collected from EGPAF's regional offices in sub-regions of the target countries.
- Presented time-based trends on variables hypothesized to contribute to suppression of healthcare delivery before, during early COVID, and during the COVID recovery phase.

**Research Assistant- Antibiotic Resistance Action Laboratory****May 2022 to June 2022**

- Performed fungal culture isolation of clinical specimens to observe fungal resistance mechanisms among immuno-compromised individuals.
- Analyzed anti-fungal susceptibility plates after running MIC test on isolated cultures of *Aspergillus* species.
- Trained the wet lab team on conducting preliminary data cleaning and developing an analysis plan for the Fungal Pilot grant at ARAC to study resistance susceptibility posed by *Aspergillus* species in samples procured from California, USA.

**Research Assistant - The Children Hospital****March 2019 to April 2020**

- *Co-author*: Corresponded 05 extensive clinical research projects, all fundamentally focused on the nutritional status of children admitted in a tertiary care hospital.
- Responsible for collecting qualitative and quantitative data that drove the projects forward toward analysis.
- Oversaw analysis of data based on Nutritional risk scores and bone density tests.

**Research Assistant - The Children Hospital****Sept 2017 to October 2018**

- *Co-author*: Collaborated on extensive literature reviews and data collection on determining risk factors associated with mortality in children admitted with complications of Measles.

**PUBLICATIONS**

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**Published**

1. Addressing the Mpox Outbreak in Washington, DC: Insights from Surveillance Data and Vaccine Administration Strategies of DC Health (Poster)
2. HIV and Sexually Transmitted Infections Among Persons with Monkeypox — Eight U.S. Jurisdictions, May 17–July 22, 2022
3. Risk factors for mortality among admitted children with complications of measles in Pakistan- an observational study
4. Role of nutritional psychiatry as an unorthodox approach to tackle the global burden of mental diseases

**In-Review**

1. Determinants of stunting in Pakistani children: A Multilevel Analysis at the individual, household, and community levels
2. Addressing the Mpox Outbreak in Washington, DC: Insights from Surveillance Data and Vaccine Administration Strategies of DC Health
3. Utilization of Social Franchising in Family Planning Services: A Pakistan Perspective

**TRAINING AND LEADERSHIP EXPERIENCE**

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- Adolescent Health Training Program - Siddeeq Public School [Dec 2019]
- National Polio Vaccination - Pakistan Institute of Medical Sciences (PIMS) [Oct 2017]
- Community Public Health and Education Program- University of Central Missouri [Aug 2018 to Dec 2018]

**TECHNICAL SKILLS**

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**Softwares** STATA, SAS, RStudio, SEET Stat, WinPEPI, EPI Info, Zotero**AWARDS AND HONORS**

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- Student spotlight Epidemiology @ Milken Institute School of Public Health -GWU - May 2023
- Fulbright Masters Scholarship Award - Fall 2021.
- Global Undergraduate Exchange Program - Fall 2018
- Vice Chancellor's Honorariums from Ghulam Ishaq Khan Institute of Engineering Sciences and Technology (GIKI), HITEC University, Institute of Space Technology (IST), National University of Science and Technology (NUST), Pakistan Institute of Engineering and Applied Sciences (PIEAS) and University of Gujrat.