## Figure 1: Space occupancy by each department

<table>
<thead>
<tr>
<th>Department</th>
<th>Benches</th>
<th>Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paediatrics</td>
<td>13</td>
<td>13*</td>
</tr>
<tr>
<td>Community Health Sciences</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Surgery</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Pathology and laboratory medicine</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Biological and Biomedical sciences</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Available / Reserved</td>
<td>15</td>
<td>-</td>
</tr>
<tr>
<td>Core equipment + NGS+ staff</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
<td><strong>26</strong></td>
</tr>
</tbody>
</table>

* 1 project of Pediatrics active in BSL-3, no bench space is allocated.
1. **PURPOSE**

2. **Single dose Azithromycin**

3. **SEAP II**

4. **Intussception**

5. **SEEM-Ph.D.**

6. **ROTA**

7. **MiEED**

8. **CHAiN**

9. **SEEM**

10. **Azithromycin growth**

11. **TB biomarker**

12. **Typhoid - cholecystectomy**

13. **Intestinal organoid-Enteroids.**

14. **Adeno virus (active in BSL3)**

15. **SEES**

---

**Paediatrics**

1. **SEAP II**

2. **Intussception**

3. **SEEM-Ph.D.**

4. **ROTA**

5. **MiEED**

6. **CHAiN**

7. **SEEM**

8. **Azithromycin growth**

9. **TB biomarker**

10. **Typhoid - cholecystectomy**

11. **Intestinal organoid-Enteroids.**

12. **Adeno virus (active in BSL3)**

13. **SEES**

---

**Biological & Biomedical Dept.**

1. **Neutrophils in SCC**

2. **AML resistance**

---

**Surgery**

1. **Dental Stem Cells**

2. **Glioblastoma Multiform**

3. **GLIOMAS**

4. **Oral squamousal Carcinoma**

5. **Pancreatic Adeno carcinoma**

---

**Pathology & Lab Med.**

1. **AMR Surveillance**

2. **EFGR Pathway**

3. **Bedaquiline resistant M. tuberculosis**

4. **dynamics of SARS-CoV-2**

---

**Community Health Science**

1. **PURPOSE**

2. **Single dose- Azithromycin**

---

**Figure 2: Projects of each department**
Dr. Sarah Saleem
Professor
Community Health Sciences, The Aga Khan University, Pakistan

Jan, 2019 – June, 2020*
Project to understand and research preterm pregnancy outcomes (PURPOSE): South Asia.

Grant Equipment
ULT freezer

* extension in process
Bench no. A-2

Aug, 2020 - Sep, 2022
Prevention of maternal and neonatal death/infections with a single oral dose of azithromycin in women in labor (in low- and middle-income countries): a randomized controlled trial.

Dr. Sarah Saleem
Professor
Community Health Sciences, The Aga Khan University, Pakistan

Core Equipment
- Thermal Cycler
- Real Time PCR
- Centrifuges
- DNA Electrophoresis
- Next generation Sequencer (NGS)
- Bio Safety Cabinet
- Desktop PCs

Grant Equipment
- ULT freezer
**Bench no. A-5**

**Dr. Farah Qamar**
Associate Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

**Aug, 2016 – March, 2022**
Surveillance for Enteric Fever in Asia (SEAP) Phase II.

<table>
<thead>
<tr>
<th>Core Equipment</th>
<th>Grant Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refrigerated – Non refrigerated Centrifuges</td>
<td>Biosafety Cabinet</td>
</tr>
<tr>
<td>Water Bath</td>
<td>Thermal Cyclers</td>
</tr>
<tr>
<td>Vortex</td>
<td>Real Time PCRs</td>
</tr>
<tr>
<td>Under counter &amp; Walk-In Fridge</td>
<td>Desktop PCs</td>
</tr>
<tr>
<td>pH meter</td>
<td>Water Bath</td>
</tr>
<tr>
<td></td>
<td>Vortex</td>
</tr>
<tr>
<td></td>
<td>Gel documentation System</td>
</tr>
</tbody>
</table>
Dr. S. Asad Ali  
Professor  
Paediatrics & Child Health, The Aga Khan University, Pakistan  

Aug, 2017 – Dec, 2020  

Intussusception surveillance Study.

Core Equipment:
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- pH meter
- Thermal Cyclers
- Real Time PCRs
- Desktop PCs

Grant Equipment:
- Biosafety Cabinet
- Water Bath
- Vortex
- Taqman Low Density Array (TLDA)
- Bioplex- Luminex Array
- BD- FACS- Celesta
- Bead beater
- Gel documentation System
Interaction of gut microbiome with intestinal epithelium in children with suspected risk of environmental Enteropathy. (Ph.D. Project)

Core Equipment
- Refrigerated -Non Refrigerated Centrifuges
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- pH meter
- Thermal Cyclers
- Real Time PCRs
- Desktop PCs

Grant Equipment
- Vortex
- BD- FACS
- Bioplex- Luminex Array

Dr. S. Asad Ali
Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Feb, 2019 – Jan, 2021
Bench no. A-8

Impact Assessment of Rotavirus Vaccine Introduction in Pakistan’s Routine Immunization Program.

Aug, 2018 - July, 2020

Dr. S. Asad Ali
Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Core Equipment
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- Ultra Low Temp. Freezers
- Desktop PC
- Tissue Culture Room
- Inverted Microscope

Grant Equipment
- Biosafety Cabinet
- Water Bath
- Vortex
- Liquid Nitrogen Tank
Bench no. A-9

March, 2019 - March, 2021
Stem cells from human dental pulp: developing an in vitro model of tooth like tissue generation.

Core Equipment

- Tissue Culture Room
- Biosafety Cabinets
- Refrigerated and Non Centrifuges
- Water Bath
- Vortex
- Carbon dioxide Incubator
- Inverted Microscope
- Fluorescence Microscope
- Liquid Nitrogen Tank
- Desktop PC
- Ultra Low Temp. Freezers

Dr. Tashfeen Ahmad
Assistant Professor
Department of Surgery,
The Aga Khan University, Pakistan
Bench no. A-12*

Dr. Ather Enam
Professor
Department of Surgery,
The Aga Khan University,
Pakistan

May, 2020 – May, 2022

Identifying gene mutations in low and high grade gliomas’s patients of tertiary care hospital.

Core Equipment

<table>
<thead>
<tr>
<th>PCR</th>
<th>Microtome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refrigerated &amp; Non Refrigerated Centrifuges</td>
<td>IHC bench</td>
</tr>
<tr>
<td>Water Bath</td>
<td>Microscope</td>
</tr>
<tr>
<td>Vortex</td>
<td>Fume Hood</td>
</tr>
<tr>
<td>Under counter &amp; Walk-In Fridge</td>
<td>Desktop PC</td>
</tr>
<tr>
<td></td>
<td>Ultra Low Temp. Freezers</td>
</tr>
</tbody>
</table>
Dr. Syed Adnan
Assistant Professor
Department of Surgery, The Aga Khan University, Pakistan

May, 2020 – May, 2022


Core Equipment

<table>
<thead>
<tr>
<th>Bench no. A-12*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Syed Adnan Assistant Professor Department of Surgery, The Aga Khan University, Pakistan</td>
</tr>
</tbody>
</table>

Bench no. A-12*

- PCR
- Under counter & Walk-In Fridge
- Microscope
- Ultra Low Temp. Freezers
- Refrigerated Centrifuges
- Microtome
- Non Refrigerated Centrifuge
- IHC bench
- Water Bath
- Fume Hood
- Vortex
- Desktop PC
Bench no. A-13

Dr. Kulsoom Ghias
Associate Professor
Biological and Biomedical Sciences,
The Aga Khan University, Pakistan

June, 2018 – Dec, 2020

Role of neutrophils in progression of head and neck squamous cell carcinoma.

Core Equipment

- Tissue Culture Room
- Biosafety Cabinets
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Carbon dioxide Incubator
- Inverted Microscope
- Fluorescence Microscope
- Liquid Nitrogen Tank
- Desktop PC
- Ultra Low Temp. Freezers
Characterizing determinants of acute myeloid leukemia resistance to ex-vivo expanded allogeneic natural cell-mediated killing.

Core Equipment

- Tissue Culture Room
- Biosafety Cabinets
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Carbon dioxide Incubator
- Inverted Microscope
- Fluorescence Microscope
- Liquid Nitrogen Tank
- Desktop PC
- Ultra Low Temp. Freezers
- Under counter & Walk- In Fridge

Dr. Fareena Bilwani
Assistant Professor
Biological & Biomedical Sciences,
The Aga Khan University,
Pakistan

May, 2018 – May, 2021

 aku.edu
Dr. Najeeha Iqbal
Associate Professor
Paediatrics & Child
Health, The Aga Khan University, Pakistan

Sep, 2017 – June, 2020
Project 1:
Exploration of TB Biomarkers in Pakistani Children.

Bench no. A-15*

Core Equipment

- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- pH meter
- Thermal Cyclers
- Real Time PCRs
- Desktop PCs

Grant Equipment

- Biosafety Cabinet
- Water Bath
- Vortex
- Taqman Low Density Array (TLDA)
- Thermal Cyclers
- Gel Documentation System
- Real Time PCRs

* Bench shared with 02 projects
Dr. Najeeha Iqbal
Associate Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Aug, 2017 – March, 2021
Project 2:
Micro biota, inflammation and environmental enteric dysfunction.

Bench no. A-15*

Core Equipment
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- pH meter
- Thermal Cyclers
- Real Time PCRs
- Desktop PCs

Grant Equipment
- Biosafety Cabinet
- Water Bath
- Vortex
- Taqman Low Density Array (TLDA)
- Thermal Cyclers
- Gel Documentation System
- Real Time PCRs

*Bench shared with 02 projects
Dr. Farah Qamar
Associate Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Oct, 2019 – Oct, 2020
Sero-epidemiology and environmental surveillance (SEES) in SEAP sites.

Core Equipment
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- pH meter
- Thermal Cyclers
- Real Time PCRs
- Desktop PCs

Grant Equipment
- Biosafety Cabinet
- Water Bath
- Vortex
- Gel documentation System
- ELISA
Bench no. A-22

Dr. Rumina Hasan
Professor
Pathology & Lab Medicine, The Aga Khan University, Pakistan

Core Equipment

- Biosafety Cabinets- BSL3
- Under counter & Walk- In Fridge
- Ultra Low Temp. Freezers
- Vortex
- TB Lab, BSL 3
- Centrifuges
- 37°C Incubator
- Carbon dioxide Incubator
- Autoclave

March, 2017 – Dec, 2020

Strengthening laboratory in capacity for antimicrobial surveillance.
Exploring the transcription of Bedaquiline resistant M. tuberculosis isolates.

March, 2020 – May, 2021

Bench no. A-24

Dr. Rumina Hasan
Professor
Pathology & Lab Medicine, The Aga Khan University, Pakistan

Core Equipment

- Biosafety Cabinets- BSL3
- Under counter & Walk- In Fridge
- Ultra Low Temp. Freezers
- Vortex
- TB Lab, BSL 3
- Centrifuges
- 37°C Incubator
- Carbon dioxide Incubator
- Autoclave
Dr. Farah Qamar
Associate Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

July, 2019 – Mach, 2022
Frequency of typhoid carrier in patients undergoing cholecystectomy for gall bladder.

Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath
Vortex
Under counter & Walk- In Fridge
pH meter
Thermal Cyclers
Real Time PCRs
Desktop PCs

Biosafety Cabinet
Centrifuge
Thermal Cycler
ELISA

aku.edu
Bench no. A-29

Dr. Syed Adnan
Assistant Professor
Department of Surgery
The Aga Khan University, Pakistan

Core Equipment

Thermal Cycler
Microtome
Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath

Vortex
Under counter & Walk- In Fridge
Ultra Low Temp. Freezers
Microscope
Desktop PC

April, 2019 - April, 2021

Correlation of molecular markers expression and overall survival in pancreatic adeno carcinoma patients.(Ph.D. Study)
June, 2018 – Nov, 2020

Gene expression of cancer stem cell markers in Glioblastoma multiforme patients.

Bench no. A-30

<table>
<thead>
<tr>
<th>Core Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microtome</td>
</tr>
<tr>
<td>Microscope</td>
</tr>
<tr>
<td>Water Bath</td>
</tr>
<tr>
<td>Vortex</td>
</tr>
<tr>
<td>Under counter &amp; Walk-In Fridge</td>
</tr>
<tr>
<td>Ultra Low Temp. Freezers</td>
</tr>
<tr>
<td>Desktop PC</td>
</tr>
</tbody>
</table>
Dr. Junaid Iqbal
Assistant Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Jan, 2018 – Jan, 2021
Development of enteroids from Pakistani children with environment enteric dysfunction (EED).

Core Equipment
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Under counter & Walk-In Fridge
- Ultra Low Temp. Freezers
- Desktop PC
- Tissue Culture Room (BSL2) & Virology (BSL3)
- Inverted Microscope
Bench no. B-10

Dr. Ali Faisal Saleem
Assistant Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Oct, 2016 – June, 2020*

Building the evidence based care of the sick, undernourished child in limited resource settings (CHAIN).

Core Equipment
- Refrigerated Centrifuges
- Under counter & Walk- In Fridge
- pH meter
- Thermal Cyclers
- Non Refrigerated Centrifuge
- Desktop PCs
- Ultra Low Temp. Freezers

Grant Equipment
- Biosafety Cabinet
- Water Bath
- Vortex
- Liquid Nitrogen Tank

* extension in process
Bench no. B-11 & B-12

Dr. S. Asad Ali
Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Nov, 2015 – Jan, 2021
Study of environmental enteropathy and malnutrition in Pakistan (SEEM).

Core Equipment

- Under counter & Walk-In Fridge
  - pH meter
  - Thermal Cyclers
  - Real Time PCRs
  - Desktop PCs
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex

Grant Equipment

- Biosafety Cabinet
- Water Bath
- Vortex
- Taqman Low Density Array (TLDA)
- Bioplex- Luminex Array
- BD- FACS- Celesta (to be arrived & installed)
- Bead beater
- Gel documentation System
Nutritional support for lactating women and azithromycin for infants to improve growth outcomes in the peri-urban slums of Karachi, Pakistan – a Randomized Controlled Trial.

Feb, 2020 – Oct, 2022

Dr. Fyezah Jehan, Associate Professor Paediatrics & Child Health, The Aga Khan University, Pakistan

Core Equipment

<table>
<thead>
<tr>
<th>Refrigerated Centrifuge</th>
<th>Under counter &amp; Walk-In Fridge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultra Low Temp. Freezers</td>
<td>Vortex</td>
</tr>
<tr>
<td>Vortex</td>
<td>Water Bath</td>
</tr>
<tr>
<td>Water Bath</td>
<td>Thermal Cycler</td>
</tr>
<tr>
<td>Thermal Cycler</td>
<td>Gel Documentation System</td>
</tr>
<tr>
<td>Gel Documentation System</td>
<td>Desktop PC</td>
</tr>
</tbody>
</table>
Dr. Shahid Pervez
Professor
Pathology & Lab Medicine, The Aga Khan University, Pakistan

Analysis of EFGR Signaling Pathway: interplay with human papillomavirus, miRNAs and inflammatory biomarkers in a high risk oral cancer population. (Ph.D. study)

Dec, 2015 – Sep, 2020

Core Equipment

- Refrigerated Centrifuge
- Under counter & Walk- In Fridge
- Ultra Low Temp. Freezers
- Vortex
- Water Bath
- Thermal Cyclers
- Gel Documentation System
- Desktop PC
Bench no. B-15

Dr. Zahra Hasan
Professor
Pathology & Lab
Medicine, The Aga Khan University,
Pakistan

Aug, 2020 – Aug, 2021

Phylo- and immuno-dynamics of SARS-CoV-2 infection in Pakistan:
relating COVID 19 disease severity in with viral diversity.

Core Equipment

- Refrigerated Centrifuge
- Under counter & Walk- In Fridge
- Ultra Low Temp. Freezers
- Vortex
- Water Bath
- Thermal Cycler
- Gel Documentation System
- Desktop PC
- MiSeq. NGS
BSL-3

Jan, 2018 – Oct, 2019

Replication of intussusception associated adenovirus in human enteroids).

Dr. Junaid Iqbal
Assistant Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Core Equipment

Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath
Vortex
Under counter & Walk- In Fridge
Ultra Low Temp. Freezers
Walk- In Fridge
Virology (BSL3)
Inverted Microscope
Benches Reserved for Future Projects ($N=15$)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A-28</td>
<td>B-2</td>
<td>B-4</td>
<td>B-5</td>
<td>B-6</td>
<td>B-7</td>
<td>B-8</td>
<td></td>
</tr>
</tbody>
</table>
Benches Occupied for core equipment/staff (N=5)

A-3
A-4
A-23
B-1
B-3
# List of Committed Projects at Pre-award level (N=26)

<table>
<thead>
<tr>
<th>S. #</th>
<th>Department</th>
<th>Committed projects at pre-award level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Paediatrics</td>
<td>13</td>
</tr>
<tr>
<td>2</td>
<td>Surgery</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>BBS</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>CHS</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Pathology &amp; Lab Medicine</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>26</strong></td>
</tr>
</tbody>
</table>
List of Committed Projects at Pre-award level (N=26)

<table>
<thead>
<tr>
<th>S. #</th>
<th>Title of Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Capacity building for diagnosing and defining the epidemiology of Crimean Congo Hemorrhagic Fever Virus in Pakistan</td>
</tr>
<tr>
<td>2</td>
<td>The University of Washington Arboviral Research Center</td>
</tr>
<tr>
<td>3</td>
<td>Introduction of typhoid conjugate vaccine (tcv) in routine immunization program in Pakistan and its population impact on antimicrobial resistance among salmonella typhi</td>
</tr>
<tr>
<td>4</td>
<td>Identification of the Elements of miR21 Promoter, Responsible for its Aberrant Expression in Gliomas</td>
</tr>
<tr>
<td>5</td>
<td>HEC-Micro-RNA expression in Glioma, Glioma stem cells and serum and its association with the prognosis of the disease. A cohort study</td>
</tr>
<tr>
<td>6</td>
<td>Maternal genetic variants underlying fetal growth restriction</td>
</tr>
<tr>
<td>7</td>
<td>Investigating the Role of miRNA and Human Papillomavirus Infection for Early Detection and Treatment of non-functioning Pituitary Adenomas’</td>
</tr>
<tr>
<td>8</td>
<td>Investigation of Molecular Alterations and Frequency of Human Papilloma Virus in Pancreatic Adenocarcinoma Patients: A Cross Sectional Study</td>
</tr>
<tr>
<td>9</td>
<td>Investigating the role of human papillomavirus in oral squamous cell carcinoma and oral potentially malignant disorders: a prognostic cohort study</td>
</tr>
<tr>
<td>10</td>
<td>Effect of storage duration on the viability of calvarial osteoblasts in bone flap of skull at -20 °C</td>
</tr>
<tr>
<td>11</td>
<td>Gut microbiota configuration in healthy Pakistani children</td>
</tr>
<tr>
<td>12</td>
<td>Improving treatment and control of extensive drug resistance pathogens in Pakistan by whole genome</td>
</tr>
</tbody>
</table>
## List of Committed Projects at Pre-award level (N=26)

<table>
<thead>
<tr>
<th>S. #</th>
<th>Title of Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Metagenomics to understand dynamic of Neglected tropical disease in Southern Pakistan</td>
</tr>
<tr>
<td>14</td>
<td>Respiratory syncytial virus (RSV) Surveillance</td>
</tr>
<tr>
<td>15</td>
<td>Comprehensive Cataloging of Loss-of-function Mutations Within the Pakistani Population</td>
</tr>
<tr>
<td>16</td>
<td>Evaluation of safety and feasibility of fecal microbiota transplant in children for eradication of AMR</td>
</tr>
<tr>
<td>17</td>
<td>Options for the nutritional management of Moderate wasting in children presenting with acute illness: the MERIDIAN trial&quot;</td>
</tr>
<tr>
<td>18</td>
<td>MOMI Biorepository Platform: AMANHI Pakistan</td>
</tr>
<tr>
<td>19</td>
<td>Sewage sampling for circulating SARS-CoV-2: active and early warning surveillance system in low and middle-income countries.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S. #</th>
<th>Title of Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Surveillance for enteric pathogens in sewage in Karachi (KEPS)</td>
</tr>
<tr>
<td>21</td>
<td>COVID-19 HH transmission study in Pakistan</td>
</tr>
<tr>
<td>22</td>
<td>Interaction of SARS-CoV-2 with the utero-placental interface</td>
</tr>
<tr>
<td>23</td>
<td>Immune parameter analyses in COVID-19 patients with mild, moderate and severe disease Nature of work: Immunological work</td>
</tr>
<tr>
<td>24</td>
<td>Effect of COVID induced cytokine storm on immune-modulating agents released during fracture healing</td>
</tr>
<tr>
<td>25</td>
<td>Wastewater surveillance for COVID-19</td>
</tr>
<tr>
<td>26</td>
<td>Comparative study of commercially available typhoid point of care tests to benchmark current and emerging tools</td>
</tr>
</tbody>
</table>