

# Pacific Biomedical Engineering Network



**MINISTRY OF HEALTH AND MEDICAL SERVICES**  
**NATIONAL REFERRAL HOSPITAL**  
**BIOMEDICAL ENGINEERING UNIT**

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## Biomedical Engineering Services in Solomon Island

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## 1. BACKGROUND

- 1.1. Biomedical engineering in the Solomon Islands began in 1998 with the support of the Australian government under the Pacific Islands Project (PIP). The PIP initiative played a key role in establishing the foundation for biomedical engineering in the country, paving the way for advancement and growth in the field. As part of the project, biomedical engineers were consulted to assist in setting up the department. Their expertise and guidance were instrumental in ensuring that the department was equipped to meet the healthcare needs of the Solomon Islands.
- 1.2. In 2006, the introduction of equipment management guidelines provided crucial direction for the effective operation of the biomedical engineering department. These guidelines helped to streamline processes and enhance the management of medical equipment, ultimately contributing to the improvement of healthcare services across the islands.
- 1.3. In 2016, a draft policy for biomedical engineering was formulated, signalling the government commitment to formalize and regulate the practice of biomedical engineering in the Solomon Islands. This policy aimed to set medical standards and guidelines for the field, ensuring the delivery of high-quality healthcare services to the Solomon Islands community.
- 1.4. Continuing its commitment to the advancement of biomedical engineering, the Solomon Islands government through the ministry of health unveiled a second draft of the policy in early 2023, demonstrating ongoing efforts to support and develop the field. This latest draft reflects the evolving needs and challenges within the healthcare landscape, and sets out a comprehensive framework for the future of biomedical engineering in the Solomon Islands.
- 1.5. The biomedical unit is responsible to provide technical support to 10 hospitals with the population of 756,673 people across the islands and provinces.

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## 2. PROGRESS AND ACHIEVEMENTS

2.0 Overall, the progress and development of biomedical engineering in the Solomon Islands have been marked by concerted efforts from both local and international stakeholders. With strong foundation laid by the PIP project and continuing support from the Japanese government, JICA Volunteer programs, SPC programs, and WHO assistance is a significant development that aims to enhance healthcare infrastructure and capacity in local communities. The involvement of these entities underscores a commitment to advancing biomedical engineering training for local technicians and improving healthcare services in our health facilities. With these support, the field continues to evolve and flourish, contributing to improved healthcare outcomes for the people of the Solomon Islands.

2.1. The Solomon Islands biomedical team comprises of

- I. 2 biomedical engineers,
- II. 2 electrical engineers,
- III. 1 electronic/instrument engineer and
- IV. 2 biomedical instrument technicians.

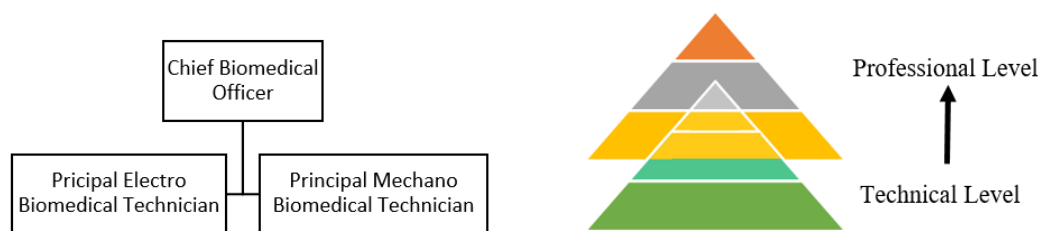
We are expecting 2 other biomedical engineers to join our unit by the end of this year.

2.2 Developing an asset registry software is one of the ongoing activities that was implemented to improve our services (i.e., enhance inventory control, optimize equipment utilization, and ensure compliance with maintenance schedules)

2.3 Through the consultation with the biomedical team, we were able to successfully install a new PSA (Pressure Swing Absorption) oxygen plant through WHO funding's and support to supply medical-grade oxygen to the NRH and the islands/provinces. The radiology department has also acquired a new CT scan and has shifted from using cassette readers to digital Radiography.

2.4 The biomedical unit proposed structure has been approved by the ministry of health. It entails the different levels of profession from a beginner level to a professional level indicated by the different colors as it went up the pyramid.

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*Fig 1. Solomon Islands Biomedical Unit New Structure*

### 3. CHALLENGES

- 3.1. Inadequate funding and budget allocation for the establishment and functioning of the biomedical engineering department.
- 3.2. Challenges in establishing quality control and assurance measures for medical equipment and consumables items.
- 3.3. Inadequate infrastructure and facilities for the storage, maintenance, and repair of medical equipment.
- 3.4. Limited awareness and understanding of the importance and role of biomedical engineering in healthcare delivery among stakeholders and decision makers.
- 3.5. The distribution and delivery of donated medical equipment without consulting the biomedical team can sometimes be a problem when it comes to servicing and repairing of the equipment.
- 3.6. Creating an equipment standard that ensures we have a specific brand for particular medical equipment is still a challenge.

### 4. FUTURE DIRECTIONS

In order to address the challenges, we are facing and to move toward a successful future, it is essential to take the following steps:

- 4.1 Review and Update Equipment Management Policy. A thorough review of the draft equipment management policy is necessary to ensure that it aligns with best practices and addresses current challenges. This will involve consulting with relevant stakeholders,

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including staff members and experts in the field, to gather input and make necessary adjustment.

4.2 Seeking administrative advice from the relevant authorities, such as SPC, will be crucial in gaining support and influence for the ministry recognition of the importance of effective equipment management. This may involve presenting a clear case for the benefits of optimizing equipment management practices and the potential impact on operational efficiency and cost saving.

4.3 Providing initiatives and trainings to improve our young technician's technical and professional skills especially in electrical safety testing, documentation as well as getting involve in the procurement and policies development.

4.4 To ensure that all provinces will have their own biomedical engineer who can provide advice and technical support to their health services.

## 5 ACKNOWLEDGEMENT

We would like to thank the SPC community for their ongoing support not only on the pacific games but also in other occasions when we need your support.



In conclusion, the ongoing progress of the biomedical engineering department in collaboration with the Japanese government, JICA Volunteer programs, SPC programs, and WHO assistance reflects a concerted effort to enhance healthcare services through capacity building and knowledge sharing among local technicians.