Country perspectives: Challenges in maintaining effective and sustained biosafety / biosecurity, quality management systems and engineering / infrastructure – the Caribbean experience

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Main points

Veterinary diagnostic laboratories are not ‘prioritized’ for funding by Caribbean governments, leading to a lack of funding for technical and human resources.

This is made worse by:

- High cost of maintaining and servicing equipment and infrastructure
- High costs of purchasing reagents and equipment
- High cost of gaining and sustaining a quality accredited bio-secure lab

Most important challenges in sustaining biosafety and biosecurity:

- Lack of a culture that appreciates the importance and the cost of maintaining high levels of biosafety and biosecurity within a laboratory setting.
- Lack of laboratory facilities with biosafety features greater than BSL II
- Insufficient number of trained personnel & difficulty to retain qualified personnel
- Lack of knowledge and understanding of the biosecurity risks
- Cost of servicing and certifying biosafety equipment.
- Lack of SOPs and protocols for biosafety and biosecurity, for example lack of procedures for proper disposal of biological waste from laboratories
- Lack of appropriate quarantine facilities

Most important challenges in maintaining effective quality management systems (QMS)

- Cultural - difficulty in justifying the need for a QMS in the lab
- Cultural - lack of support from higher level management to provide the necessary resources for QMS implementation
- Lack of trained personnel in QMSs
- Service providers for general maintenance and calibration of equipment are very expensive
- Lack of consistent funding for maintenance of QMS (Proficiency testing, audits etc)
- High cost of lab equipment and reagents

Most important challenges related to infrastructure and engineering

- Cultural - lack of support from higher level management to provide the necessary resources for improved infrastructure
- Lack of local reliable service providers/personnel
- Need for alternate /back up sources of power (generators/solar) to provide diagnostic support during power cuts and after natural disasters
- Lack of expertise in laboratory design and building practices, which influences biosafety, biosecurity and QMS accreditation.

How laboratories are funded and supported (and other challenges related to financial sustainability)

- Across Caribbean countries, the main sources of funding are through a Government budget allocation – this funding is often inadequate is not legislated and can vary during the financial year, usually in a downward direction. This budget revenue is not returned to the lab. Revenue is small so does not outstrip Government budget.
- International organizations support some training and surveillance activities – but this is often project-driven, limiting scope and flexibility to use the funds. For example, funding provided for training of personnel in Antimicrobial resistance, but no governmental funding to follow through with research in the long term.
- Process to receive funding is long and rigorous, reducing productivity in the laboratory.
- Laboratories are often unable to apply for external funding and are unable to manage funds from external funding sources.

Acknowledgments

CaribVET laboratory working group members
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