Sustainable biosafety and laboratory capacity building for resource-constrained settings – what do we mean?

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The building blocks of laboratory capacities

Physical infrastructure and engineering controls

Equipment, reagents, materials, and consumables

Tools, processes, and systems

Human capabilities (skills and knowledge)
What we know...

What we do...

- 'Easier' and more technical
- 'Harder' and more socio-cultural

- TOOLS
- SKILLS
- STAFF AND FACILITIES
- STRUCTURES, SYSTEMS AND ROLES

Time to implement change

What we see again and again...

Non-strategic: "My people have already built their capacity 3 times this month."

Non-contextual: "We don't have the equipment for that in our lab."

Short-term: "We would have had to put that in the budget last year."
The “Awareness” Iceberg

4% Problems known to top managers
9% Problems known to middle managers
74% Problems known to supervisors
100% Problems known to front line managers

This internationally acclaimed study conducted by Sidney Yoshida, was initially presented at the International Quality Symposium, Mexico City, 1999. It indicated how management's failure to understand its processes and practices from the perspective of its customers, suppressed the company's profits by as much as 40%. 
What we know...
Performance
  • Tools, money, equipment available

Personal
  • Staff have necessary knowledge, skills, confidence.

Workload
  • Right number and skill mix of staff

Supervisory
  • Supervisors can monitor and hold staff accountable

Facility
  • Adequate space for workload

Support service
  • Adequate administrative and maintenance services

Systems
  • Money, information, and staffing decisions are managed effectively

Structural
  • Decision-making forums

Role
  • Individuals have authority and responsibility to make decisions essential to effective performance
Structures, systems, and roles – effecting change

Evidence from health operations research:

• Without leadership from the highest levels to change organizational culture, even trained and motivated staff cannot maintain effective practices
Structures, systems, and roles – effecting change

Characteristics of successful leaders in hospital infection prevention and control

Sustained action requires support from the top

- International partners
- Senior decision makers
  - Elected officials
  - Ministry leadership
- Institutional leaders
  - University presidents or deans
  - Company managers
- Facility leaders
Changing the capacity-building ecosystem
Current metrics – primarily individual
Moving metrics to institutions

Capacity for decision making and action
### Institutions – examples

#### Quantitative
- Frequency of reporting or alerts
- Number of relevant meetings or organizing bodies

#### Qualitative
- Guidelines exist for biosafety and biosecurity, with clear roles and responsibilities
- Adoption of policies, regulations, and SOPs (national/institutional)
- Structures and mechanisms exist for risk/threat analysis and data sharing
- Procedures for risk management are clear
- Relevant leadership positions created and/or empowered
Moving metrics to cultural context

Values, norms, and supportive networks

- National culture
- Organizational culture
- Workgroup culture
Cultural context – examples

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Qualitative</th>
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<tbody>
<tr>
<td>□ Increase in relevant publications (peer-reviewed and general)</td>
<td>□ Relevant knowledge and skills recognized as positive attributes for professional development</td>
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<tr>
<td>□ Increase in downloads or hits on relevant websites</td>
<td>□ Standards adopted by professional societies/other organizations</td>
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<td>□ Development of communities of practice/professional networks</td>
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<td>□ Increase in funding sources</td>
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<td>□ Interventions are repeated</td>
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...building ongoing costs into planning.

- Infrastructure
- Equipment
- Training
- Human resources

- Personnel
- Utilities
- Travel
- Communications
- Consumables
- Repair/upkeep
Moving from sustainability = hand-off...
...To a concept of durability.
That can be adapted and scaled flexibly.
Useful instruments for discussion

• Joint external evaluations – setting expectations?
• Country cooperative plans – harmonizing expectations
• Coordinating committees – harmonizing awareness
• International advocacy and outreach – ABSA International and others
  • Standards
  • Communities of practice
  • Information-sharing
Thank you!

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