

# e-buddi - building resilience against infection

## Our Vision - Enhanced IPC training

Transform training for infection prevention and control (“IPC”), through technology enhanced learning to improve knowledge retention, confidence and ultimately competence – and to make quality assured training accessible worldwide.

## Our Objective

To keep health-workers, their patients and their communities safer and rebuild local health capacity faster, and with more resilience, leading to a fall in infection rates everywhere.

## Who We Are - Masanga Mentor Ebola Initiative (“MMEI”)

MMEI is a partnership between the **Masanga hospital** in Sierra Leone with links to diaspora groups in the UK, the **Mentor Initiative** a leading international training group operating in Liberia, and the **Plymouth University Peninsula Schools of Medicine and Dentistry (“PUPSMD”)**. MMEI is a unique collaboration between a network of international experts, from a wide range of disciplines including pedagogy, technology enhanced learning, quality assurance and compliance, media, IT developers & artists, telecoms, public health, IPC, sustainable development, agile development and finally and most importantly, frontline teams providing training and supporting care in west Africa, from urban slums to remote rural hospitals.

## Introducing - e-buddi

**e-buddi** is a digital interactive IPC training tool that has been developed in response to the Ebola outbreak with local dialect voice-over that will be distributed on laptop, tablet and smartphone.

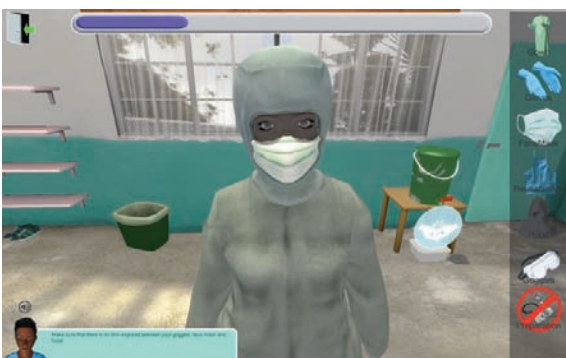
### e-buddi is designed to:

- Use distributed simulation to reach a dispersed workforce
- Augment traditional training to improve impact and fidelity
- Build confidence and competence to deal with infection and reduce the rate of reinfection
- Build understanding, trust and accessibility through local dialect voiceovers

### e-buddi adopts:

- Immersion & user interaction
  - Role play, hazard alerts and game play
  - Checklists to reinforce standard procedures
  - Systematic evaluation to prove effectiveness
  - National and International Guidelines and policy
- And is quickly and easily adaptable to different countries, dialects and changes in guidelines

**Agile development**, video conferencing and broadband communications has enabled our team of international coding experts and artists to get fast feedback from end users, resulting in a more effective and focused end product.

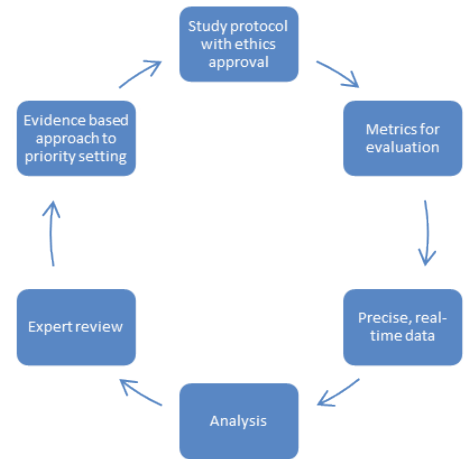


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## Development and evaluation

The first pilot phase in Sierra Leone established the added value of this training method with over 98% of participants stating that the training is useful, relevant and they would recommend the training to their work colleagues. The evaluation has demonstrated statistically significant increases in confidence levels for putting on PPE, taking off PPE, and being prepared for treating patients with Ebola.

We are currently evaluating the alpha Version of e-buddi through field trials in urban slums of Liberia and development is in progress for the beta version for evaluation in June and September.



## Six Pedagogical Aspects of e-Buddi

<p><b>Continuous feedback</b></p>	<p><b>Instructional learning</b></p>	<p><b>Discovery based learning</b></p>
<p><b>Intentional repetition</b></p>	<p><b>Problem solving activities</b></p>	<p><b>Instructional learning</b></p>

## The Telegraph

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 HOME » TECHNOLOGY » TECHNOLOGY NEWS  
**The tablets that will tackle Ebola**  
 A British technology company is developing a unique platform for West Africa, discovers Matt Warman

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By Matt Warman, Head of Technology  
 7:00AM GMT 29 Nov 2014  
 Follow (13.5K followers)

**Sierra Leone's hi-tech weapon against Ebola**  
 The Sierra Leonean hospital that is the subject of this year's Telegraph Christmas Charity Appeal is pioneering new ways to stop Ebola's spread

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## The Opportunity

e-buddi is a concept system in field trials which has provided the foundation for a development plan to augment traditional training in a way that would enable IPC training to be rolled out across the region more effectively, faster, and potentially more cost effectively. This could ultimately lead to higher quality and more sustainable IPC. Funding has been secured through the Telegraph Christmas Appeal to deliver the e-buddi beta version. **Further funding and partners are needed to complete the full development programme and to implement the training across the region.**

www.masangahospital.org

Contact: nicholas.mellor@lsngroup.org



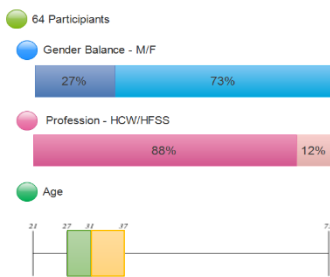
# Methodology, Results and Conclusions

## eBUDDI Evaluation Survey 2015: Phase 1

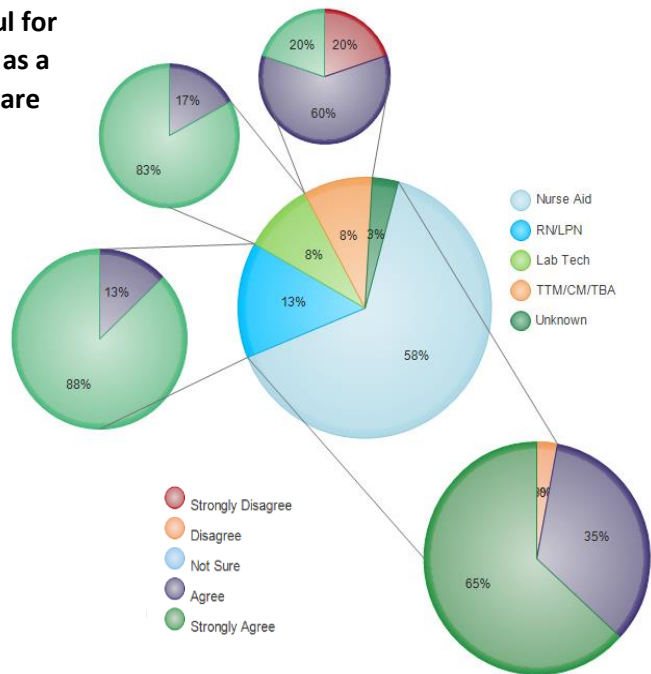
### Methodology

The study visited 13 health facilities in Monrovia and demonstrated eBUDDI to 64 healthcare workers. At each facility, the MENTOR team demonstrated eBUDDI to groups of three and allowed individuals to navigate through the tool. After one hour, participants completed a questionnaire giving general feedback about the tool and its potential to teach about IPC practices.

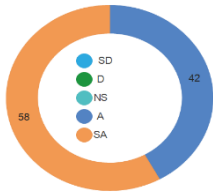
### Results



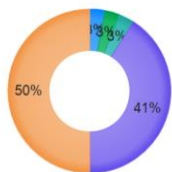
**BUDDI can be useful for my role as a health care worker**



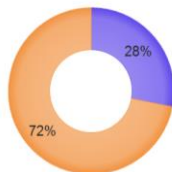
**I would recommend BUDDI to my workmates**



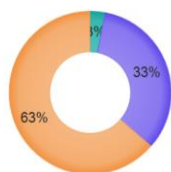
**BUDDI can improve my understanding of Ebola**



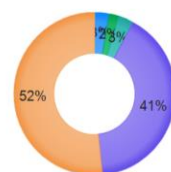
**BUDDI can help me learn to put on PPE**



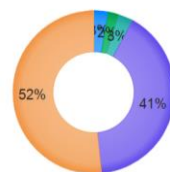
**BUDDI can help me learn to take off PPE safely**



**BUDDI can help me learn to use PPE so that I can care for patients with Ebola safely**



**I am going to change the way in which I use PPE as a result of this BUDDI training**



Legend for agreement levels: Strongly Disagree (red), Disagree (orange), Not Sure (green), Agree (blue), Strongly Agree (purple)

# eBUDDI Survey 2015: Phase 2

## Methodology

The study visited 58 different health facilities across Monrovia, surveying healthcare workers and health facility support staff. Each participant completed a questionnaire that evaluated their confidence with IPC practices. The study first assessed their competence at donning and doffing enhanced PPE. The participant then played on eBUDDI for one hour learning about IPC practices and enhanced PPE. Finally, they were reassessed on their ability to don and doff enhanced PPE. The Controls were assessed twice but did not play eBUDDI in between. The aim was to test the efficacy of eBUDDI as a teaching tool.

## Results

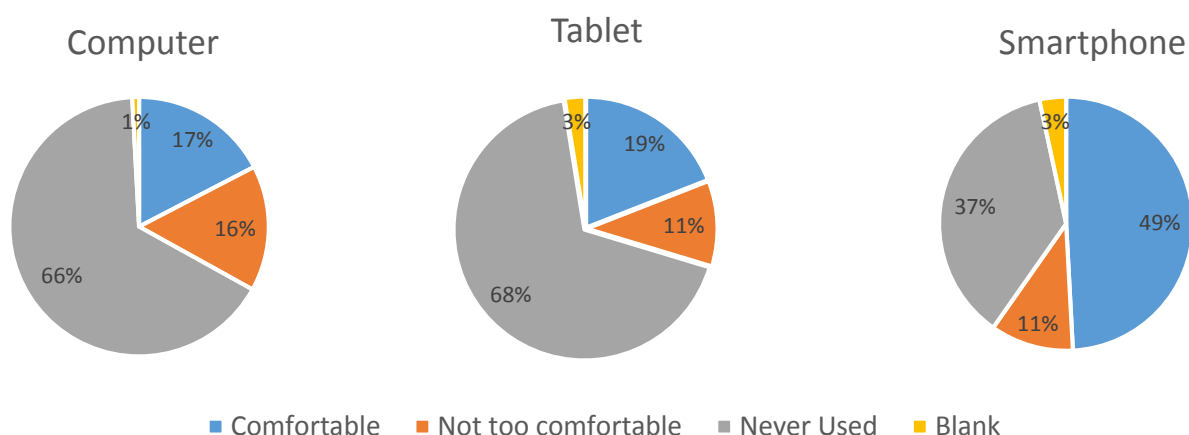
**Overview.** 236 participants (151 BUDDI, 85 control) across 58 different health facilities across Monrovia

Health care support staff (HFSS)	36	15%
Health care worker (HCW)	200	85%
Nurse Aid (NA)	115	49%
Nurse (RN/LPN)	39	17%
Lab Technician	15	6%
Midwife (CM, TBA, TTM)	16	7%
Other	51	21%

*I am confident in being able to don/doff/use PPE*

Confidence	Donning PPE		Doffing PPE		Using PPE	
	Count	Percentage	Count	Percentage	Count	Percentage
Strongly disagree	0	0%	0	0%	1	0%
Disagree	3	1%	4	2%	4	2%
Not sure	19	8%	27	11%	18	8%
Agree	133	56%	129	55%	126	53%
Strongly Agree	81	34%	76	32%	87	37%

*How do you feel about using computers, tablets or smartphones?*



## Conclusions

eBUDDI can improve the confidence and competence of healthcare workers with respect to PPE training. A growing number of healthcare workers have had exposure to, and are confident with a digital platform. Healthcare workers enjoyed using the tool and would recommend it to their colleagues across Liberia.