Public Health Action

International Union Against Tuberculosis and Lung Disease
Health solutions for the poor

VOL 3 NO 2 PUBLISHED 21 JUNE 2013

EDITORIAL

Oh no! Power out, internet down! Two challenges in running training courses in low- and middle-income countries

Christophe Demez,[1] Rony Zachariah,[1] Tony Reid,[1] Anthony D. Harries[2,3]

http://dx.doi.org/10.5588/pha.13.0023

We have just completed our 13th Operational Research Training Course, run jointly by the International Union Against Tuberculosis and Lung Disease and Médecins Sans Frontières–Luxembourg. The aim of each course is simple: to train and mentor participants from low- and middle-income countries in the development of a research protocol all the way through to publishing a paper in a peer-reviewed journal, with a view to this research making a difference for policy and practice.[1] To date we have run six courses in Europe, while seven have been decentralised to other countries: Kenya (n = 1), Ethiopia (n = 1), Nepal (n = 2), Fiji (n = 2) and India (n = 1).

In all the decentralised courses, two of the main challenges we have faced have been irregular power supply and poor and/or intermittent internet access. The latter is particularly frustrating, as uninterrupted access to the internet is needed for 1) demonstrating the on-line use of the various software packages used for data entry and analysis (Epi Info and EpiData), literature searches (PubMed) and free reference management such as Mendeley; 2) demonstrating on-line paper submission; and 3) enabling protocols and papers to be shared by e-mail between participants and mentors as ongoing iterations develop during the five-day modules.

To resolve these issues, we took a dedicated 'Network Kit', including an alternative power source, to our most recent operational research course in Addis Ababa, Ethiopia. It had to be used within a day of arrival . . . Power outages were tackled by plugging the LCD projector and the lecturer's computer laptop into a UPS (uninterruptible power supply, i.e., a battery that provides up to 2 hours of autonomous power). Although the lights went on and off almost every hour, signifying power interruptions, the lectures proceeded smoothly and seamlessly as the UPS provided continuous power.

Issues regarding the exchange of information were taken care of by the network part of our solution, consisting of a network switch and a firewall-router/wireless access point, both providing connectivity to an NAS (network attached storage). The NAS, acting as a server, provides for basic file sharing in a simple workgroup environment, allowing people to exchange and access different resources in a private, secured network space (anti-virus and password protected access). It also offers other network services such as printer sharing. The whole setup is powered by the UPS, resulting in a whole package of services able to withstand up to 2 hours of power outage. Both parts of the kit are packed in a flight case (approximate weight 50 kg) for ease of transportation and to protect the different components from damage.

In a future iteration of this setup we plan to include: 1) a common workspace, customised for every trainee and replicated to 'cloud' storage (data storage accessible through the internet), making the network accessible seamlessly from within or outside the course environment; 2) an automated installation procedure for the different components and services, obviating the need for an IT (information technology) specialist during setup in the courses; 3) expanded wireless coverage; and 4) alternative internet connections (multi WAN—wide area connection network), so that if one connection fails the internet traffic is automatically routed to the other.

As a result of these initiatives, our previous anxieties and frustrations with the power supply and internet connections were resolved. At a cost of about 1600 EURO (~US$2000), this was a relatively inexpensive 'fix' for a problem that plagues training courses throughout low- and middle-income countries,[2,3] and we highly recommend such a system.

References

1 Harries A D, Zachariah R. Applying DOTS principles for operational research capacity building. Public Health Action 2012; 2: 101–102.
2 Redman-MacLaren M L, MacLaren D J, Solomon J, et al. Research workshop to research work: initial steps in establishing health research systems on Malaita, Solomon Islands. Health Res Policy Syst 2010; 8: 33.
3 Aggarwal R, Gupte N, Kass N, et al. A comparison of online versus on-site training in health research methodology: a randomized study. BMC Med Educ 2011; 11: 37.

AFFILIATIONS
1 Médecins Sans Frontières, Medical Department, Operational Research Unit, Brussels Operational Center, Luxembourg, Luxembourg
2 International Union Against Tuberculosis and Lung Disease, Paris, France
3 Department of Infectious and Tropical Diseases, London School of Hygiene & Tropical Medicine, London, UK

CORRESPONDENCE
Professor A D Harries
Old Inn Cottage
Colden Common
Vears Lane
Winchester SO21 1TQ
UK
e-mail: adharries@theunion.org

Public Health Action (PHA) The voice for operational research.
Published by The Union (www.theunion.org), PHA provides a platform to fulfil its mission, 'Health solutions for the poor'. PHA publishes high-quality scientific research that provides new knowledge to improve the accessibility, equity, quality and efficiency of health systems and services.

e-ISSN 2220-8372
Editor-in-Chief: Donald A Enarson, MD, Canada
Contact: pha@theunion.org
PHA website: http://www.theunion.org/index.php/en/journals/pha
Article submission: http://mc.manuscriptcentral.com/pha