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Publication list of NCGM-BIMC is available from here (<http://www.ncgm.go.jp/kyokuhp/research/results/index.html>). Green bar opens links to abstracts of articles on infectious diseases, red bar maternal & child health, blue bar health system and yellow bar others.

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HIGHLIGHTS

- The mobile ART project in Zambia ensured better access of PLHIV to ART.
- Conceptual model for health human resources development (the house model) provides guideline for status assessment.
- 2011 Tohoku tsunami caused BP increase and mental distress.

QUALITY HIV CARE FOR THE COMMUNITY

For the people living with HIV (PLHIV) in rural Africa, it is still difficult to access antiretroviral therapy (ART) despite its rapid expansion to district health facilities. In Zambia, Mumbwa and Chongwe district medical offices introduced mobile ART services to some rural health centres (RHCs) using human resources and technical support from district hospitals in 2007. Along with this mobile ART efforts implemented as the Project for Scaling up of Quality HIV/AIDS Care Service Management of Japan International Cooperation Agency (JICA), the NCGM has been conducting operational researches to describe its operation and confirm its effects.

In 2010, Dube and Nozaki et al¹ demonstrated that the mobile services improved accessibility to ART, especially for clients in better functional status, i.e. still able to work. Community involvement and better patient support were considered to be the causes of the improved accessibility.

Despite the success, there are socio-cultural barriers to overcome. In 2011, Nozaki et al² assessed the factors that influenced ART adherence in Mumbwa district. The study identified socio-cultural factors among the local residents associated with low adherence such as remembering when to take drugs based on the position of the sun due to lack of clocks and feeling pressured to share drugs with others.

The recent research of Miyano et al³ revealed that the mobile ART also improved the tuberculosis treatment outcome among the PLHIV.

These findings underline the operational feasibility of the mobile ART at RHCs and its effectiveness in improving access of people to ART in rural Zambia. The mobile ART became a national program in 2009 and

further scaled up to around 110 RHCs in 15 districts as of December 2012.

References

1. Dube C, Nozaki I, Hayakawa T, Kakimoto K, Yamada N, Simpungwe JB. Expansion of antiretroviral treatment to rural health centre level by a mobile service in Mumbwa district, Zambia. Bull World Health Organ 2010;88:788-791. <http://www.ncbi.nlm.nih.gov/pubmed/20931065?dopt=abstract>
2. Nozaki I, Dube C, Kakimoto K, Yamada N, Simpungwe JB. Social factors affecting ART adherence in rural settings in Zambia. AIDS Care 2011; 23(7): 831-838. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3144480>
3. Miyano S, Dube C, Kayama N, Ishikawa N, Nozaki I, Syakantu G: Association between tuberculosis treatment outcomes and the mobile antiretroviral therapy programme in Zambia. Int J Tuberc Lung Dis 2013;17 (4):540-545. <http://www.ncbi.nlm.nih.gov/pubmed/23394080>



A scene of the mobile ART service in Zambia

What is NCGM? Why do we conduct researches?

The National Center for Global Health and Medicine, Japan (NCGM) is consist of two general hospitals, the Bureau of International Medical Cooperation, the research institute dedicated mainly to basic research and the College of Nursing. The Bureau of International Medical Cooperation (BIMC) provides technical assistance to developing nations in Asia and Africa through Japan's Official Developmental Assistance and multilateral international organizations such as the World Health Organization (WHO).

The BIMC implements a variety of research pro-

jects aiming to provide evidence and guide policies of global health. Our research projects mainly focus on infectious disease control, maternal, neonatal and child health and health system strengthening. The NCGM is contracted by the WHO as the WHO Collaborating Center for Health Systems Research.

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MEET THE RESEARCHERS

Ikuma Nozaki MD, PhD and Shinsuke Miyano MD, MCTM have been spearheading the ART research in Zambia (see the headline column in p1). In a short interview below, they talk on the vision the research group holds and the insights they obtained.

-What led you and your Zambian counterparts to the mobile ART idea? Why is it important?

Nozaki: When the project started in 2007, the expansion of the ART was the top priority among health agenda. Making the ART available at rural health centres (RHCs) was considered essential, but it was not easy to figure out how. Some doubted the feasibility of the ART in resource-limited settings such as at RHCs. Experts from Japan discussed with the Zambian counterparts to operationalise the mobile ART teams dispatched from district hospitals to RHCs.

-What do you think are the most important

findings you have obtained so far through your researches in Zambia?

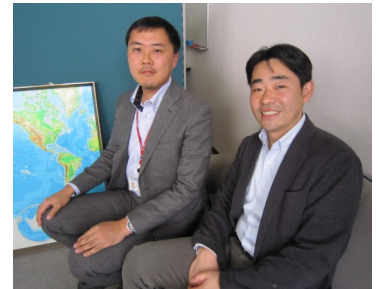
Nozaki: First, we proved that the ART is feasible even at RHCs without much reduction in retention rate. Second, we uncovered social factors specific to rural Zambia that impeded the ART such as lack of clocks to know drug-taking time and patients' motivation to share prescribed drugs with their neighbours.

Miyano: After the mobile ART became a routine, the RHCs established firm relationship with community health volunteers. Using this network, the RHCs started to pursue linkage between the ART and other services such as tuberculosis treatment.

-What aspect of Zambia do you like the most?

Miyano: Personal characteristic of Zambians is really adorable.

Nozaki: Being often called "real Africa," rural Zambia fascinates us with its pure African nature in habitation and social structures.



Ikuma Nozaki MD, PhD (right) and Shinsuke Miyano MD, MCTM (left)

CONCEPTUALISING HUMAN RESOURCE DEVELOPMENT FOR HEALTH: A HOUSE MODEL

Responding to the global shortage of health human resource requires systems thinking and a more comprehensive approach to human resource management and development.

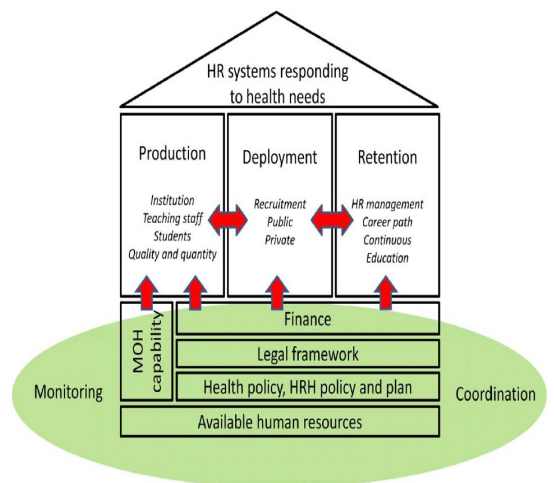
Fujita et al¹ presented a comprehensive and visible framework for human resource system development. This has been derived from the lessons learned in supporting human resource system development in three fragile and post-conflict health systems in Afghanistan, the Democratic Republic of Congo and Cambodia.

The "house model" contains elements that are often neglected, i.e. legal and regulatory framework, coordination and monitoring. Authors also placed particular emphasis on the linkages among elements by highlighting some core functions of human resource management (production-deployment-retention) and by separating the foundation components

(policy/planning, finances and legal) as primarily the responsibility of the government.

Reference

1. Fujita N, Zwi AB, Nagai M, Akashi H: A comprehensive framework for human resources for health system development in fragile and post-conflict states. *PLoS Med* 2011, 8(12):e1001146. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3243715/>
2. Fujita N, Abe K, Rotem A, Tung R, Keat P, Robins A, Zwi AB. Addressing the human resources crisis: a case study of Cambodia's efforts to reduce maternal mortality (1980–2012). *BMJ Open* 2013;3:e002685 doi:10.1136/bmjopen-2013-002685 <http://bmjopen.bmj.com/content/3/5/e002685.full>



TSUNAMI AND HEALTH: ITS IMPACT ON BLOOD PRESSURE AND MENTAL STATUS

On 11 March 2011, the magnitude 9.0 Great East Japan Earthquake triggered a powerful tsunami that reached heights of up to 40.5 m and travelled up to 10 km inland.

The NCGM deployed emergency medical teams to Higashi-Matsushima, one of the worst hit municipalities in Miyagi. Cross-sectional household screening was conducted from April to July 2011, 7-19 weeks after the disaster, covering 31 administrative areas completely or partially flooded by the tsunami. While supporting the municipal government in restoring its public health services, the Center analysed the association between the damage caused by the tsunami and both physical and mental status of the resident victims.

Murakami et al¹ revealed a degree-dependent association between blood pressure (both systolic and diastolic) and flooding height above sea level among victims not on antihypertensive medication ($p < 0.01$ for both). Disruption of the gas supply was also significantly associated with systolic and diastolic blood pressure ($p < 0.01$ for both). Further analyses on mental impacts are ongoing.

Reference

1. Murakami H, Akashi H, Noda S, Mizoue T, Okazaki O, Ouchi Y, Okaji Y, Kajiwara C, Miyoshi C. A cross-sectional survey of blood pressure of a coastal city's resident victims of the 2011 Tohoku tsunami. *Am J Hypertens* 2013; doi: 10.1093/ajh/hpt022. <http://www.ncbi.nlm.nih.gov/pubmed/23455946>



A scene after the 2011 Tohoku tsunami in northeast Japan