



**Success and failures of using cell phone as a main mode of communication between participants and facilitators from a distance: an innovative method of Training Rural Health Facility Managers in Papua New Guinea**

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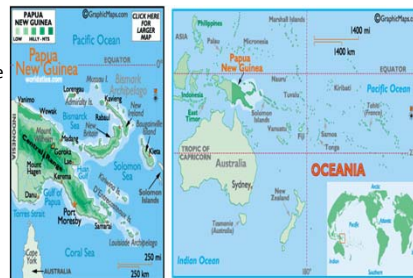
Divine Word University, Papua New Guinea

Global Telehealth Conference, Sydney  
28<sup>th</sup> November, 2012



**Map of Papua New Guinea**

- 7 million population
- 85% (5,950 000) live in rural areas
- Rough rugged terrain
- Health facilities
- ¼ of the public provincial hospitals have VSATs



**Introduction**

- Telecommunication market in PNG
- 2006, Digicel was granted license for mobile telecommunication operations in PNG.
- Digicel established 200 communication towers between 2007 to 09.
- 2012, 650 communication towers built around the country and increased the mobile network coverage to 75% .
- Mobile service provider in the country are Bmobile, Digicel and Citifon



**Digicel mobile coverage**

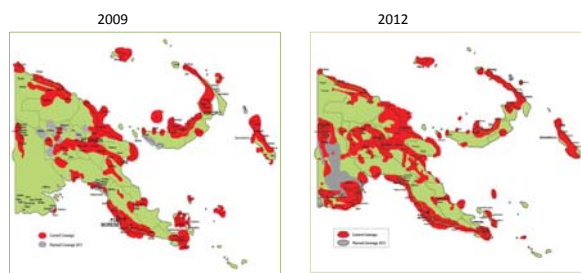


Figure 1. Map indicating mobile coverage of Digicel in PNG.  
Source: © Digicel



## Background of study

- Rural Health Facility Management Training program
- Over 95% of OICs did not acquire appropriate knowledge and skills of managing a health facility.
- Insufficient knowledge and experiences to manage a health facility effectively
- The training module
- 2011, 7 lecturers from DWU conducted the RHFMT to 15 provinces
- Mode of communication between the participants and the facilitators



## Study Aim

To gain a general understanding if mobile phone is a better mode of communication to communicate with lecturers from DWU and participants from 15 provinces at rural health locations around the country



## Training and study sites



Figure 2. Training sites.  
Source: T. Ningal UoC Dublin, Ireland, 2012.



## Materials & Methods



Figure 3. Brand Sony Ericson W300




Figure 3.1. Brand Nokia Z26




Figure 3.2. Brand Coral 100

Both open & closed ended structured questionnaires



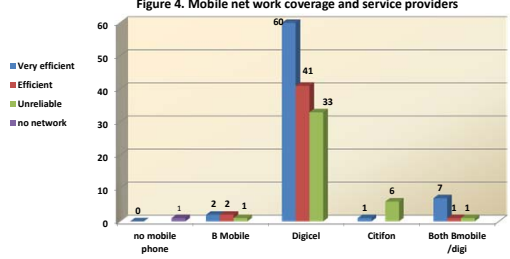
## Methodology

- Cross sectional survey .... OIC, SIC, District Health Managers, & Provincial Health Officers who faithfully attended all the workshops in phases one and two.
- 300 participants
- Purposive sampling method to collect 160 samples
- All data were entered into 2010 MS Xcel & quantitative data were transferred into statistical package STATA version 8
- Analysis examines cross tabulations of categorical data & applied Pearson Chi square test
- Qualitative data were analysed manually on spreadsheet using content analysis to measure participant's perception




## Results

**Figure 4. Mobile net work coverage and service providers**



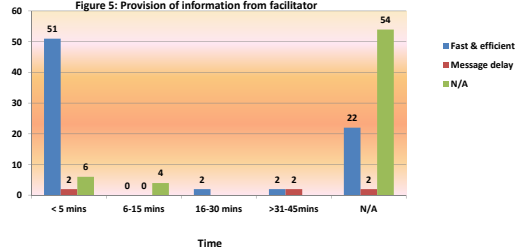
Service Provider	Very efficient	Efficient	Unreliable	no network
no mobile phone	0	0	0	0
B Mobile	2	2	1	0
Digicel	60	41	33	0
Citifon	1	0	6	0
Both Bmobile/digi	7	1	1	0

There is a strong significant association between mobile network coverage and service providers with a P value of < 0.001




## Result cont...

**Figure 5: Provision of information from facilitator**



Time	Fast & efficient	Message delay	N/A
< 5 mins	51	2	6
6-15 mins	0	0	4
16-30 mins	2	0	0
>31-45mins	2	2	0
N/A	22	2	54

There was strong significance association between facilitator providing information to participants relate to amount of time taken by the lecturer with a P value of 0.001.



## Content analysis of qualitative data

Table 1. Respondents opinion of cell phone	Table 2. cell phone compared to other communication mediums
<b>Respondents personal opinion about using cell phone</b>	<b>Reasons for using cell phone compared to other communication mediums</b>
Fast SMS and efficient (45)	Fast (57)
No network coverage (19)	Direct Interaction (23)
Expansive to make calls (16)	Useful tool (17)
Good and reliable tool (15)	Accessible (14)
Helpful (11)	Timely (12)
	Cheap (10)
	No network (8)
	Easy to handle (5)
	Portable and affordable (5)
	Access internet (1)
	Store information and refer to it later (1)



### Conclusions & recommendations

- < 50 percentage of mobile coverage very efficient / effective in most rural areas of PNG
- Mobile phone is handy and only communication gadget that is ideal, accessible, reliable, and receives direct information in real time at any location.
- Despite the calling cost and other technical predicament, >70% rural health managers prefer to use mobile phone compared to other communication medium.
- These results pose that other applications of mobile health such as **mobile consultation and monitoring of acute and chronic health conditions or treatment/interventions and other research and projects can be piloted in PNG health system in future.**

### Acknowledgement

- God the source of all knowledge, wisdom & understanding
- AUSAID/ CBSC
- Lecturers of DWU who participated in the training of RHFMT
- T. F Ningal UoC, Dublin, Ireland

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Thank you