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

Lucy Au

Divine Word University, Papua New Guinea

Global Telehealth Conference, Sydney
28th November, 2012

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.

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

Digicel mobile coverage

2009 2012

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

Materials & Methods

Both open & closed ended structured questionnaires

Figure 3.1. Brand Nokia 226

Figure 3.2. Brand Coral 100
Global Telehealth Conference 2012

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 Excel & 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

![Graph showing mobile network coverage and service providers](image)

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

![Graph showing facilitator providing information from participants](image)

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.

<table>
<thead>
<tr>
<th>Table 1. Respondents opinion of cell phone</th>
<th>Table 2. Cell phone compared to other communication mediums</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents personal opinion about using cell phone</td>
<td>Reasons for using cell phone compared to other communication mediums</td>
</tr>
<tr>
<td>Fast &amp; efficient (48)</td>
<td>Fast (57)</td>
</tr>
<tr>
<td>Direct Interaction (23)</td>
<td>Useful tool (17)</td>
</tr>
<tr>
<td>Accessible (14)</td>
<td>Timely (12)</td>
</tr>
<tr>
<td>No network (19)</td>
<td>Expensive to make calls (16)</td>
</tr>
<tr>
<td>Helpful (20)</td>
<td>Cheap (10)</td>
</tr>
<tr>
<td>Access internet (1)</td>
<td>Access network (3)</td>
</tr>
<tr>
<td>Very reliable (9)</td>
<td>Key to handle (5)</td>
</tr>
<tr>
<td>Accessable (5)</td>
<td>Portable and affordable (5)</td>
</tr>
<tr>
<td>Store information and refer to it later (1)</td>
<td>Timely (6)</td>
</tr>
</tbody>
</table>

Content analysis of qualitative data

- Fast and efficient
- Direct Interaction
- Accessible
- Helpful
- Expensive to make calls
- Access network
- Very reliable
- Accessable
- Store information and refer to it later

Figure 4. Mobile network coverage and service providers

Figure 5. Provision of information from facilitator

Table 1. Respondents opinion of cell phone

<table>
<thead>
<tr>
<th>Fast &amp; efficient</th>
<th>Accessible</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 2. Cell phone compared to other communication mediums

<table>
<thead>
<tr>
<th>Reason for using cell phone compared to other communication mediums</th>
<th>Fast</th>
<th>Direct Interaction</th>
<th>Accessible</th>
<th>Helpful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast</td>
<td>57</td>
<td>23</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>Accessible</td>
<td>48</td>
<td>23</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>Helpful</td>
<td>20</td>
<td>23</td>
<td>14</td>
<td>20</td>
</tr>
</tbody>
</table>

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.
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 RHFM
- T. F Ningal UoC, Dublin, Ireland

Contact details

Lucy Au
Post Add: Divine Word University
P.O Box 483, Madang, 511
Papua New Guinea
Email: lau@dwu.ac.pg
lau1798@gmail.com
Fax: +675 422 2812
Landline: +675 422 2937

Thank you