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Experiences of community nurses in management of a district-based mental health information system in the Western Cape, South Africa

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Abstract

The aim of this study was to explore the experiences of community nurses in the management of a mental health information system (MHIS). A purposive convenient sampling method was employed to select 23 community mental health nurses from 23 community health facilities for the study. Individual semi-structured interviews were used, and the data were analysed for themes. The main findings of the study were categorised into the themes of information gathering tools and contents, information processing, and challenges of mental health information processing. Subthemes which emerged were information gathering tools, head count information content, knowledge and skills, computer technology, information flow and sharing, resources, and feedback in information processing. Information processing in terms of data gathering, compiling, analysing, getting feedback, and sharing information were the major concerns. There were inadequate knowledge and skills in information systems, no standard information collection tools designed for mental health, and lack of infrastructure, such as a mental health information network system across the health facilities and up to the higher level. Mental health requires a responsible person that deals with the MHIS in terms of reporting, analysing and getting feedback from the results of analysis back to the people at ground level for implementation. The amount of mental health information being collected and processed was inadequate and of poor quality. This has resulted in having few data available for the decision making process and/or planning mental health services.

Keywords: Information processing, mental health information, community nurse.

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Introduction

Despite the significant development progress in the District Health Information System that was rolled out in the latter half of 1999, there is an increasing concern about the unavailability of adequate mental health information. The lack of data is a general problem, and is attributed to the lack of mental health indicators in the health management information system (Omar, Green, Bird,

Mirzoev, Flisher, Kigozi, Lund, Mwanza & Ofori-atta, 2010). For example, a World Health Organization (WHO) (2007) report indicated that information systems for monitoring community-based mental health care and staff are very weak in South Africa. Additionally, there were no records kept on the diagnosis of users treated in community-based psychiatric inpatient units. Likewise, the average length of admission, number of children and adolescents, and gender distribution are not routinely recorded. Thus data are not available in the community mental health facilities.

The WHO report further indicated that neither the South African Federation for Mental Health nor the Department of Health could provide information on the number of children and adolescents and their gender distribution in these mental health facilities (WHO, 2007). That notwithstanding, in a situational analysis conducted in South Africa, four out of South Africa's nine provinces indicated that there was no formally defined minimum data set of items to be collected (Lund, Campbell-Hall, Mjadu, Petersen, Bhana, Kakuma, Mlanjeni, Bird, Drew, Faydi, Funk, Green, Omar & Flisher, 2008). It was noted that there was generally a lack of accurate routinely collected data regarding mental health services; for instance, no provinces were able to report a breakdown by gender, age or diagnosis of mental health service users at the mental hospitals, psychiatric inpatient units in general hospitals, outpatient facilities, day treatment facilities or community residential care (Lund, et al, 2008; Lund & Flisher, 2003; Lund & Flisher, 2002a, 2002b). Additionally, some of the people with mental conditions use both traditional healers and modern mental health facilities either simultaneously or sequentially, but there is no proper recording and reporting system for the magnitude of these service users (Lund et al., 2008).

Health information systems refer to the interaction between people, process and technology to facilitate and improve the quality of health care services. Haux (2006) states that analysed data provide information and knowledge in health care services. The health information systems contribute to high-quality, efficient patient care (Haux, 2006). Health informatics is the field that concerns itself with the cognitive information processing and communication tasks of health care practice and research, including information sciences and technology that facilitate the tasks (Haux, 2006).

Reliable evidence-based information is the basis of the decision making process in any health system, such as in health policy development and implementation, governance and regulation, health research and human resource development, health education and training, service delivery and financing world Health organization (WHO, 2008). The value of information is reduced by incomplete recording and lack of standardisation in the way in which information is recorded (Department of Health, 2011). The lack of a mental health information system (MHIS) in less and middle income countries is likely to have contributed

to the low priority of mental health as a public health issue. Having timely and appropriate information for decision making has impact on the quality improvement of health care in local district clinics (Department of Health, 2011). The purpose of this study was to explore the experiences of community mental health providers in the management of a district-based MHIS. The specific objectives of this study were to: (1) explore the experiences of community mental health nurses in collecting, analysing and reporting mental health information; (2) assess mental health information sharing and communication; and (3) identify challenges in the MHIS at district mental health services

The problems identified for this study was that despite district health information systems running for more than 15 years, there are few available data about the nature and type of mental health information on district mental health services. For instance, it was reported that the information system for monitoring community-based mental health care is weak in South Africa. This is clearly so, because records of diagnosis of mental illness, length of admission and gender distribution of mental illness are not routinely kept (WHO, 2007). Consequently, mental health data remain inadequate and unreliable. This is a major obstacle in planning effective community mental health services.

Literature has shown that nurses spend more than 25% of their clinical time on collecting mental health information, and this begs the question as to what is the experience of mental health nurses in the Western Cape in collecting and processing mental health information? With this lack of adequate information, and no coordination and networking of an information management system on the huge number of mental health condition/cases, not much is known about the information pathway/flows at district health care level as well as the implications and barriers of the existing trends of managing information systems. It is therefore necessary to explore the experiences of community mental health nurses in collecting and processing data for and challenges with MHIS.

Methodology

The study sought to explore the experiences of mental health nurses with a district MHIS using a qualitative approach. The strength of a qualitative study is that it aims to explore a problem or provide an in-depth description of the naturalistic situation (De Vos, Strydom, Fouche & Delport, 2002; Sarantakos, 1993). Therefore, a qualitative research using individual semi-structured interviews was employed for the study.

The study was conducted in the district of Cape Town in the Western Cape province of South Africa, in the Southern and Western; Klipfontein and Mitchells Plain; Northern and Tygerberg; and Khayelitsha and Eastern

subdistricts. The study participants were mental health nurses, in the Southern and Western, Eastern and Khayelitsha and Mitchells Plain and Klipfontein regions. Twenty three (N= 23) mental health nurses were recruited for interviews from 23 community mental health centres. Most of the mental health nurses had many years of experience working with mental health patients.

The following data collection process was employed to collect data from study participants. Most of the participants were females, and none of them had any training in the information management system. However, they were responsible for collecting patient information on a daily basis by using different tools such as register books and tally sheets. During the interviews participants showed great interest in the discussions and provided their stories with regard to the topic under investigation. Moreover, the researchers' full involvement in the data collection process as well as providing participants with briefings about the topic of discussions and aim of the study helped in obtaining valuable information. Themes stopped emerging after about 17 interviews had been conducted, and an acceptable framework was constructed at 23 interviews, which was the stage of thematic and theoretical data saturation.

Qualitative data analysis follows certain stages of narrative and interpretation (Barry, 1998; Leininger, 1992). The data were transcribed verbatim. Thematic content analysis techniques were used to analyse the data. Data were coded and categorised in the categorisation matrix, and themes and subthemes were extracted.

The content analysis was cross-checked by another qualitative expert for its validity and trustworthiness. Credibility is ensured by remaining in the field over a long period and using a variety of sources of data (Brink, 2003). Transferability was ensured by consistencies in the process and data analysis techniques that were guided by the concept and theoretical underpinnings, clarity and power of argument, fit between theory and method transparency; reflexivity and field notes (De Vos et al., 2002; Sarantakos, 1993). Conformability was addressed by cross-checking the audio tapes and keeping them as evidence for interested researchers; the data and analysis results were sent to other researchers to confirm that the findings are supported by the data, and also taken back the result to the participants for member checking. In addressing the dependability of the study, the findings were relooked at to identify linkages between each other; comparisons were made, and such linkages were presented in the findings.

The research proposal was ethically approved by the higher degree ethical committee of the University of the Western Cape and Western Cape Department of Health. An information sheet was given to the participants and the purpose of the study, and implications of participation were explained to them. Their judgements and opinions remained strictly anonymous. Names and other

identifiers were changed to protect the privacy of participants. The participants were also informed that participation was voluntary, that the interviews would be tape-recorded and that the recorded information would only be used for the purposes of the study.

Results

The following are the main themes which emerged from the analysis: information gathering tools and content, requirements in information processing, and challenges of mental health information processing. There are subthemes under each of the central themes (Table 1).

Table 1: Themes and subthemes that emerged from the data

Themes	Subthemes
1: Information gathering tools and content	1.1: Lack of standardised mental health information collection tools 1.2: Head count information
2: Requirement of information processing	2.1: Knowledge and skills in information processing 2.2: Use of computer system 2.3: Information flow and sharing
3: Factors affecting mental health information processing	3.1: Availability of resources 3.2: Lack of support system 3.3: Feedback on information sent to higher level

Theme 1: Information gathering tools and content

The information collection tools and content are the basis of the information system. The type of information content being collected and processed is determined by the type of information collection tools. The information collection tool designed to collect mental health information at district health services was limited to specific content – meaning there was no standard information collection tool specifically designed for the MHIS. The information collection tool was integrated/ embedded in the district health information collection tool. The study reveals that the lack of a standard mental health information collection tool affected the content of data collected and processed. The next section discusses mental health information collection tools and mental health information content.

Subtheme 1.1: Lack of standard mental health information collection tools

The main tools for collecting information were pen and paper using different type of forms, such as a tally sheet, weekly forms, and the routine monthly report (RMR) form. Some of the data collection forms were duplicated, and it was

especially the case that old and new forms were both being used in some health facilities. The following extract demonstrates this:

the writing things is not good and also the fact that the various forms we use. The forms are duplication in a way, there are various forms for each category of staff, which can be available for everybody from top to bottom. Ix6

The participants stated that the information tools were not consistent; they varied from facility/person to facility/person. They further said that the inconsistency was due to the lack of a uniform or standardised information collection tool for everyone.

Subtheme 1.2: Head count information content

The current information collection form for mental health was reduced to only one element. Previously the form was designed to collect eight elements in terms of contents. This has gradually been reduced to six, four and lastly to one element. The participants argue that the current form designed to collect mental health information does not reflect the picture of the mental health problems. The following extract illuminates this:

... they have much more interested in just the head count. You know what I mean, the number of patients you have seen daily. They are not so much interested really in what is happening in a day. If I can make an example, they are not interested in how many counselling, how many telephone counselling you do on daily basis. Mental health is not about the head count, it is too much to it ... but to be honest with you, at the moment, it is just a head count. Ix3

The head count information was the only information sent every month, and most participants did not know why those at higher level would be interested in the head count. They perceived that no one is using the mental health information:

What it really mean to me personally – I feel it means nothing up there, it is more for seeing what we do in a day and really what is the mental health system all about? Ix12

The head count is not the true reflection of mental health activities, it doesn't give the quality of the mental health services. The amount of time one could spend on treating mental health patients was not considered at all. The higher-level official imposed that one mental health nurse must see 30–40 mental health patients a day. If the monthly figure is smaller or more than the target, then they cannot claim for more staff. Others reported that the reason the head count statistics are required at higher level was for comparison of the performance of

the health facilities, based on the target set to see a certain amount of patients per year.

Theme 2: Requirements in information processing

Information processing and utilisation require knowledge and skills; however, many of the participants reported that they did not have adequate knowledge and skills in processing information and converting them into a useable format. In addition, information processing requires the flow of information from one point to another, to be used for the intended purpose. This in turn requires an effective network such as computer technology.

Subtheme 2.1: Knowledge and skills in processing information

Participants reported that they were not technologically equipped to use the computer and also required psychological readiness to use the technology because inappropriate usage of equipment could impact on the quality of information processing. To process information using computer technology requires more than basic knowledge, and up-to-date information to play with the data. The extracted data demonstrate this:

Continuous in-service training can also be helpful, so everybody needs to be trained and informed on this Ix3

Information system is dynamic and it needs updating all the time. You see! If they can provide more training and keep up-to-date because you must remember this is always changing. Information management always changes, not monthly the same Ix5

Processing information is hectic and ... sometimes it is overwhelming, but we are trying ... there is a computer there; we are not there yet to use it, to put the information on to the computer Ix13

The lack of knowledge and skills in information processing seem to affect the quality of the mental health information

Sub-theme 2.2: Computer technology to facilitate information processing

The participants perceived that they could work better if they could have computers for recording and processing patient information. It saves time in recording patient information every time, particularly when patient folders and information are missing. There would be a back-up copy on the computer; this in turn would enable them to have more time with the patient. The following

extract demonstrates this. The mental health nurse supports the importance of moving to a computerised information collection system:

I think computer technology could assist for data capturing and communication; you get full record, and enter the basics of the patients' information in the computers, so if you can find this you can click the button on the computer and send all the things to the doctor. It would be more orderly, more structured, and it will be much, much easier Ix11

Technology simplifies your work; for example, you can send patient results by email to any facilities or doctors, so that they don't need to do all of the investigation again, saving money and time all round:

Technology saves time, saves us finance, saves us an actions, ...what technology can do a lot, such as like the newly established public hospital Department of Health on the BlackBerry. You can look at your patient's details, which is so nice. Before you actually seen the patient, you already know why the patient is coming. You know exactly what the plan of action is Ix7

The importance of using a computer for communications between health facilities and management level was emphasised during discussion. Participants reported that the existing communications between the health facilities was poor for managing patients effectively and on time:

We have a problem with communication with other facilities; People are always slow to respond to your request and you have to wait and wait for them, while the patient and family are waiting outside. This is challenging for mental health services. The computer shows all facilities and clinics. We can also liaise nicely with referral hospitals, because we don't have to ask the people always, if we can do it ourselves. I mean adequate communication and timely access to information could save a whole admission, and a whole lot of money could be saved Ix4

Sub-theme 3: Information flow and sharing

Patient information flows between different persons within and between health facilities and up to higher management level in a different format. However, the data collection and transformation processes are not smoothly conducted between actors and the higher level. The patient statistics are collected daily on tally sheets, transformed to RMR and reported monthly to higher level using mail services or direct delivery face to face. However few health facilities use fax and email to send reports to sub-structure office. During the movement of patient folders from one point to another, relevant patient information was getting lost, and this became a major concern:

In many cases, the movement of the patient's folder between reception to clinical staff, pharmacy, laboratory and store are done by either the patient himself or the staff. ... at the moment you don't get the right referral to that doctor or from... you write on this paper today, on that paper tomorrow, you see, so you missing a lot of information by having these folders we currently have. I will take new paper and then it doesn't follow orderly, you didn't staple it and make it orderly, and that can get lost, because it is just loose in the folder. So you do not want to sit with things that have been lost Ix5

The sharing of patient information across other health facilities was mainly conducted by means of patient delivery or mail, and sometimes using telephone or fax. Usually fax communication is faster and complete documentation could be sent, but it is not always available or sometimes the response from the other side is delayed because the fax was not working. As a result, the patient is delayed. The manual way of patient information exchange usually created hindrances in the timeous exchange of patient information and loss of patient referral letters or discharge letters, which in turn affected timeous management of the patient's problem.

Theme 3: Factors affecting mental health information processing

The availability of resources, such as adequate budget, technology and technical skills, and human capacity, support systems and feedback are the main factors affecting mental health information gathering and processing.

Sub-theme 3.1: Availability of resources

Staff shortages and patient load are the challenges in recording and processing patient information, because information collection is time-consuming, which affects quality of information and quality of patient care. Lack of computer facilities was also mentioned as one of the barriers to information processing. The following extract from the data indicate the challenges:

... the fact that it is not computer-based, and the staff are not computer literate, makes it difficult to process the mental health information, because there is no budget from the government to develop a computer system for mental health services. Everything is done manually. Everything basically has to wait for everybody to do the total manually. It is time-consuming to do it manually. I think that is the biggest problem. Ix10

Sub-theme 3.2: Lack of support system

The participants stated that the area of mental health service is unseen in the health system, because it is given a lower level of support and attention:

... we so overwhelmed with diagnosis of substance, but there is no support on district level for mental health. It will make a difference if they can actually see and get the insight into what we are dealing with. Ix9

... but yet no support coming from nowhere, really to be honest you are on your own. There is a lot of gaps, I don't know why people are not interested to support and work with mental health. I would like to see people more interested in mental health. I would like to people feel confident enough to work with mental health, to be more open toward our patients, so that service delivery can improve. Treat mental health patients like any other person that comes through that door that is suffering with diabetes or hypertension. I think to me that will make a big difference ... but mental health patients get alienated here. Ix1

Sub-theme 3.3: Feedback on information processing

Some participants reported that they do not receive feedback in the form of analysis from provincial or national health information systems:

... data always goes up and no feedback in terms of analysis report, so that is the problem, because when you feed them, they must give report back, direct for us at each level, for the facility, saying this is the population, these are the serious cases, this is that. Ix14

Let me be honest, I am not sure where this information is going, because I mean we have not really had any feedback. This affected the interest of the staff in collecting routinely quality information. Ix4

The current district mental health information gathering and reporting was based on the head count; it doesn't reflect the picture of mental health services. The inadequacy of the processing of mental health information affects awareness and makes it impossible to determine how big mental health problems actually are. It has an impact on budgeting, staffing and outcomes of services. It influences how we respond to the mental health problems. Excluding mental health from the agenda of health priorities in the district health system negatively affect mental health information processing and planning of effective services.

Discussion

This study has demonstrated that the content of the mental health information collected at district mental health services does not meet the minimum data set standard and is not adequate enough for decision making processes in planning mental health services. This finding is congruent with findings from most developing countries in which the routine health information systems do not provide the information needed to improve health system performance (Aqil,

Lippeveld & Hozumi, 2009). Shaw (2005) found that the use of head count indicators was to improve service delivery, and this often leads to development of more indicators to collect more data. However this study shows that there is no improvement in the development of mental health indicators. Furthermore, Garrib, Stoops, Mckenzie, Delamini, Govender, Roohde and Herbst (2008) note that data should meet the needs of the operators and users. Sommerville and Sawyer (1997) reported that the reason why most information system projects have failed was due to failure to meet the needs of their users. This finding is supported by the Routine Health Information Network Organization (RHINO) (2006): community participation in providing their information needs and designs is essential for the success of a health information system. The needs of the users can only be understood through involving them in the design and implementation phase.

In South Africa the district health information system data collection tools and content are designed and developed at national level, and instructed down for implementation. Involving the operators, community and users from the lower level in the design and development and implementation of information collection tools was not considered. The data collection tools and content for the district mental health services are integrated in the district health information system routine data collection system. The current state of mental health information collection is limited to only one element – the total number of mental health visits per month. Research evidence has shown that standard mental health information collection tools designed to collect patient information should include the following: the characteristics of patient (such as socio-demographic status of the patient, the nature and extent of the problem), the different interventions given to patients; health and local organisations involved; and the change in the patient's condition over time (Australian Institute of Health and Welfare, 2012; Health and Social Care Information, 2012). However, the reality seems to be that no one is interested in using the mental health data – both at lower and higher health managerial levels.

It was reported that there were problems in managing the information at national level due to a lack of skilled personnel for processing the information (Department of Health, 2011). In the context of the South African district health information system, the foundation for an MHIS is yet to be developed. The World health Organization's (2005) MHIS guidelines provide guidance on how and what to collect for routine service reporting, special programme reporting, administrative reporting and vital registration reporting. Within the context of this study, in the reporting of head count it was identified that there were no clear guidelines. For example, one particular patient may visit the same health facility two to three times per month, depending on the nature and severity of the problems, and this particular patient could be reported twice or thrice per month. At another health facility the same type of patient would be reported only once

per month, even if the patient visited several times in that month. Thus, guidelines on how to collect and report the head count are essential.

Transparency and sharing health information is an important step in improving the efficacy and fairness of health care globally (Eldessouki & Smith, 2012). Although efforts have been made to improve information sharing and harmonise health technology assessment across countries, there are many barriers such as different languages, lack of transparency, fragmentation of the available information and limited resources which impede information flow (Eldessouki & Smith, 2012). Moreover, the quality and outcomes of health care suffer due to patient health information residing in fragmented locations, for instance in the office of primary care physicians, hospitals and clinics, laboratories and radiology centre, health plans, pharmacy, nursing homes, and even with the patients themselves (Bipartisan Policy Center, 2012). As a result, the electronic exchange of information across the multiple entities that deliver care and services to patients is a central and foundational component of coordinated, accountable patient-centred care (Bipartisan Policy Center, 2012).

Recommendations

The quality of information collection, processing and utilisation is the basis of developing effective mental health services. Therefore, the area of mental health requires an information system planner and coordinator, both at national and provincial level. Also, MHIS framework/guidelines should be developed based on the information needs of the community and government at provincial and national level. The feedback system particularly from top to bottom level in terms of the results of the analysed data should be improved. Appropriate information system training should be offered to health personnel; and a nursing informatics curriculum should be incorporated into the nursing undergraduate programme.

Conclusion

This study has demonstrated the current state of the district-based mental health information management system in the Western Cape. The findings has revealed that in this study settings, mental health information systems does not have a responsible person or body in charge, both at lower and higher administrative levels, which results in mental health information processing and utilisation to have been neglected. There were no standard mental health information collection tools, lack of knowledge and skills in information processing, fragmented information flow and poor feedback system. The district mental health information reporting system doesn't provide clear features of the mental health services in the area, the age and gender distribution of the population with

mental health issues, the disease profile or case management. The information is fragmented, is not reliable; and it is inadequate for decision making and planning for the mental health service provision.

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