Research in Social and Administrative Pharmacy xxx (2017) 1–7

Contents lists available at ScienceDirect

Research in Social and Administrative Pharmacy

journal homepage: www.rsap.org

Health care professionals' perceptions of a community based 'virtual ward' medicines management service: A qualitative study

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ARTICLE INFO

Article history:
Received 17 October 2016
Received in revised form
26 January 2017
Accepted 1 February 2017

ABSTRACT

This article describes a qualitative research study using focus groups to explore the views and experiences of a medicines management team (MMT) on the service they deliver within a 'Virtual Ward' (VW); and those of the wider multidisciplinary team of healthcare professionals on the service provided by the MMT. Several themes emerged from the focus groups, including impact on patients and carers, team working and issues and challenges. A dedicated MMT was seen as a positive contribution to the VW, which potentially increased the quality of patient care, and appeared to be a positive experience for both the MM and wider multidisciplinary team.

1. Introduction

Within England, the organisation of the National Health Service (NHS) delivered in the community setting falls under the domain of local Clinical Commissioning Groups (CCGs). This study is based within an NHS CCG in the North West (NW) of England serving a population of around 155,000 residents across four localities; and currently utilises a hospital avoidance intervention in the form of a Virtual Ward (VW). Virtual wards first described by Lewis,[1] can be defined as a model of care that:

> *"… provides multi-disciplinary case management services to people who have been identified, using a predictive model, as high risks for future emergency hospitalisation. Virtual wards use the systems, staffing, and daily routine of a hospital ward to deliver preventive care to patients in their own homes."*[2]

Variations of Lewis's model have been adopted nationally and internationally, with evidence highlighting that hospital avoidance programmes are most effective when offered to people who are at high risk of future hospitalisation, rather than those who are currently experiencing multiple hospital admissions.[3] As such, the integrated multi-disciplinary preventative care provided by VWs may be of most benefit to people with long-term conditions and complex health and social care needs; typically older people receiving fragmented care by a number of care providers. A report by the Nuffield Trust estimated that between 2012/13 and 2021/22, the number of people aged 65 years or over in the United Kingdom (UK) will increase by 20%, and those aged over 85 years will increase by 33%.[4]

Further estimates suggest that by 2035, those aged 65 + will account for 23% of the total population, and that the number of people aged 85 + will reach 3.5 million (accounting for 5% of the total UK population).[5] Across Europe it is projected that by 2035 up to a third of the population will be aged 65+, with emerging economies (such as China and India) expecting to experience a two fold increase in this age group.[6] Moreover, in 2014 there were estimated to be more than half a million people aged 90 + living in the UK and over the last 30 years the number of centenarians in the UK has quadrupled.[7] Similar increases in the numbers of centenarians are also seen in other countries, and the current estimate of 317,000 worldwide is projected to reach 18 million by the end of the century.[8] Therefore, it can be anticipated that many of the elderly will have increasing multiple long term conditions that will need supporting.

In his original model, Lewis proposed that the composition of a VW multi-disciplinary team (MDT) should vary according to the needs of the local high risk patients; and suggested pharmacists as potential team members.[1] Furthermore, the inclusion of pharmacy technicians serves to create a medicines management team within the MDT.

In England around £300 million of NHS prescribed medicines are wasted each year; the causes of waste vary from inefficient

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http://dx.doi.org/10.1016/j.sapharm.2017.02.001
1551-7411/

prescribing and stock piling, to patient recovery and non-adherence.[9] Medicines management teams have the potential to reduce waste medication by optimising medicines and increasing patients' adherence to their medication. Medicines optimisation looks at how patients use their medicines over time. Stopping or stepping down the doses of medicines, starting or increasing the doses of others, or altering the frequency to simplify the patient's medication regime.[10]

Furthermore, it is suggested that when patients move between care providers the risk of miscommunication and unintended changes to medication are a significant problem, with up to 70% of patients experiencing an error or an unintentional change to their medicines.[11] Incidents such as these can also lead to unnecessary hospital admissions, with four to five percent of hospital admissions being due to preventable problems with medicines.[12] As members of the VW MDT, a medicines management team is well placed to facilitate communication about patients' medicines between health and social care practitioners within the same or different sectors.

There is a dearth of research on the role and impact that pharmacists, and indeed medicines management teams (to include pharmacy technicians) have as members of a VW MDT. One international study compared six VW models across the UK, the United States of America (USA) and Canada, and reported pharmacists as being part-time members of four of these (UK = three, Canada = one).[13] A more recent case study report described the care practice within three of the four UK based VWs, and described the presence of a pharmacist within two out of the three MDTs associated with these.[14] Neither study discussed the actual role played by the pharmacist within the MDT, or the impact of this contribution.[13,14]

Within the USA a model similar to VWs exists called the Patient-Centred Medical Home (PCMH). This is a collaborative model of team-based care with the core principles of providing patient-centred, co-ordinated care with enhanced access for patients; and a systems-based approach to quality and safety. A PCMH team may or may not be virtual, and services may be delivered from various locations, and not necessarily within a patient's home.[15] Pharmacists are rarely mentioned in medical home discussions, but the complementary skills and knowledge of pharmacists and prescribers have been accredited to delivering improved patient care and medicines management for patients; in particular those with long-term conditions.[16]

Novel to this particular NW of England VW is input from a dedicated medicines management team, comprising four pharmacists and four pharmacy technicians (1.6 whole time equivalents). The team delivers medicines management support to selected VW patients. Since the inception of the VW in 2013, the medicines management team have delivered support (medicines optimisation; strategies and aids to help increase medicines adherence and interventions to reduce waste medication) to over 932 patients; hence a need was identified to explore the impact of this service. The aim of the study therefore was to evaluate the inclusion of a medicines management service provided by a dedicated medicines management team within a VW.

2. Method

2.1. Study design

To address the aim of the study a qualitative approach was employed using focus groups to promote group discussion and to explore the views and experiences of the medicines management and multi-disciplinary teams respectively.[17] A purposive sampling approach was employed to recruit participants. Potential participants for both focus groups were identified and approached to engage in the study via the head of the VW medicines management team. Focus group interview schedules were developed, discussed and further refined by the project team after reviewing the literature and receiving feedback from the head of the VW medicines management team and the deputy chief nurse of the CCG (Tables 1 and 2).

2.2. Procedure

Letters of invitation and participant information sheets were sent to potential participants of both focus groups by the VW service leads on behalf of the research team. Written consent was obtained from all participants prior to data collection. The study was deemed to be a service evaluation by the Research and Development Committees of the relevant NHS Trusts, and ethical approval was granted by the University Faculty Ethics Committee. The focus groups were held in May–June 2015. Both lasted less than one hour, and were audio-recorded and moderated by one researcher (LC) with another (AK) present in a note-taking capacity.

2.3. Data analysis

The audio-recordings were anonymised and transcribed in full. Following this, each transcript was independently read and re-read by two members of the research team (LC and AK) until a thorough understanding of the content was achieved. Using thematic analysis, one of the most common form of analysis in qualitative research, commonalities and differences amongst the accounts were identified as patterns or themes within the data.[18] Categorisation of the data followed, whereby these early themes were formed into descriptive codes, and the data subsequently reduced to provide support for the initial conclusions, before meeting with a third researcher (BJ) to discuss and confirm the final coding frame.[19,20]

Table 1
Focus group interview schedule of the virtual ward medicines management team.

What do you think in general about the virtual ward medicines management service?
How do you feel about the change in your role from that working within the virtual ward team and that of your normal medicines management function? What are the positives and negatives of these?
Thinking back to the service(s) you have recently delivered, what impact/difference, if any, do you think this has made to the patient(s)? Can you give a clinical example of an intervention carried out by the medicines management team which has prevented or may have prevented an admission to hospital?
What do you feel about the supervisory role? How is this working?
Thinking back to the service(s) you have recently delivered, what impact/difference, if any, do you feel this has made to the family carer(s)?
Thinking back to the service(s) you have recently delivered by the medicines management team. What went well? What went less well?
Regarding the virtual ward medicines management service, what would you change if you could? (Prompts: Referral process? How do feel about how decisions are made? How you interact with one another? Interaction with other members of the VM? Communication? Outcomes?)
Are there any other services that you think that the medicines management team could/should offer to the virtual ward patients?
Do you feel that you have any developmental needs?
Is there anything I didn't ask that you'd like to discuss about the virtual ward medicines management service?

Please cite this article in press as: Kirkcaldy A, et al., Health care professionals' perceptions of a community based 'virtual ward' medicines management service: A qualitative study, Research in Social and Administrative Pharmacy (2017), http://dx.doi.org/10.1016/j.sapharm.2017.02.001