From Entry to Practice to Advanced Nurse Practitioner – The Progression of Competencies and How They Assist in Delivery of eHealth Programs for Healthy Ageing

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Abstract Most of the health issues encountered in persons of older age are the result of one or more chronic diseases. The evidence base reports that chronic diseases can be prevented or delayed by engaging in healthy behaviors. Education provides a cost effective intervention on both economic grounds in addition to delivery of optimal patient outcomes. Information and Communication Technology (ICT) increasingly is viewed as a critical utility in eHealth delivery, providing scope for expanding online education facilities for older persons. Developing nursing competencies in the delivery of eHealth solutions to deliver user education programs therefore makes sense. This chapter discusses nursing competencies on the development of targeted eHealth programs for healthy ageing. The role of Advanced Nurse Practitioner in Ireland and its associated competency set identifies how a strong action learning model can be designed to deliver eHealth educational programs for effective delivery of healthy ageing in place.

Keywords: eLearning, Competencies, Advanced Nurse Practitioner, Healthy ageing

1. Introduction

The proportion of the world's population over 65 years is expected to rise dramatically in the next 30 years and will account for over 25% of the adult population in some countries. Recent World Health Organization (WHO) projections report a rise from 12% in 2015 to 22% in 2050 of the world population being over 60 years of age – this equates to a rise from 900 million to 2 billion people in this age category [1]. Problems therefore arise with an ageing population to provide and match societal demands for care. Most of the health issues encountered in persons of older age are the result of one or more chronic diseases [2]. In addition to chronic disease is the effect of ageing, which has been widely documented in the literature and referred to as the "Giants of Geriatric Medicine" [3]. The Geriatric Giants include – Instability, Incontinence, Immobility, Intellectual impairment and Iatrogenics. The Giants of Geriatric Medicine are of particular concern in older adults as they impact on the ability to function for those who are over 65 years with associated disabilities and multimorbidity. The

evidence base presents exciting opportunities reporting that chronic diseases can be prevented or delayed by engaging in healthy behaviors [1]. Core to the role of the Advanced Nurse Practitioner (ANP) is a need to maintain or support clients in health seeking behavior to maintain optimal health and independence [4].

In Ireland, advanced practice refers to registered nurses who engage in continuing professional development and clinical supervision to practice as expert practitioners and demonstrate exemplary clinical leadership. It is a recognized registration – Registered Advanced Nurse Practitioner – where nurses work within an agreed scope of practice and meet established criteria set out by Nursing and Midwifery Board of Ireland (NMBI) [5]. All ANP's practice under four core concepts:-

- Autonomy in clinical practice
- Expert practice
- Professional and clinical leadership
- Research

Each of the core concepts has specific competencies that the ANP attain.

To operationalise this role effectively, the ANP provides significant time in educational interventions and related research activity. Education provides a cost effective intervention on both economic grounds and on the delivery of prospective patient outcomes [6]. Traditionally nurses have engaged with patients providing most of the education in the management and prevention of disease across all ages and all care settings. Nurses have also historically played a pivotal role in educational initiatives relating to chronic disease management [7, 8]. Recent policy agendas in regard to development of the Clinical Nurse Specialist and Advanced Nurse Practitioner role demonstrate an increase in patient learning, knowledge, and understanding leveraging in improved adherence to treatment, increased wellness and ultimately better management of chronic diseases and associated disabilities [4].

The advancement of Information and Communication Technology (ICT) in healthcare and the development of nursing informatics over the past decade progresses the notion that the use of technology can be considered as a critical utility in health service delivery [9, 10]. In tandem with an ageing population this provides the framework for developing online education programmes to promote action learning models for healthy active ageing, better disease prevention and management and thus supporting the theory that health promotion needs to be delivered through education across all ages.

Competencies are a key requisite to the professional development of all registered nurses and are outlined in scope of practice documents for nurses internationally [11,12,13]. To be safe and effective practitioners, nurses must demonstrate evidence of these competencies, and over time with experience, competency requirements can evolve within practice. Developing nursing competencies in delivery of eHealth solutions on service user education programmes therefore is timely and in line with global policy agendas as outlined by WHO [14]

2. Competencies for development of eHealth programs for healthy ageing

Use of a framework underpinned by evidence to clarify the role of nursing is necessary in competency development. According to Uys, competence is the ability to deliver a specified professional service and nursing provides a framework to clarify the role with

sound evidence of safe care through education and regulation [15]. The International Council of Nurses, Competence for ANP defines competency as the effective application of a combination of knowledge, skill and judgement demonstrated by an individual in daily practice or job performance [16, 17]. It is reflected in practice as:

- Knowledge, understanding and judgement
- Skills: cognitive, technical or psychomotor and interpersonal
- A range of personal attributes and attitudes.

Mapping the above principles for the development of eHealth programs for healthy ageing with one of the Giants of Geriatric Medicine – instability, as an example demonstrates the role of how an ANP can provide a specific nursing service, and have an impact on patient safety. Here we provide a summary overview of this mapping process and the associated outcomes as developed by an ANP of older persons in Ireland.

2.1   Knowledge, understanding, judgement

The ANP has extensive experience in older person care to identify the impact of falls on older adults and recognition of the need to provide education on the following facts:

- Falls cause a lot of pain, discomfort and disability to older adults resulting in additional healthcare needs and additional costs to healthcare providers
- Falls cause additional psychological trauma to older people resulting in social isolation, loneliness, anxiety and fear.
- Falls are preventable and measures are required to reduce the risk of falls for older adults.

In Figure 1, this particular message is conveyed as competency 1 impact.

2.2   Skill: cognitive, technical or psychomotor and interpersonal

The ANP through experience recognizes the need for an education program:

- To create an awareness of the potential for falls in older adults and reduce the risk of falls in an ageing population.
- To identify the medium to present the education in order to reach a wide audience as falls is a global phenomenon.
- To identify the need to engage with an educational technologist to develop the online education material.

Competency 2 is illustrated in Figure 1 as definition of scope and aims

2.3   A range of personal attributes and attitudes

- The ANP through working with this client group recognizes that a tailored individualized approach is important as clients may have a varied intellectual background. Education is pitched at a level understandable to all.
- Education is easily accessible and underpinned by action learning.
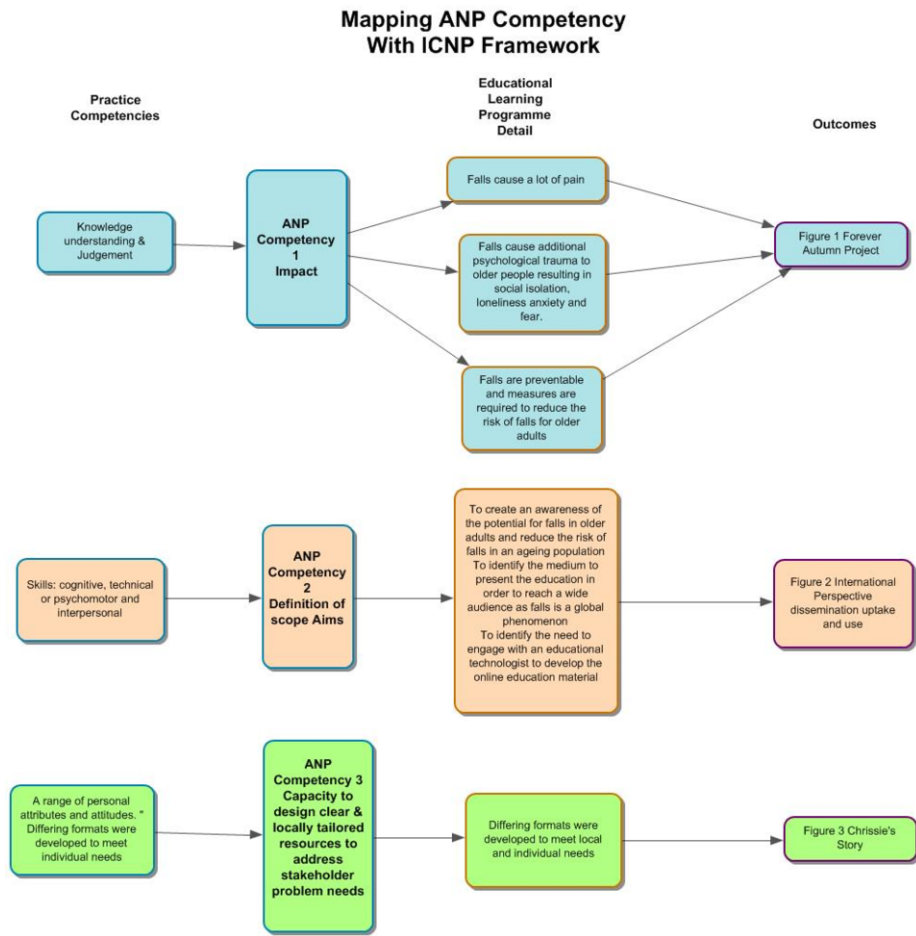- Differing formats were developed to meet individual needs.

Figure 1: Mapping ANP Competency with ICNP Framework

Identification by the ANP of the education requirements is portrayed as Competency 3 in Figure 1

Such an approach was used to develop a programme on creating awareness of falls and falls risk reduction – Forever Autumn© as an online resource. Also, by adopting an action learning model and engaging with an Educational Technologist to develop the eLearning component with a view to reaching a larger audience within and beyond the organisation has proved most effective. [18] Initial evaluation and professional response to this program not only demonstrates its effectiveness but also exhibits how the skills and competence in nurses to enhance their practice is achieved through targeted educational programs. The competency framework therefore can provide the required elements for nurses to develop both personally and professionally to enhance quality of life of the patients in their care.

This work, completed in Ireland in accordance with national and international healthcare strategy and policy agendas, has recently been recognized as a best practice initiative receiving a national award for best in health service delivery. It provided a

case example on how the participatory process of learning is achieved using Web 2.0 technologies as alluded to by Spencer and Hussey [19] to teach, learn collaborate and create knowledge. Using a case study to assist individuals to learn about healthy ageing, the eBonehealth© and Forever Autumn© Falls Prevention Projects [20] portray core competencies acquired by an Advanced Nurse Practitioner (ANP) to design, lead out and deliver on an eHealth patient educational activity. Collaboration with other healthcare professionals is evident in the development of Forever Autumn Community of Practice© (FACOP) which promotes the sharing of knowledge through an online platform [21]. This once again demonstrates the use of competencies to recognize the need for and use of skills required to develop essential education resources for intellectual disabilities community on bone health and falls prevention – (Figure 2) Happy Bones© [22]. Figure 2 provides screenshots of the outcomes from Figure 1 Mapping Framework. This paper concludes with figures 3 and 4 which offer summary detail of the access and dissemination of this programme internationally. To date the combined access to these sites = 3750 views.

Figure 2: Happy Bones education resource to promote bone health and falls awareness in Intellectual Disabilities

3. Conclusion

In addition to access and dissemination of the program, since its deployment in 2012, Forever Autumn as an educational programme has been implemented in more than twenty four Residential Care Settings across Ireland. It has also has been nominated and awarded a National Irish Healthcare Centre Award as a Department Initiative on Fall Prevention. The FACOP$^©$ has a membership of 75 healthcare professionals from eight disciplines and national and international website visits as seen in Figure 3 while Figure 4 highlights the visits to the more recently developed Happy Bones$^©$ website.

Figure 3 International Perspectives – Forever Autumn Community of Practice Web Site 2015/2016

Figure 4: International Perspective – Happy Bones Web Site2015/2016

The knowledge skills and attributes framework as defined by ICN and NMBI for ANP provides a clear structure to advance knowledge with experience to innovate and create educational programs for other similar eHealth initiatives. Additional evidence of this approach using a second Giant of Geriatric Medicine – incontinence, has produced an effective eLearning programme - Implementing and Supporting Holistic Continence Awareness [23].

The role of the ANP and its associated competency set as explained in this paper can provide a strong action learning strategy to organize and deliver eHealth educational programmes for effective healthy ageing in place. Future research includes creating additional eHealth educational programs to tackle the remaining Giants of Geriatric Medicine and also revising existing design templates for healthy ageing across all age groups in the life span.

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