16/1/06

Making sense of models for the profession.

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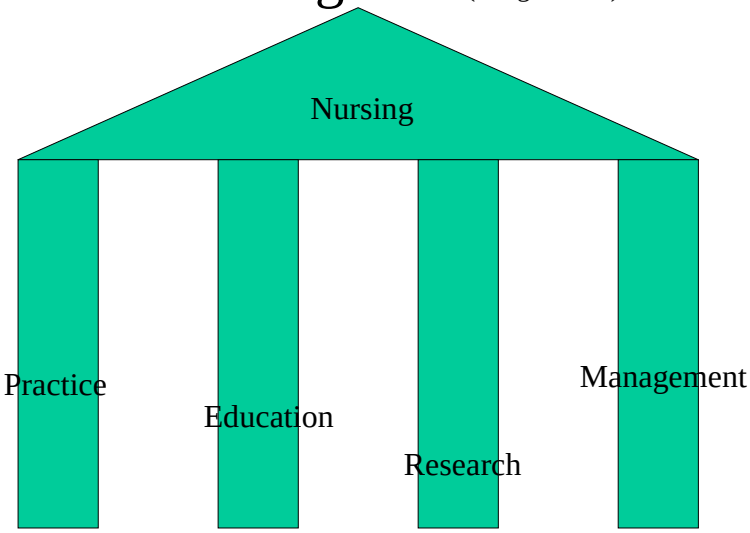
Background

Historically occupational health nurses (OHNs) have adapted models from general nursing and used them within occupational health (OH) settings (Thompson 1996). For years there has been the debate amongst practitioners as to whether or not we actually need a model to guide and inform our practice. Chang (1994) surveyed OH nurses and discovered that 38% indicated the need for a model while 45% felt there was no need and 16% did not respond. Clearly the profession was divided on this issue at the time.

Wright (1990) provided us with the following analogy that nursing is like a building supported by four great pillars, these pillars being practice, education, research and management. However I have added my own interpretation as to how important each of these is to the profession.

Four great pillars on which nursing sits. (Wright 1990)



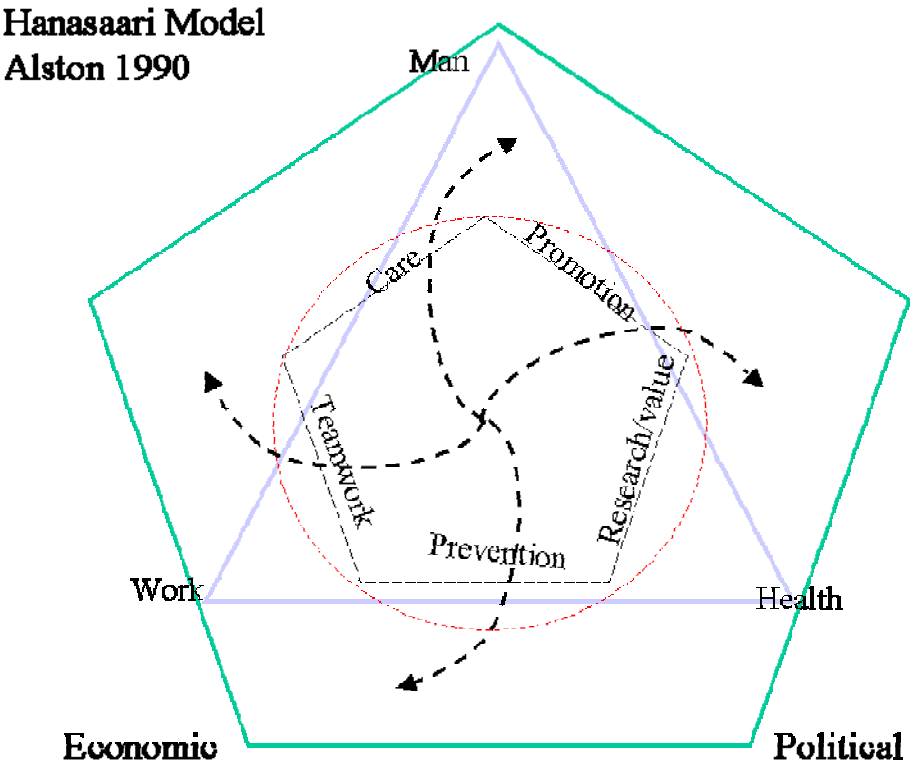
Like other areas of nursing the strengths of each pillar varies, with some being stronger than others and there is much work to be done in order that all four pillars be of equal strength, but perhaps such an notion is too idealistic.

In this paper I propose two models that can help practitioners think about their role. The first has been around for a number of years yet few within the profess are aware of it. The second emerged from a national survey of nurses working in occupational health settings across Scotland (West et al 2001). Both models can be of value to the profession when seeking to define, redefine, guide and inform our practice.

But in order that a model be accepted by a professional group a wide consultation with those in practice is required and historically consultation with OHNs has been difficult simply because there has been no accurate list or database of where practitioners are throughout the country. Even when such lists and databases are compiled they quickly become obsolete due to the peripatetic nature our role plus those who frequently change job for what ever reason.

In the past some experienced OH nurses have favoured the use of various models such the Hanassari model by Alston (1990) which emerged from a cabal of OH nurses who attended a conference in Hanasaari in Finland and from which Alston's developed into her MA. This work was also published her work as a three part series in 1993 in Occupational Health journal. While studying for my diploma in OH 1992 the Hanasaari model was the preferred model at the time however I personally have always struggled to make sense of it and never managed to apply it to practice. Alston's work focused on attitudes, roles, conflict and overlap in roles between OH and safety and encountered sampling difficulties as the total population studied was forty comprising of three sub groups OH nurses, managers and safety personal.

So has this model truly been accepted by the profession (of just in the minds of a few) as there is little evidence from the literature to suggest that practitioners have applied it in any meaning full way to their everyday practice.



From a literature review a number of models emerged dating back to the 1980's. For example the Windmill model by Wilkinson (1990), and a OH Management model by Fairburn & McGettigan (1994). However they like some others lack a sound evidence base and a consultation within those in practice.

Two models which have evolved from a sound evidence base and therefore can be applied to contemporary are **Chang's** model (1994) which emerged from her PhD thesis but unfortunately few within the profession have even heard of it until it was discovered as part of the literature review for the (west et al 2001). A more recent and up to date model is **CeNPRaD's** (Centre for Nurse Practice Research and Development at Robert Gordon University) model which emerged from a national survey of nurses working in occupational health settings across Scotland, funded by the NBS (now NES) (West et al 2001). However it has been revised and up dated to this current version (McBain 2005)

What is a model?

It is important to clarify what we mean by a "model" as there are many different definitions. One of the most useful definitions is "a model is simply a

way for nurses to organise their thinking about nursing and then to transfer that thinking into practice with order and effectiveness (Wright 1990 pp7). Models can and do serve a purpose but only if the model represents something meaningful to the practitioner. Useful models for occupational and public health nursing practice can come from a variety of disciplines. For example Beattie's model on health promotion (1991) cited in Naidoo & Wills (1994) enabled me to analyse my practice as an OHN and think more clearly about the concept of health promotion as a credible activity within a manufacturing environment.

From a review of models on occupational health nursing practice twelve have been identified (but this list is not all inclusive).

Author/s	**Place & date**	**Title**
Gries. M W...	OH Nursing Nov 1980	Continuing Education & OH Nursing: A Value Analysis.
Dees.J.	OH Nursing March 1984	Conceptual Model for Nursing Practice in Occupational Health.
Morris.L.I.	OH Nursing Feb 1985	A Conceptual Model for Occupational Nursing Practice.
Randolph. S. A.	AAOHN April 1988	Occupational Health Nursing: A Commitment to Excellence.
Wilkinson W. E.	AAOHN Feb 1990	The Wilkinson Windmill Model of OH Nursing.
Alston R.	MA. Thesis Thames Polytechnic	A critical examination of roles and attitudes of occupational health nurses, their relationship with safety personnel and managers and implications for education and training initiatives.
Alston R	Occupational Health (1993)	A future for occupational health nursing (A three part series)
Yoo K-H	PhD Thesis 1991	Expectations and Evaluations of OH nursing services, as perceived by OHNs, employees and employers in the UK. The Homeo-dynamic Self-Care Field Model.
Lundberg G.E.	AAOHN Nov 1992	Occupational Health Nursing: A Theoretical Model.
Maciag M. E.	AAOHN Jan 1993	Occupational Health Nursing in the 1990s: A Different Model of Practice.
Fairburn & McGettigan	OH April 1994	Development of an OH management model

Chang. P.J.	PhD Thesis (1994)	Factors Influencing Occupational Health Nursing Practice.
West et al.	Published report NBS (2001) ISBN 1-873327-39-0 (executive summary) ISBN 1-873327-38-2	Occupational Health Nursing in Scotland: Scope of Practice and Future Continuing Professional Development.

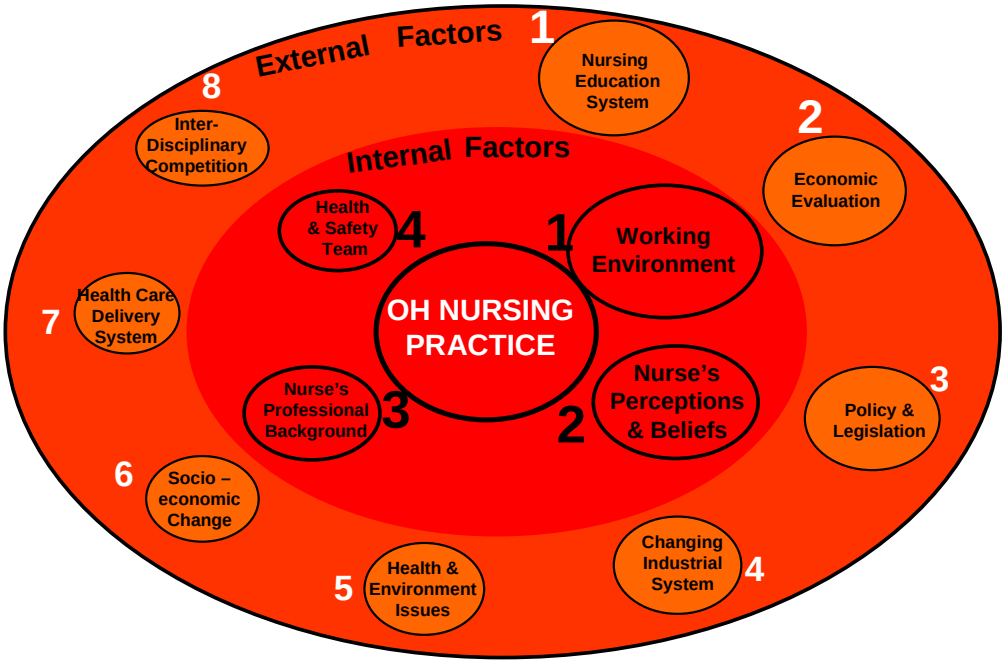
Chang PhD (1994) critiques the first nine models (from 1980 – 1993) and states, “they all provide a framework or conceptual model of OH nursing. But there are common weaknesses in that they lack clarity in the scope of OH nursing practice, lack a clear definition of the OH nurse role and lack empirical evidence”. Chang agreed with Alston (Hanassari model) in “that unless OH nurses demonstrate their value and worth there is a danger that they too will become like the rotating arrows in this model and spin around and around into a vortex and be lost”.

Or perhaps others may see those rotating arrows as a way of looking outward rather than inward and see this as an opportunity to develop their role in an outwardly direction. As some of us have always perceived ourselves as having a public health role and it recent years it is known as the “new public health”. Irrespective of how it is now being referred to some practitioners are embracing change and perceive public health to be a natural part of their OH role and are actively implementing community health promotion initiatives (Naulls & Roberts 2003) in response to policy documents such as Nursing for Health: a review of the contribution of nurses, midwives and health visitors to improving the public’s health (SeHD 2001) which emphasised that all the disciplines with nursing have a public health role.

In **Chang’s (1994)** model the practitioner is central and surrounded by four internal factors and eight external influencing actors. Both the internal and external factors are rank ordered according to the greatest influence on practice. The four internal factors (within the organisation) are: -

1. Working environment
2. Nurse’s perceptions & beliefs
3. Nurses’ professional background

CHANG'S MODEL 1994



4. Health and safety team. and for the eight external factors (out with the organisation)
1. Nursing education
2. Economic evaluation
3. Safety & legislation
4. Changing industrial system
5. Health and environmental issues
6. Socio economic change
7. Health care delivery system
8. Interdisciplinary competition

The eight external factors are not linked to any specific internal factor but have the capacity to influence any of the internal factors, which in turn has the potential to influence practice.

Since discovering Chang's PhD and her model a number of years ago I have used it to reflect on my various roles as a practitioner having worked in five different contexts. There were many interesting findings that emerged from this study that are still relevant today. For example different **expectations** and

understandings on the OHN role amongst the two different groups of nurses surveyed these being those who held a senior or executive nursing position roles and those who held a more “hands on” practical role. Both groups agreed on the importance of issues such as occupational health and safety, communication and interpersonal skills, clinical knowledge/skills and professional issues. The senior/executive nurses emphasised the importance of legislation, management, administration and research compared to the practitioners who valued health promotion, health screening and assessment and personal development more. Another significant finding was that the senior group were in favour of a model where as the “hands on “practical nurses were not. Chang concluded that this was probably due to the number of senior nurses who at the time had been influenced by continuing professional development and academic activities such as research.

Chang (1994) identified ten different OH nursing roles and twenty different functions and found significant differences between what the OHN actual role/s and functions were compared to what the nurses themselves perceived their ideal role/s and function should be. When rank ordering the influencing factors it was the “working environment” that emerged as being the most significant internal factor followed by the individual “practitioner’s own perceptions and beliefs” then followed thirdly by the “OH nurses’ professional background” and fourthly the “health and safety team”. But since many of us today would agree that it is not always possible and often quite difficult to change or influence our own working environment the focus should be on altering the perceptions and beliefs of the practitioners themselves. “Nursing education system” emerged as the most influential external factor that brought about change in practice. Because when an individual nurse’s perceptions are changed through education then developments within the working environment may follow. However I would add that it very much depends on the individual nurse’s own “working context” and whether or not there is support in the way of allies, structures and systems in place to ensure that when changes are made that they are sustainable over time.

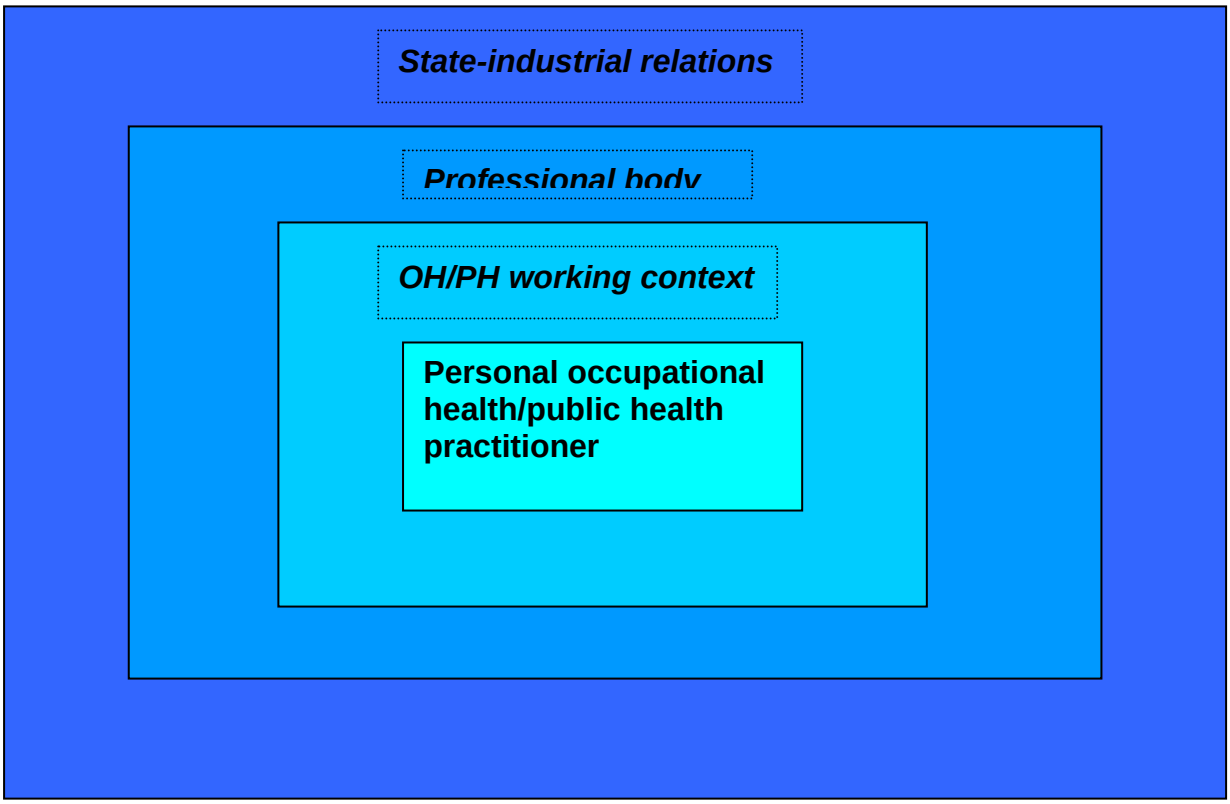
Chang found that much of the work done by practitioners focused on treatment and clinic services and practice was dictated by the nature of the working context, the individual nurse's perception's and belief's. She concluded by stating that change is needed in legislation at intra-professional and inter-professional levels for occupational health nursing and that education requires a conceptual base so that the role may be developed in practice and education. I believe that Chang provided us with that conceptual base back in 1994 and stated that there was a need for education to change and to include a greater understanding and knowledge of occupational health and safety, management and communication and especially on how to promote the role more effectively and become more competitive in the job market. However in an attempt to change practice it is first necessary to change education (an external factor) and thereby influence the perceptions and beliefs of the nurses themselves (an internal factor) and at the same time as reinforce the need for change in legislation. If changes occur in education without comparable changes in legislation, then some individuals may become frustrated and demoralised if they posses additional skills which cannot be used in practice.

I personally think it is has been our loss as a professional group that Chang's PhD research was never published widely at the time in the popular OH journals as it was completed in 1994 and eleven years on similar issues still exist today.

This second model **CeNPRaD's (Centre for Nurse Practice Research & Development)** is a revised version from the original model first published in (West et al 2001). But it is still a practice-governing model that emerged from a wide consultation with those in practice and at the centre is the individual practitioner with three other influencing governing levels. It is the order in which these governing levels appear that has altered so that working outward we have the working context followed by professional body and then at the outer level there is the state – industry relations and other governing bodies. All of which have the potential to influence each other across the different levels.

The first governing level represents the occupational and public health practitioner in their own working context which could be the public sector such as the fire service, police, higher education, NHS or private sector such as manufacturing, production with environments like the construction industry, oil

CeNPRaD's OH model 2005



industry, paper industry, or call centres.

The second governing layer represents our "Professional Body" which for me I see it as the RCN but equally for others it could be another professional body as some practitioners may have memberships with other professional bodies these days. The outer governing level is the "State and Industrial Relations" which I see as national authorities such as the SHED (Scottish Executive Health Department) in Scotland, HSE and various industry governing bodies depending on the individual's working context. For example the MOD (Ministry of Defence) will have influencing powers over those who are employed in the

army, Royal Air Force, British Airports Authority (BAA) will have an influence over those who work in our airports and the Food Standard Agency will influence of food manufacturing industries.

Discussion

As part of my quest to understand models better I asked list members on http://www.jiscmail.ac.uk/ whether they thought we needed a model for practice or not. Despite a poor response I personally believe that we as a professional group do need a model or models because they can help us think more clearly about defining, re-defining and developing our various roles.

Having worked in several different occupational health contexts I am now able to reflect on my own practice using **Chang's** model and see how the internal and external factors influenced what I did at the time within those different contexts. For example my first post within OH was on the Channel Tunnel where there were around 6000 employees and tunnelling was in progress twenty-four hours a day, three hundred and sixty five days a year. There were several teams of tunnellers (locally known as the Tunnel Tigers) and support staff including an OH and S team working around the clock (similar to some other industries).

On reflection I can see how the four internal factors: -

- Working environment (the Channel Tunnel)
- My own perceptions and beliefs" (which were and still are that no one should be made ill through work)
- My own nursing background at the time (as a general nurse A & E background)
- The health and safety team (other professionals with whom I worked such as the senior nurse, doctor, hygienist and safety officers) influenced my practice at that time.

Within this particular working environment the OH department provided a service from a pre-fabricated port-a-cabin situated directly opposite the main lift shaft which served as the access and exit route to the underground

tunnels. As part of the nursing team we provided a range of activities to a predominately male migrant workforce within a high-risk industry (construction) in the late 1980's. Therefore the working environment the most important internal influencing factor in Chang's model very much influenced and dictated the need and level of service which was predominantly treatment and care and included health screening, surveillance, maintenance, promotion and advice. The second most influential internal factor being my own personal beliefs and perceptions which for me was that "no one should be made ill through work" and the third most important internal influencing factor being my "nursing background" which was as an accident and emergency nurse. The fourth internal factor being the "health and safety team" and in this working context this consisted of an physician, hygienist and a team of safety officers and a three teams of tunnel rescue personal who were trained to advanced first aid level and who were on call like the OH & S staff twenty four hours a day.

There are eight external influencing factors in **Chang's model** but I have chosen to reflect on four : -

- **nursing education system**
- **policy and legislation**
- **health and environment**
- **health care delivery systems**

I see that I used my nursing skills and knowledge that I acquired from my training **"nursing education system**" (an external factor) and influenced by the medical model in that the nurse was expected to carry out the doctors orders without questioning. But throughout my career I like many others have acquired new skills and knowledge along the way by various short courses as well as formal education plus the experience of having worked in the public and the private sectors in Scotland, England as well as overseas.

I have always perceived that part of our OH role involves keeping up to date and this can happen in a number of ways including getting to grips with **policy and legislation** (external factor in Chang's model). As to which policy and

legislation documents are applicable to the individual practitioner very much depends on their specific working context that she or he is currently working in. For example first aid regulations, noise at work, sickness absence management, and manual handling and COHSS regulations may be applicable to some practitioners but not to others.

"**Health and environment issues** "is an external influencing factor in Chang's model and for me whilst working for TML (a joint the consortium company between the UK and France commissioned to build the Tunnel Channel) there were many health and environmental issues to be addressed for this workforce. Such as fresh drinking water and public conveniences for them as they tunnelled their way towards France as well as dealing with skin irritations, burns and foreign bodies in eyes due to the alkaline content in some of the cement products. Plus the amount of earth or (spoil) as it was referred to from the tunnelling process had on the local Kent cost line as the spoil was used to reclaim land from the sea thus altering the cost line.

On this particular project the occupational health department was the first point of contact for this predominately male migrant workforce where the nature of the work (tunnelling) and scale of the project dictated the need for a care and treatment service which included over the counter medicines and POMs (prescription only medicines) that were dispensed using signed protocols. Clinical decisions and judgements were made by the OHN. Which resulted in some employees requiring to be transferred either to the local accident and emergency department or a GP. On reflection it was at these interfaces between (ourselves) the occupational health and safety team and the (**health care delivery systems)** as in primary (GP) or secondary care (accident & emergency department) which I see as being our health care delivery systems they're being an overlap in roles. However the links between occupational health & safety, primary care and secondary care back in the late 1980's were weak from my perception and there is little evidence from the literature to suggest that much as changed in recent years (West et al 2001).

Some practitioners to combine their nursing roles and use health needs assessment processes along with formal and informal networks to reach out and specifically target groups (Naulls & Roberts 2003) as part of their OH role. As they obviously see this a natural way of working by collaborating and utilising resources when delivering their health messages. However others may struggle with this concept due to their own perception of their role and possibly their working context. But as a professional group surely we are well placed to influence our "**health care delivery system**" and there are obvious advantages to sharing knowledge and skills across different disciplinary professional boundaries as there is much we can learn from each other if we are willing to do so.

Since discovering Chang's model a new model emerged CeNPRaD's model from our own study (West et al 2001), which I believe is simpler, and can easily be adapted to our ever-changing world. I have used it to reflect on my various roles as a practitioner, researcher, mentor/educator and a manager. Therefore I see it has being useful across the four great pillars on which nursing sits (Wright 1990).

Before reflecting on this model as a practitioner it is first necessary to clarify what we mean by the concept of "role" within nursing, as there is much confusion over the term "role"

"Roles" are social constructions whereby the individual is defined by three sets of expectations these being

- The professional group to which the individual belongs.
- The people with whom the nurse interacts in the context of nursing (e.g. clients/patients/doctors and other health professionals).
- The employer of the nurse.

In most cases these three sets of expectations coincide but sometimes there can be a disjuncture. For example the nurse has been educated to a particular level and deemed competent in a range of activities; the client group expect the nurse to perform these activities but the employer will not allow the nurse to practice the activities. Here we could say that the nurse's role is

being constrained by the context of employment and the employer (West et al 2001).

CeNPRaDs OH nursing model in practice

In this revised version I see myself as a practitioner at the centre of this model working within an envelope manufacturing company (**first governing level**) and I can see how that environment influenced my practice. We know that the culture within any organisation is made of the people within it and in this particular context the majority of the workforce came from the surrounding area which was the north east of Scotland where generations of families have worked and many had received long term service awards. Within the context there was great job satisfaction and felt valued both from the employer and employees, as both groups would include and consult me on a range of health issues therefore I saw my role in this context as an enabling one.

Having grasped what we mean by “role” has helped me in many ways but professionally it has enabled me to see clearly how those around me within this manufacturing context such as the employees, managers and those I worked with, influenced my practice. From this particular context I was in an ideal position not only to be influenced by those around me but for me to influence them and I believe I did so at various levels throughout this organisation and beyond at times on the employees families with specific health messages. By playing a key role in providing occupational health and safety care and advice by working at influencing practices through working together as a team to develop and implement health and safety improvement initiatives. For example introducing a hearing conservation programme, safety foot wear policy, job rotation, no smoking policy, and hand-hygiene project in relation to inks that were causing skin problems were some of the initiatives. Being the main health person “on site” I was instrumental in initiating the initial the preparatory work towards the company being awarded a Bronze Scotland’s Health at Work award. Such activities for some practitioners are very much part of every day practice, whilst others may find themselves in a more constrained role due to their environment and their employer. It

therefore depends on the individual practitioner, their role, the working context along with the support and back up from within their specific organisation.

Reflecting back on my early days in practice I took little interest in the lager picture of the RCN (professional bodies - **the second governing** level of CeNPRaDs model) or nursing politics as they both seemed too remote from where I was at the time as I was primarily focused on delivering direct employee care and advice. It was not until I needed some professional advice regarding pay structures did I appreciate the benefits of our RCN membership. At this secondary level there are other professional bodies that practitioners may prefer to engage with rather than the RCN, as this model is deliberately flexible and therefore open to individual interpretation.

When entering the world of occupational health in 1988 I quickly learned to have an awareness of "**state – industry relations**" (the third governing level of CeNPRaDs model) and how issues at this level can influence and impact on my practice. In this particular context (envelope manufacturing) there was state - industrial relations issues. Such as governing policies coming from Department of Health and HSE which influenced what I did in this environment e.g. noise at work, first aid regulations, and Riddor are a few. I remember thinking back then 1988 that the pace at which these new policies were being developed surely must slow down. But it was more to do with myself coping with the volume of these documents and pace of change back then. Within the paper industry the cost of raw materials and recycled paper always had an effect on the production and quality of our product and whether of not investments were made or whether redundancies were just around the corner.

Reflection on contemporary practice in 2005 I still see myself at the centre of CeNPRaD's model surrounded by the same three different governing levels. The **first governing level** which is a local paper mill and where initially there where different expectations of my practitioner role however a suitable agreement to provide a limited service was reached between the OH provider, the company and myself.

In the **second governing** level I see as being the RCN who but equally others may see themselves engaging with other professional bodies other than the RCN. And in Scotland we are seeing new groups emerging such as the Scottish POOSH (Professional Organisations in Occupational Safety and Health) (Scotland). This new group comprises of representatives from different OH & S disciplines across Scotland and I see these new groups as a means of professional networking and sharing information and ideas such as best practice.

The **third governing** is state - industry relations at this point I see myself as being influenced by policies coming from the industry in which I work as well as policy related issues concerning health, safety in the workplace. It is at third governing level of the "state" that I perceive to be one of our greatest challenges and by that I mean striving to ensure the voice of OH nurses in Scotland is voiced at this national and political level.

Developing our OH role

Depending on whom you talk to there is still much confusion over the role of the occupational health nurse not only with the general public but also within the health profession. This is due to a lack of understanding on the diversity of our role within our own professional group and beyond and we ourselves are partially to blame for this. As there are ample anecdotal accounts on what we say we do in practice but there is a paucity of research evidence based knowledge that we can truly call our own. The majority of us work hard and sometimes against the odds, yet still manage to achieve much within our own organisations. However we often struggle to get our work out into the public domain for various reasons and like Chang's model which has been hidden away in the British Library for years and never seen the light of day much good work is done by students that is often forgotten about and left on our library shelves. Therefore as a researcher and OH practitioner I have been determined to make Chang's model and our work public as both can of use to today's practitioners.

I envisage that the way forward it to work closer together in order to strengthening all four pillars within our own professional group these being practice, education, management and research. It is true that some practitioners may not wish to become research active, but hopefully would see that they have a role in being research aware.

By working together and forming links with other nursing practitioner groups we will gain a greater understanding of the diversity of nursing roles. Then perhaps as a professional we may get to point of understanding that what works well in one specific environment may not be applicable in another as it all depends on the working context and both CeNPRaD's 2005 and Chang's model 1994 gave us this.

One as only to subscribe to jiscmail and listen the debates, discussions and disagreements on such matters to realise that some within the profession have not reached that point yet and therefore have little understanding on the term "role" within nursing.

We know that some OH practitioners are working with other community nurses and pulling their resources together when specifically targeting communities with their health messages and are influencing and improving the health of the nation (Naulls & Roberts 2003) within their own context. Education and training are paths forward for many of us as much can be learned through formal study as well as informal as well as "sitting next to Nelly effect". In that working with those who are more knowledgeable and experienced than ourselves we often learn from them.

From a professional perspective I envisage that we create "links or bridges" across the four great pillars between practice, education, management and research. So that there can be greater opportunities to share ideas and best practice and develop our own knowledge base. More of us could demonstrate what we actually do in our every day practice by using a selection of methods that will clearly yield credible results and then to publish such work in the

public domain but until such times as we do this, then confusion within and out with the profession will only continue.

References

Alston. R. (1990) A critical examination of roles and attitudes of occupational health nurses, their relationship with safety personnel and managers and implications for education and training initiatives. MA Thesis. Thames Polytechnic. London

Alston. R (1993) A future for occupational health nursing. Occupational Health (1993) part 1-3 Jan- March.

Chang P-J (1994). Factors Influencing Occupational Health Nursing Practice. A two part PhD Doctoral thesis. Kings College London. University of London.

Dees. J.D. (1994) Conceptual Model for Nursing Practice in Occupational Health. Occupational Health Nursing March 1984, pp137-140.

Fariburn J & McGettigan J. (1994) Development of an OH management model:parts 1 - 3. April – June 1994 Occupational Health

Gries. M.W. (1980) Continuing Education & Occupational Health Nursing: A Value Analysis. Occupational Health Nursing. Nov 1980 pp13 –17.

Lundberg. G.E. (1992) Occupational Health Nursing: A Theoretical Model. AAOHN Journal vol.40, no.11 pp 538 – 544.

Maciag M.E. (1993) Occupational Health Nursing in the 1990s. A different model of practice. AAOHN Journal,1993 vol 41, no 1 pp 39-45.

McBain. M (1999) An Exploratory Study to Evaluate Senior Nursing Roles within a Cancer Centre {Unpublished dissertation for BA (Hons) in Nursing Studies}

Morris.L.I. A (1985) Conceptual Model for Occupational Health Nursing Practice. Occupational Health Nursing. Feb 1985 pp.66-70.

Naidoo. J & Wills J (1994) Health Promotion. Foundation for Practice. Bailliere Tindall W B Saunders. London

Naulls. K, Roberts. E (2003) A Breath of Fresh Air. Community Practitioner. Vol 76. no 4. April 2003 pp 123 -124.

Randolph. S. A (1988) Occupational Health Nursing: A Commitment to Excellence. AAOHN Journal. (1988) vol. 36, no.4

Thompson. M (1986). Role enactment: A model for pre-retirement planning. Occupational Health Nursing. (1986) 34 (5): 221-227

West.B, Macduff. C, McBain. M & Lyon. M (2001) Occupational Health Nursing in Scotland: Scope of Practice and Future Continuing Professional Development. Funded by the NBS.

Wilkinson. W. E. (1990) A Conceptual Model of Occupational Health. AAOHN Journal. Feb 1990 vol. 38. no.2 pp-73 – 77.

Wright . S. G (1990) Building and Using a Model for Nursing 2nd Edward Arnold. UK

Yoo (1993) Expectations and Evaluations of OH nursing services, as perceived by OHNs, employees and employers in the UK. The Homeodynamic Self-Care Field Model PhD Thesis