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Author(s)	Noriyo, Colley; Cashin, Andrew
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Controlling Medicalization and Nurse Practitioner Roles

Noriyo Colley^{1)*} and Andrew Cashin²⁾

1) Faculty of Health Sciences, Hokkaido University

2) Southern Cross University Health Clinic, Australia

Abstract — Purpose The training system in specific practice for Registered Nurses was legalized in June 2014, instead of creating a new Nurse Practitioner role in Japan. The aim of this policy paper is to describe the need for Nurse Practitioner roles and discuss a model of Nurse Practitioner graduate education in Japan based on the identified social needs in rural areas.

Design Policy analysis was conducted considering national and international aspects. The diffusion of Home Mechanical Ventilation and struggle of family caregivers were used as an exemplar of the disadvantage created by the enactment approach for the long-term care population in Japan.

Methods The workforce development of the Nurse Practitioner role and the required graduate education are considered in the context of the technological development and limited supply of Medical Practitioners available in rural settings.

Findings Japanese nurses need to be aware that the current enactment approach, i.e. strong medical control, can be seen as role expansion but, equally plausibly in the current form, entrenchment of medical control.

Conclusion Further research is needed to explore the potential roles of the Nurse Practitioner in the community setting in Japan to satisfy the social demands of health care and the education required to build capability to perform these roles.

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1. Introduction

The relationship between technological development and professional role shift is a current international issue (Mansell 2011; Saxon, Gray & Oprescu 2014). One driver of health innovation in Japan is the demand for health services from the 26.7% of the Japanese population who were 65 years or older in 2015. This demand is predicted to increase with the estimated increase of up to 39.9% of the population who will be over 65 years old by 2060 (Cabinet Office, Government of Japan 2015). The number of Registered Nurses increased to 1,176,859 (male 63,321, 5.93%) in 2015

from 797,233 (male 31,594, 3.96%) in 2004 (Japanese Nursing Association 2016). This increase in the number of Registered Nurses is not proportional to the rising demand for health services. Recently, the level of community care has advanced due to the vast development of healthcare technology. An example of current technological development is the technology that allows people/children with Home Mechanical Ventilators (HMV) to spend time with their families at home. The number of HMV users taking advantage of this technology is estimated to increase in the future (Paulides, Plötz, Verweij-van den Oudenrijn, van Gestel & Kampelmacher 2012) due to the increasing rate of

*) Correspondence: Faculty of Health Sciences, Hokkaido University, N12-W5, Kita-ku, Sapporo, Hokkaido, 060-0812, Japan
E-mail: noriyo@med.hokudai.ac.jp

premature babies related to the later marriage age for women.

HMV care is one form of advanced care in the community, however the majority of mothers are struggling to find adequate resources to support the extended caring role (Mah, Thannhauser, McNeil & Dewey 2008; Simons 2005). Yamashita & Soma (2015) defined the situation of mothers who are caring for their old parents and technology-dependent children simultaneously as “double responsibility of care.” It can be seen that there is unprecedented lack of resources to support care in the Japanese community not just in quantity and quality in the present, but also projected into futurity.

An approach to solving the issue of lack of access to support is professional role shift. Innovation is needed to maintain quality of people’s health, despite lack of availability and affordability of a proportionate increase in labor in the health workforce. The Japanese Ministry of Labour, Health and Welfare has a role in the regulation of nursing licenses. The act on Public Health Nurses, Midwives and Nurses states that nurses’ roles are ‘supporting patients’ daily life,’ and ‘support for medical practitioners’ diagnosis and treatment’ (Ministry of Justice 2009). If there is an order from a medical practitioner, the nurse can provide any medical procedures. It does not contain any limitation to which client groups nurses are accountable (Hirabayashi 2015). Aiming for professionalization of nurses from semi-professional status (Asakura 2015), the first Japanese Nurse Practitioner graduate program begun in 2008 with the first graduates in 2010: Out of the first 14 graduates of the program, 11 were in the gerontological major and three were in the pediatric major (Fukuda et al. 2014). Another two universities in Japan have similar courses, and without any regulated title protection graduates can call themselves Nurse Practitioners, however their scope of practice does not differ from a Registered Nurse under the current legislation. This paper discusses HMV as an example of community need in Japan and the Nurse Practitioner role development in Japan as a workforce development in response to the need for access to quality healthcare support.

2. Background: Diffusion of technology and professional role shift under medicalization

To vision ideal work sharing in society, the expectation of Nurse Practitioner roles for improving accessibility of health care in Japan, and a shift of carers’ roles in home ventilation were selected as concrete examples of recent developments. Firstly diffusion of home-ventilators is described using the technology adaptation model by Rogers (2007) & Moore (2006, 2006). HMV provides a clear example where community need is not currently being met for healthcare services, particularly in rural areas of Japan. Then, secondly current nursing workforce innovation is discussed and critiqued.

Improvements in technology are challenging current healthcare workforce arrangements in Japan, particularly when the need for care is shifting from acute care hospitals to the community. Diffusion of medical technology can be understood through the lens afforded by Moore’s “Chasm” Theory, which was modified from Everett M. Roger’s “Technology Adaptation Model” (Moore 2006; Oldenburg & Glanz 2008). Once new technology is invented, “innovators” buy the products, and recommend them to other people, who become “early adopters.” If the “early adopters” like and accept the technology it jumps “the chasm” and become diffused to the “early majority” and then the “late majority.” Finally “laggards” decide to buy the products. Rogers pointed out that the more that time passes, the more discovery of new technology occurs and the cycle continues. Moore’s chasm theory is a well-known economic theory that has contributed through the addition of added aspects to the existing Roger’s lifecycle model (Moore 2006). In Moore’s theory if “early adopters” doubt the effectiveness of new products and don’t like the product, the products cannot replace old technology in the market. The innovation will not jump the chasm to successful adoption (Moore 2006; Holden & Karsh 2010). HMV is a technology that has jumped the chasm and is being employed in the Japanese community.

Workforce innovation has not kept pace and care has not moved with the technology.

In Japan medicalization and demedicalization are considered as potential inhibitors of nursing workforce innovation that inhibits the ability of the health workforce to keep pace with the technological advancement (Conrad 1992, 2013; Halfman 2011; Torres 2014a, 2014b, 2014c). Medicalization is defined as, “a process by which non-medical problems are defined and treated as medical problems” (Conrad 1992). The classic definition of demedicalization is the opposite and describes when a problem no longer retains its medical definition. An example of demedicalization was homosexuality (Conrad 1992; Conrad & Waggoner 2014).

Some examples of medicalization have been childbirth and breast feeding (Torres 2015), care for children with ADHD (Conrad & Potter 2000; Conrad 2005, 2006; Conrad & Bergey 2014), and school refusal (Salemi 2006). Medical Practitioners position these issues as disorders and untreatable unless people have medical directed care. Some underpinning assumptions related to the issue of medicalization include a lack of acknowledgement of the issue that people have to care for their health by themselves if there is no medical practitioner available. Yet if there is no medical practitioner available, but a nurse or Nurse Practitioner is accessible they cannot provide healthcare procedures without a medical practitioner’s direction. These underpinning assumptions form a type of legal medical control of healthcare delivery, not only by medical practitioners but by the extended healthcare team. In the context of rising demand for healthcare without a corresponding rise in medical practitioners medicalization restricts access, in this case to Japanese nurses who are well placed to deliver care.

Halfman (2011) pointed out dimensions of medicalization and demedicalization and the embedded discourses, practices, and identities. The issue of looking after children with HMV was not a medical practitioner’s responsibility to direct until the name of HMV was widely recognized and diffused in the community (Discourses). The hygiene level of HMV users is

assessed under the name of ‘ideal health’ by medical practitioners without consideration of the participation to the society (Practices). Once medicalized the procedures associated with HMV could not be carried out by nurses without involvement of a medical practitioner. This restriction inhibited workforce flexibility and innovation.

In 1928, the iron lung was invented by Philip Drinker. It was the main product in supply when polio was a common disease, but it was replaced by tracheal ventilators in the 1980s (Mehta & Hill 2001). The oldest record about HMV use in Japan was in 1983, a 42 year old man commenced to live in his home with a ventilator after three years of hospitalisation. Management for HMV has been included in the medical fee schedule since 1990 in Japan (Sato et al. 1996). In previous research in which data was sourced from dealers of HMV equipment, it was identified that the number of HMV users tripled from 2004 to 2013 (Colley & Otsuka 2014). This represented a jump of 44 to 123 users who are younger than 18 years old. The technology has continued to evolve and it was identified that HMV with a nasal mask increased more than that with tracheotomy in the northern part of Japan (Colley & Otsuka 2014). The implication is that this trend will see an increase in use in the community. Hiramoto (2014) identified that the majority of HMV users were concentrated in the capital city of a prefecture. This is largely related to access to healthcare to support usage as availability of health workforce, particularly medical practitioners is more sparse in rural areas.

In terms of products, healthcare need in society triggers innovators to create new technology. The mechanical ventilator users in the past had to be hospitalised until the HMV has developed, this trend of equipment usage has now moved from hospitals to the community (O’Donohue, Giovannoni, Keens & Plummer 1986). As a result of the progressive portability of the equipment, when people are discharged from hospitals at times they are still able to be dependent on medical equipment. Nurses usually educate the patient and his/her family caregivers as part of the discharge process (O’Donohue et al. 1986; Jardine & Wallis 1998; Elias &

Murphy 2012; Amin et al. 2014). Innovation in products tends to diffuse quicker than skill acquisition and workforce innovation.

3. The current form of Nurse Practitioner training system in Japan

One aspect of role shift considered as part of innovation, aimed at combatting diminishing health resources in acute/rural areas, has been tentatively called *Tokutei Kangoshi*., the Japanese Nurse Practitioners' role. To satisfy the need generated by the increasing healthcare demand due to the super ageing society and diffusion of advanced care from agile technological development, the Ministry of Health, Labour and Welfare in March 2010 formed a professional team to discuss potential role innovation for nurses, particularly the introduction of Nurse Practitioners. The culmination of the group's deliberations was the recently released, "Tokuteikou ni kakaru kensyu seido (Training system in specific practice)" which was legalized in June 2014 (Ministry of Health, Labour and Welfare 2014). This system allows nurses to learn specific medical procedures under a physician's order, however this is quite apart from what the Japanese Nursing Association had initially intended and it is within the Registered Nurse scope of practice as opposed to the introduction of a specific Nurse Practitioner scope of practice (Kondo 2013; Japanese Nursing Association 2014).

The Ministry of Health, Labour and Welfare have conducted a multidisciplinary team review to determine effective work sharing between medical doctors and the new nursing role of Nurse Practitioner. In June 2014, it was legislated that 21 categories, involving 39 procedures formerly restricted to medical practitioners, could be carried out by nurses. Under the legal revision it is required that the nurses undergo formal/informal training before practice with indirect supervision and detailed protocols for each of the 39 procedures (Ministry of Health, Labour and Welfare 2014). The Japanese Nurses Association seemed to succeed in the definition of

specific nursing techniques and mandatory training; however the majority of procedures defined are for patients in critical condition. The effectiveness of the new nursing role in rural areas is doubtful as the procedures included are largely carried out in the acute hospital context. Registered Nurses in a certified institution (e.g. acute hospitals) can provide 39 specific medical procedures of 21 categories after receiving specific education of a prescribed volume of learning in hours (see table 1).

Further to educational requirements the nurse must follow institutional protocols. The education is not formalized as part of an academic award or credited toward awards. The protocols have to include the following information: 1) the range of patients' severity of illness, 2) contents of what is done by the nurse, 3) who is going to be the patient to receive care from the nurse, 4) important information when practiced, 5) how nurses can contact medical practitioners when needed, 6) how the nurse reports after practice and to who (Ministry of Health, Labour and Welfare 2014). Constraining protocols endanger the flexibility of workforce (Carrier, Gardner, Dunn & Gardner 2007). Nurses can contribute to satisfying patients' healthcare needs, providing a medical procedure but as legislated only as a substitute for medical practitioners. Importantly the discussion of this innovation omits detailed consideration of the severe demand of care in the future due to the population changes.

As nursing internationally has embraced a person centered approach and has a long tradition of managing care across discipline boundaries nurses are ideally placed to take a care management role leading the team of carers, school staff and others including the family general practitioner to enable home ventilation (Lewarski & Gay 2007; Edwards & Nixon 2013). The current form of Nurse Practitioner training system in Japan appears to stifle such possibility, due to the restriction of constraining protocols made by medical practitioners and the vision of medical substitution. While workforce innovation it does not have the flexibility to meet the care demands in rural areas and to keep pace with the shift in

Table 1. Twenty one category of specific procedures and required study hours in Japan

Specific procedures	hours
Position adjustment of tracheal tube (nasal, oral)	22
Weaning of Ventilator, prescription of sedative, setting for NPPV and IPPV	63
Exchange of Tracheal tube	21
Temporal pacemaker management, removal of pace maker lead, percutaneous cardiopulmonary support, change of support when weaning IABP	45
Removal of Pericardium drain	21
Setting pressure and removal of catheter for low pressure continuous thoracic cavity drainage	30
Removal of abdominal cavity drain	21
Exchange of gastrostoma tube or button, bladder fistula catheter	48
Removal of IVH catheter	18
Removal of PICC	21
Debridement of necrotic tissue of pressure ulcer and negative-pressure wound therap	72
Removal of Wound drain	15
Blood sampling from artery, and puncture for radial artery line	30
Manipulation and management of hemodialysis	27
Control of dose for IVH or dehydration	36
Temporal prescription of antibiotics	63
Control of insulin dose	36
Dosage of the anesthetic from an epidural catheter	21
Control of Catecholamine, electrolyte, antihypertensive agent, glucose, diuretic	60
Temporal prescription for Anticonvulsant agent, psychotropic, antianxiety drug	57
Steroid injection for an extravascular leak	39

context of care from acute hospitals to the community.

4. Discussion: International trends for Nurse Practitioners

Introduction of Nurse Practitioner roles in western countries has often challenged the dominant medico centric paradigm of healthcare and met with fierce opposition (Cashin 2014a). Innovation in health work-force development has been challenging based on the championing of dominant interests and funding structures that have evolved around the dominant medical paradigm (Cashin 2014b). In Japan the same tensions exist but are arguably accentuated by well-observed gender based division.

Internationally Nurse Practitioners commonly prescribe products, procedures and medications as part of their role (Cashin, Stasa, Dunn, Pont & Buckley 2014; National Institute of Mental Health 2014). Nurse Practitioners have been found through randomized control trials to be as effective and safe as medical practitioners in focused care delivery, including diagnosis

and prescription (Kinnersley et al. 2000; Mundinger et al. 2000; Laurant et al. 2005; Kendrick et al. 2006; Dierick-van Daele, Metsemakers, Derckx, Spreeuwenberg & Vrijhoef 2009), and return consultations or referrals (Horrocks, Anderson & Salisbury 2002). Patients have reported high degrees of satisfaction with Nurse Practitioner care (Kinnersley et al. 2000; Mundinger et al. 2000; Dierick-van Daele 2009; Cooper, Lindsay, Kinn & Swann 2002; Venning, Durie, Roland, Roberts & Leese 2000; Stables et al. 2004). Given the rapid diffusion of the Nurse Practitioner role internationally it is worth considering what factors are prohibiting the adoption of this role in Japan.

Some have felt that the innovation discussed in Japan enables nurses to have varied career opportunity. They can be a member of a surgical specialist team and have status related to their delegated procedural authority. Rather than work to emancipate nursing from taken for granted assumptions related to medicine, this approach would appear to entrench medical domination and it appears that status is conferred by being allowed to do some medicine as opposed to advancing nursing practice.

Historical background of nursing workforce innovation in Japan

The current approach in Japan has been championed by some elements of nursing who feel that it will potentially bring some benefit in that role-expansion will possibly change the image of nursing among Japanese. However this model might perpetuate long standing images related to gender and the rightful place of medicine. According to Morita (2014), Dr. Hashimoto, who was a medical practitioner, wrote a textbook of nursing ethics in 1951 in which he stated it was the ethical duty of nurses to: 1) keep medical practitioner's direction faithfully; 2) respect older people; 3) respect men and medical practitioners; 4) have a kind and obedient attitude. Much of Dr. Hashimoto's attitude remains prevalent in the contemporary hierarchal healthcare structures of Japan (Morita 2014).

The new model introduced in Japan is far apart from a Nurse Practitioner model, and it might result in expansion of medical control. However, in the last six decades, other nursing role development seems to offer vast divergence from such historical images, because nursing is at least participating in this decision-making process. Japanese research has shown medical specialists' have the expectation that Nurse Practitioners work as a member of a multidisciplinary team under their direction (Ishida et al. 2012), but not as autonomous practitioners. Ultimate medical practitioner responsibility for the care delivered to patients by all professionals in the healthcare team is a myth (Cashin et al. 2009). This myth needs to be fully exposed as a factor that limits the full expression of nursing scope of practice.

The courses as currently designed are not at postgraduate level and would be better conceptualized as training than education, yet they do provide accreditation for the procedures covered under Tokuteikoui ni kakaru kensyu seido (Training system in specific practice) by the Ministry of Health, Labour and Welfare (registering organization). Curricula are not accredited by the Japanese Nurses Association (occupational organization) or the Ministry of Education, Culture, Sports, Science

and Technology (academic accreditation). There is no clear connection between registering and accrediting bodies in relation to Nurse Practitioners.

A vision for Nurse Practitioner postgraduate education in Japan

It is timely to begin the consideration of what form of postgraduate education would be appropriate to enable the development of the Nurse Practitioner role in Japan. A scoping review of Nurse Practitioner education internationally conducted through the auspices of the International Council of Nurses determined that the internationally desirable entry level education for beginning Nurse Practitioners is at Master's degree (International Council of Nurses 2012). Whilst this remains the case in the USA, the country who first developed the role in the 1960's (Weiland 2008), there is expressed intention to move to doctoral education as the entry level (American Association of Colleges of Nursing 2004). This was intended to have already occurred, but has been delayed by the delayed consensus yet to be achieved among regulating agencies (Cashin 2017).

The capabilities required for the position and that form the basis of course learning outcomes need to be based on the Standards for Practice developed for the role. This development would most fruitfully involve collaborative work between the Japanese Nurses Association, the accrediting body and the nursing academy. Master's degree education needs to be designed to equip Nurse Practitioners in their patient facing work including assessment, diagnosis and prescription of medication and other interventions. At doctoral level capability can be extended to allow the Nurse Practitioner role to engage with system level work refining skills in practice development and research (including translation and generation) (Cashin 2017). This vision of Nurse Practitioner education that is consistent with international developments is a long way from the currently envisaged training program in Japan, but what is required to meet the social healthcare need, particularly in rural and regional areas of Japan.

Technological development and invasive procedures

Novel innovation will bring nurses new aspects of care provision and is one form of work around in the current context. In 2013, a new pulse oximeter for a smart phone was marketed without the process of the Pharmaceutical Affairs Law, because it clearly states ‘for individual use’ (Nobokuni 2013). The Japanese Medical Practitioner’s Act prohibits any medical procedures except those prescribed by medical practitioners due to invasive characteristics (Ministry of Health, Labour and Welfare 1948). However, this new non-invasive health-care products does not require a medical practitioner’s direction. Current technological development enables nurses and Nurse Practitioners to satisfy increasing demand of nursing in society, but requires manufacturers circumventing the Japanese Medical Practitioner’s Act. The recent nursing workforce changes in Japan are more about procedures and extending the Registered Nurse role in the area of doing procedures and medical substitution (under medical control) as opposed to advancing nurse lead and delivered care. Further policy change is required to satisfy the diverse healthcare needs to be met in the community. The most important consideration in healthcare role innovation is the supply of sufficient care for all people. Construction of educational systems to prepare the workforce and enactment to enable practice of the full scope has to be evaluated on the basis of whether the goal of provision of sufficient care to the population is provided in a sustainable manner.

5. Conclusions

As part of innovation the Nurse Practitioner role has been tentatively explored by the training system in specific practice for Registered Nurses, however the model adopted at this point is role expansion within the Registered Nurse scope under medical direction. While some nurses use the title Nurse Practitioner in Japan, there is no regulated role or title protection. Japanese nurses need to be aware that this enactment approach can

be considered as both role-expansion and simultaneously entrenchment of medical control for their next generation. Debate is needed within nursing about the merits of regulating a Nurse Practitioner role and title protection. Further research is required to explore possible Nurse Practitioner roles in the community setting and the educational preparation needed to undertake these roles. It would appear that a Nurse Practitioner role will need to be more than a compilation of procedures for which a Registered Nurse is trained to undertake and comprehensive preparation at university postgraduate study level will be required. The responsibility for regulation of the role with an associated mechanism to approve curricula will provide for quality control.

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