

# Perceptions of nurse practitioners by emergency department doctors in Australia

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## Abstract

**Background** The Australian Medical Association is strongly opposed to the nurse practitioner (NP) role with concerns that NPs may become doctor substitutes without the requisite training and education that the medical role demands. Despite this, NPs have been heralded by some as a potential solution to the access block, workforce shortage and increased demand affecting emergency departments (EDs).

**Aims** The purpose of this study was to determine the perception of NPs by medical staff working in Australian EDs.

**Methods** Semi-structured telephone interviews were conducted with closed and open-ended questions. Participants were drawn from a representative stratified sample of two city, two metropolitan and two provincial hospitals of each State/Territory.

**Results** A total of 95 doctors from 35 EDs participated in this study including 36 Departmental Directors; 36% of participating Directors indicated having an NP on staff.

Doctors were strongly opposed to the statement that NPs could replace either nurses or other prevocational doctors; 71 interviewees commented on the role of NPs in the ED. Thematic analyses revealed polarised views held by doctors. Eight major themes were identified, the most common being that there is a lack of clarity of the NP role definition, their scope of practice and differentiation from the medical role.

**Conclusion** Although ED NPs represent a highly skilled professional group their role is poorly understood by ED doctors. Opposition to the NP role is a significant barrier to the introduction of great numbers of ED NPs as a strategy to overcome the medical workforce shortage.

**Keywords** Nurse practitioner · Intern · Emergency medicine · Supervision

## Introduction

The Australian Medical Association is strongly opposed to the nurse practitioner (NP) role with concerns that NPs may become doctor substitutes without the requisite training and education that the medical role demands [1, 2]. Despite this, NPs have been heralded by some as a potential solution to the access block, workforce shortage and increased demand affecting emergency departments (EDs) [3]. This view is reflected in government with increased funding for NPs at Federal [4] and State levels, with some Australian State Governments releasing funding to increase NP numbers within EDs [5, 6]. Further support for NPs has come through the recent introduction of independent prescribing rights [7].

Data regarding the impact of NPs within emergency medicine (EM) suggest a positive benefit on key perfor-

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mance indicators and patient satisfaction. Emergency NPs have resulted in reduced patient waiting times [8] and total length of stay [9], reduced numbers of patients not waiting for treatment [10], increased patient and staff satisfaction [11–14] and improved cost-effectiveness [15]. Although NPs have been suggested as suitable procedural skills educators for junior medical staff [16], there is concern that emergency NPs may limit training opportunities for junior medical staff and medical students due to competition for low acuity patients [1].

As part of the Australian Government's response to the medical workforce shortage [17], a dramatic increase in funding for medical school places will result in an increase in the number of interns by as much as 90% by 2012 [18]. With EDs already under pressure due to senior staff shortages [18], access block and high demand [19], it is unclear whether EDs will have the capacity to support increasing numbers of medical graduates. In this context, NPs may offer certain advantages; however, it is unclear how NPs are perceived by emergency medical staff. As highlighted by others [16], medical endorsement for the NP role is pivotal to their successful implementation in EDs throughout Australia.

Compared to the UK, Canada and the USA, Australia has been slow to introduce the NP role. Inadequacies of the traditional nursing model and the traditional medical model as the basis for NP practice have sparked a paradigm shift among some, with the emergence of the Shuler Nurse Practitioner Practice Model [20]. This model builds on the Anderson Model [21] from the late 1970s, which emphasised joint decision making in the context of a holistic approach to the person being treated. The Shuler Model is more wellness-orientated and acknowledges that the practice of NPs is a blend of nursing and medicine and provides a framework from which NPs can delineate their health provider role from one that is solely nursing or medical. Through this model, the NP role can address deficiencies in traditional care delivery roles and augment health care. There has been some resistance from medical staff in Australia to the introduction of such practitioners, despite the theoretical advantages.

In 2008, St. Vincent's Hospital Melbourne was contracted by the Commonwealth of Australia's Department of Health and Ageing to conduct a capacity analysis of EDs. Using interview methodology, this Emergency Medicine Capacity Assessment Study (EMCAS) sought to identify the capacity and strategies of EDs and staff to support increasing numbers of medical graduates. As part of this project participants were asked about their perceptions of NPs and their value in addressing the medical workforce shortage facing EDs. This part of the project reports the perceptions of NPs by ED medical staff.

## Methods

The methodology of this study has previously been described in detail [22]; however, in brief the study proceeded as follows.

### Project oversight

The EMCAS was conducted by St. Vincent's Hospital Melbourne, overseen by a Steering Committee which reviewed interview questions, pilot data collection, national data collection and data analysis phases.

### Interviews

Interview questions were developed by a Fellow of the Australasian College for Emergency Medicine (FACEM) with input from a researcher/psychologist and a project officer experienced in interview methodology and workforce planning. Face validity of draft interview items was ensured through iterative feedback between project staff and the Steering Committee. Further refinement of questions and methodology was undertaken using a pilot sample of doctors employed at St. Vincent's Hospital Melbourne. Data from this sample were excluded from final analyses.

The final interview schedule included up to 160 items for ED Directors/Directors of EM Training (DEMT) and up to 97 items for registrar and intern participants. Using a semi-structured telephone interview, the data items sought graded responses using Likert scales or ordinal multi-category scales to enable quantitative statistical analysis. Open-ended questions were used to elicit qualitative responses. Four questions specifically related to NPs; ED Directors were asked whether they had NPs on staff, and both ED Directors and DEMT were asked to rate their agreement to two attitudinal statements regarding NPs which were answerable on a Likert scale: "*Nurse practitioners can replace interns in the ED*", and "*Nurse practitioners can replace postgraduate medical years 2, 3 or later in the ED*". Finally all interviewees were asked the open-ended question, "*Do you have any comments on the role of NPs in the ED?*".

### Nationwide study

A quota sample of doctors were recruited which included ED Directors, DEMT, advanced trainees in EM or prevocational doctors (interns) who had completed at least half their EM rotation. For the larger Australian States, participants were drawn from a quota sample of two city, two metropolitan and two provincial hospitals of each State/Territory. Hospital selection was based on those that were deemed most representative of other city/metropoli-

tan/provincial hospitals by the Postgraduate Medical Councils of each State. The total number of target hospitals was 37.

#### Recruitment and data collection

Site coordinators at each participating site distributed an email invitation to eligible participants. Those agreeing to the research were emailed the interview schedule to consider their responses prior to interview, as well as a participant information statement. All participants provided informed consent. Interview responses were recorded to permit verbatim transcription; voice recordings were stored electronically. At the conclusion of the interview, data were entered into a predefined electronic interview/survey form.

#### Sample size

Since the purpose of the study was to explore qualitative themes rather than compare responses for different groups using inferential statistics no sample size calculations were performed.

#### Data analysis

Data analysis was conducted using SPSS 15.0. The response distribution for quantitative items was summarised using frequencies, percentages  $\pm 95\%$  confidence interval (CI) and median as appropriate. Since some interviewees were unable to answer all questions, the total number of graded responses analysed varied for each item. These data are presented as percentage calculations adjusted for missing data.

Qualitative data were subject to content analyses by a single researcher. Themes were identified using the method of Ritchie and Spencer [23].

## Results

### Participation

Respondents were drawn from 36 sites. After adjusting for the staffing structure at each site, participation was invited from 233 potential interviewees, 95 (40.1%) of whom granted interviews including 100% (36/36) of ED Directors, 96.2% (25/26) of eligible DEMTs, 24% (19/81) of advanced trainee/registrar and 17% (15/90) of interns. Based on this level of participation, sampling error for Directors/DEMTs was 1.6%.

### Participant demographics

The mean number of attendances to each ED during 2008 was 49,985 [95% CI: 37,231–62,738, median=50,726,

interquartile range (IQR)=37,625–57,000]. Participation was fairly evenly distributed according to State/Territory (Table 1), with a slight preponderance of male respondents (58%). The majority of participants were from city EDs (Table 1). As there are fewer hospitals in the Australian Capital Territory, Tasmania and Northern Territory, only hospitals with applicable EDs were included, all of which were in city settings.

Thirty-six per cent (13/36) of ED Directors indicated having NPs present in the ED with the median number of NPs being 2 (IQR: 1–3). Although responses varied, the majority of ED Directors and DEMTs disagreed with statements that NPs could replace interns or postgraduate years 2, 3 or later in the ED (Table 2).

When asked whether they had any comments on the role of NPs in the ED, 71 of 95 (74.7%) respondents (Directors, DEMT, registrars and interns) offered an answer. Thematic analyses revealed eight themes. The views of respondents were polarised with the most common comments provided indicating that NPs benefit or add value to the ED but that NPs have a limited role in the ED.

*Theme 1: role definition* The majority of participants offered responses related to the extent to which the NPs role is delineated or defined. While some felt that the role was well-defined others felt that it was poorly defined.

**Table 1** Demographics of participants staff type, hospital type and State/Territory

	Number	Percentage
Staff category		
ED Director/DEMT	61	64.2
Advanced trainee/registrar	19	20.0
Prevocational doctor/intern	15	15.8
Hospital type		
City	52	54.7
Metropolitan	25	26.3
Provincial	18	18.9
State or Territory		
Australian Capital Territory	7	7.4
New South Wales	13	13.7
Queensland	18	18.9
South Australia	15	15.8
Northern Territory	6	6.3
Victoria	13	13.7
Western Australia	14	14.7
Tasmania	9	9.5
Total	95	100.0

**Table 2** ED Directors' and DEMTs' level of agreement about whether NPs can replace the interns in the ED

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Not applicable	Total
NPs can replace the interns in the ED	<i>n</i>	8	27	4	17	1	4	61
	%	13.1	44.3	6.6	27.9	1.6	6.6	100
NPs can replace the PGY 2, 3 or later <sup>a</sup> in the ED	<i>n</i>	12	27	4	15	0	3	61
	%	19.7	44.3	6.6	24.6	0.0	4.9	100

PGY postgraduate year

<sup>a</sup> Excludes trainees

For example:

“NPs definitely have a role in the ED but my two have not defined their role, when I ask one what she does she can't tell me: she tells me that what she does is governed by her scope of practice and when I ask her what that is she gives me a large book and when I ask her to give me an A4 summary of what she does it never happens”.

“We have some NPs and we find them to be very useful but they are limited in their ability to do things, they need clearly prescribed roles and types of patients to deal with, and they are very good at this”.

“They have a role that is well defined, they work well but are protocol driven, do not work independently. An important adjunct but not a solution”.

“I think there is a very defined role and it is a useful role to have if the ED can provide support and supervision”.

“They do have a role but at this stage they are still relatively new so their impact and best role is still to be determined”.

*Theme 2: scope and appropriateness of practice* Many participants responded with comments related to the scope of practice of NPs, the appropriateness of this and the specific tasks that they may perform. While some comments were related to the number and variety of suitable tasks, other comments were related to limitations within the role, suitability to undertake specific tasks such as education/training for other staff or geographic locations that were most suitable for the role.

For example:

“...very useful in limited minor cases, interns and RMOs [resident medical officers] can do much more complex cases”.

“NPs are mainly useful for quick in and quick out, minor operations, they can be useful here, interns can't make these decisions”.

“I think NPs are still finding their place in the ED, people use them in different ways, they are good if they have their scope of practice well defined and that being limited to the skills they have e.g. in my ED an NP does not see a chest pain because there is no point because a doc has to see the patient anyway but for lacerations where it can be quickly done by the NP and the patient goes home, this is good otherwise it can be a waste of time”.

“The government should embrace them as they are great for fast track and other core services”.

“NPs serve a role as seeing the minor walking wounded but they can't assess the patients that junior staff and interns are capable of seeing. They can see minor cuts, fractures etc. but they can't assess chest pains and abdominal pain etc. and other procedures that doctors can do e.g. pneumothorax, chest tubes etc. I think they have a role in the fast track area but that's about it”.

“The NPs because of their limited role become very good at what they are doing: they see the minor spectrums of illness e.g. muscle injury or patients with clear management pathways”.

“They can be valuable not just with their specialist skills but they can be very valuable teachers particularly with helping international graduates develop their skills”.

“Personally I see no role for them in urban EDs, a huge role for them in the rural settings but no role in our ED. I have worked with an NP in another State and because their roles are so specific they can't practice outside of them”.

“I think they are empowering and a great training resource for junior doctors”.

*Theme 3: separation/overlap of NP role and medical roles* Some interviewees responded with comments regarding the NP role in the context of medical roles within the

ED, particularly the degree to which the NP role and medical roles are interchangeable. The impact of the NP role on the junior medical staff experience emerged as a common concern.

For example:

“I think nurse practitioners have a complimentary role and they add value to the ED but they need to be seen as complementary not a substitute, we need the balance to get the learning experience for doctors, they need to get exposure to the patient types that NPs see”.

“I think NPs have a valuable place in the ED but I don’t see them as a substitute for doctors and neither do they. The best comment I heard was an NP saying she is not a second class doctor she is a first class nurse. I think they have a specific skill set which is not a substitute for medical staff or nurses but they are able to function as part of the team. The function of interns and RMOs is more than just seeing patients it is for their educational development and understanding whereas NPs are there to help support other nurses and also pick up a specific patient load, so I think the concept of NPs replacing doctors is failing to recognise the relevant structure, it is like saying that NUMs [nurse unit managers] could replace FACEMs, to me it is a nonsensical discussion”.

“An essential service for interns or other junior staff, but not a substitute”.

“They remove training opportunities for junior staff”.

“They don’t replace interns and visa versa”.

“NPs won’t change interns’ teaching but it may influence interns’ exposure to low acuity patients, although we would still expect interns to be in fast track with an NP. We would not necessarily change what we do with interns”.

“In the ED their role is still being defined, they almost compete with the more junior doctors”.

*Theme 4: needs of NPs* Several interviewees responded by offering comments related to the perceived needs of NPs, specifically related to education, supervision, career progression or structure, and whether or not needs are being met.

For example:

“At the moment our NPs are fully supervised by senior staff senior reg, consultants. They have a lot of learning needs, mentorship and regular in-service attendance but one thing that is good is they don’t

rotate so whatever you teach them they will maintain and they stay in the ED: the investment brings back good returns. With interns it is a neverending cycle of training and you don’t get the benefit of them putting back to the system”.

“We have had positive experience with nurse practitioners, but we had very good candidates. They have not taken up the role as long-term careers, they have completed the training and then decided not to pursue it, they were good but unfortunately they have not continued in that area which is a negative—they felt the repetitive nature of the work was too restrictive. Both are very bright...so it restricted their practice because of confines on the nurse practitioner role”.

*Theme 5: barriers to role acceptance* Some participants cited barriers to the broader acceptance of the NP role including lack of awareness of clinical governance structures and lack of support by hospital administration.

For example:

“The original appointment of an NP was a political appointment and there was not a great deal of structure or governance surrounding it, plans or introduction stuff; essentially they got to do what they wanted, and we are not sure of the governance structure which is interesting because one of them made a mistake which had a negative outcome so we are waiting to find out which one of us will be sued. Technically they answer up to the DON but I wonder if the person who was on floor that day will have some interesting discussion with their medical defence organisation”.

“They have a place in the ED. We have enough [nurse practitioners]...but there have been problems regarding their clinical governance...”

“The nursing admin/hierarchy at this hospital do not want NPs, the medical staff are quite keen on the idea”.

“Coming from England there is a bit of an issue, the fundamental thing is that you are training someone up that is blurring the role between doctors and nurses, certainly in the UK they are taking the positions of doctors now, e.g. in surgery you have hernia nurses that basically perform surgery based at the expense of surgical doctors, you are using one person instead of another person which is going to cause conflict”.

*Themes 6: economic benefits and consequences* Although some interviewees thought that having NPs in the ED was a good investment, others opposed this view.

For example:

“We are way behind in this regard, they are cheap and good, the government should embrace them as they are great for fast track and other core services”.

“A nurse initiated and government supported beat up. I don’t think they have an enormous benefit, they demand a lot of money and divide nurses into two camps”.

“They need to be considered as substitutes for doing the jobs of doctors. The problem we have here is that they are on the nursing budget and roster and included on the nursing numbers on a shift basis, so we had to close cubicles when they were on. They were considered nurses for the purpose of rostering and we did not always have a fast track nurse when they were on. But they do doctors’ things so we have had to change this so they really have to be considered as a substitute role for a number of medical duties rather than as a nursing job—they are a great asset”.

“A very simple philosophy, when docs do more training we are rewarded with money and credibility. NPs have to pay for their own training and they have more responsibility, they may enjoy their additional responsibility but the hosp should sponsor them, they should not have to pay to for the hospital’s capacity problems. I would fund them and make them stay for a long time—it would be an \$100 k investment”.

“They are more expensive than a resident, they may well be better in some skills but there will always be parts of the diagnostic skill mix which they won’t have and may very well decrease exposure to things that a resident can give”.

“To say that you can substitute with a junior officer is wrong in practice, it is more expensive in terms of economy and it significantly affects exposure to education for junior docs especially for exposure to minor injuries so the focus is completely wrong”.

*Theme 7: alternative roles suggested* A minority of interviewees suggested alternative roles or models given the current workforce shortages.

For example:

“The other group of people which we are keen on is physicians assistants, QLD is trailing this. These things are all to do with streamlining service provision”.

“Other nursing roles such as physicians assistants should be explored”.

*Theme 8: perceived value of NP role* Some participants offered brief responses indicative of positive regard for the NP role.

For example:

“The are excellent”

“A great asset”

“An important and effective role”

## Discussion

The shortage in the Australian medical workforce is particularly evident at the level of EDs which act as the gateway to the health service. The demographic profile of FACEMs is getting older as emergency physicians are ageing, Fellows are retiring faster than numbers can be replenished [18] and although numbers of Australia-based trainees is approaching that of Fellows (781 trainees, 1,064 Fellows in Australia at 26 November 2009, personal communication Jennifer Freeman, CEO ACEM), the rate of drop out from training programmes is high [18]. Although an increase in medical school places may go some way to address this concern, this increase may not produce a corresponding increase in consultant numbers for some time. A solution to the shortfall may be NPs. There is Federal and State support for the role of NPs [4–7] and some have claimed that demand for doctors may be reduced with increased availability of NPs [16]. Whether NPs should be considered doctor substitutes or doctor supplements is, however, an area of contention. We present data regarding the perceptions of the NP role by doctors working in EDs across Australia.

Our results suggest mixed feelings toward the NP role with substantial resistance to NPs undertaking some of the work typically seen as being the domain of doctors. This is despite evidence demonstrating similar levels of health outcomes and resource use to doctors in primary care [24], improved key performance indicators (KPIs) and increased patient satisfaction in the ED setting [8–14]. While turf wars are one explanation for this resistance, another may simply be the lack of role delineation and definition, a common perception of respondents in this study. By contrast to the UK and other first world health systems, Australia has lagged behind in shifting the provision of care from doctors to nurses through the use of NPs. Thus it is logical to expect a lag in the clarity of the NP role in the Australian ED. The Australian health system is presently

governed at the State rather than Federal level. Consequently, scope of practice and clinical governance guidelines for NPs vary between jurisdictions. In general, these frameworks provide a decision making guide for NPs to determine their own scope of practice.

Other barriers to role acceptance included lack of awareness of clinical governance structures and lack of support by hospital administration. While these concerns are not new [16], the widespread acceptance and successful implementation of the NP role within EDs will necessitate that these issues be addressed. The resolution of these matters in a unified manner may require a closer working relationship between government, hospitals and professional bodies. Since the completion of this study, legislative amendments have been enacted which now require NPs to collaborate with medical practitioners to ensure effective continuity of care [25]. This may have some impact on the issue of clinical governance, but it is at least likely to improve the clinical interaction of emergency doctors and NPs.

One concern regarding the NP role was the impact of NPs on junior medical staff educational opportunities. The educational opportunities of junior medical officers may already be limited by the anticipated influx of medical graduates which will peak in 2012; this is expected to result in competition for low acuity clinical cases and supervision [22]. Results of one review suggested that 25–70% of work undertaken by doctors could be completed by nurses [26]. While this review was not limited to studies completed in the ED, it does suggest that a large part of what doctors do could be completed by NPs. Many respondents remarked on the scope and appropriateness of practice of NPs working in EDs, particularly specific tasks that were or were not suitable.

There has been an implicit expectation that NPs working as doctor substitutes will produce economic savings due to lower salary costs [24]. Economic savings are inherently linked to the funding model in place. While a large disparity in the salary of doctors and NPs working internationally may exist, the salary of NPs in Australia exceeds that of the junior doctor. Although some interviewees perceived NPs as a good investment, others opposed this view. For several interviewees, NP were deemed a worthwhile investment given that there is less turnover compared to doctors rotating through departments.

While the perceptions of NPs by medical staff are important to the implementation of the NP role, the greatest threat to the sustainability of the role may be the unmet needs of NPs.

Several interviewees suggested that the career progression or structure of the NP role requires careful consideration if morale of NPs is to be maintained. More specifically, several respondents were concerned that the restrictive nature of the NP role can result in a high level of

task repetition. Although barriers to longevity of NPs in the ED have been raised by medical participants of this study, further exploration of factors affecting the sustainability of NPs within the ED are likely to be best clarified by studying the NPs themselves.

Further, the educational and supervisory needs of NPs should not be underestimated. Clarification of clinical governance structures together with an educational programme that integrates NPs into both the nursing and medical disciplines is warranted.

## Conclusion

With National Health Care reform on the agenda, and concerns regarding the anticipated impact on EDs of both the workforce shortage and the influx of medical graduates designed to address it, it is time to consider alternate ways of increasing the capacity of EDs to meet demand. The ED NP role has been suggested as a key strategy and is supported at Government level. The NP role is perceived internationally as being an integral component of the health workforce. While several qualitative comments from our study support this view, our quantitative data indicate several barriers to the ED NP role being viewed positively. While these findings require confirmation through a large-scale study, they point to a need to better define the ED NP role and address organisational and attitudinal barriers to their acceptance.

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