

Rural Workforce: Is Task Transfer a Possible Solution?

Lisanne Burkholder, MD MPH FACP FRACP
Associate Professor and Acting Sub-Dean
School of Rural Health, University of Melbourne

Elizabeth Harford PhD
Principal Advisor, Nurse Practitioner Services
NSW Health

Peter Brooks MBBS, FRACP, FAFRM, FAFPHM
Professor and Executive Dean
Faculty of Health Sciences
University of Queensland

Task transfer: issues to discuss

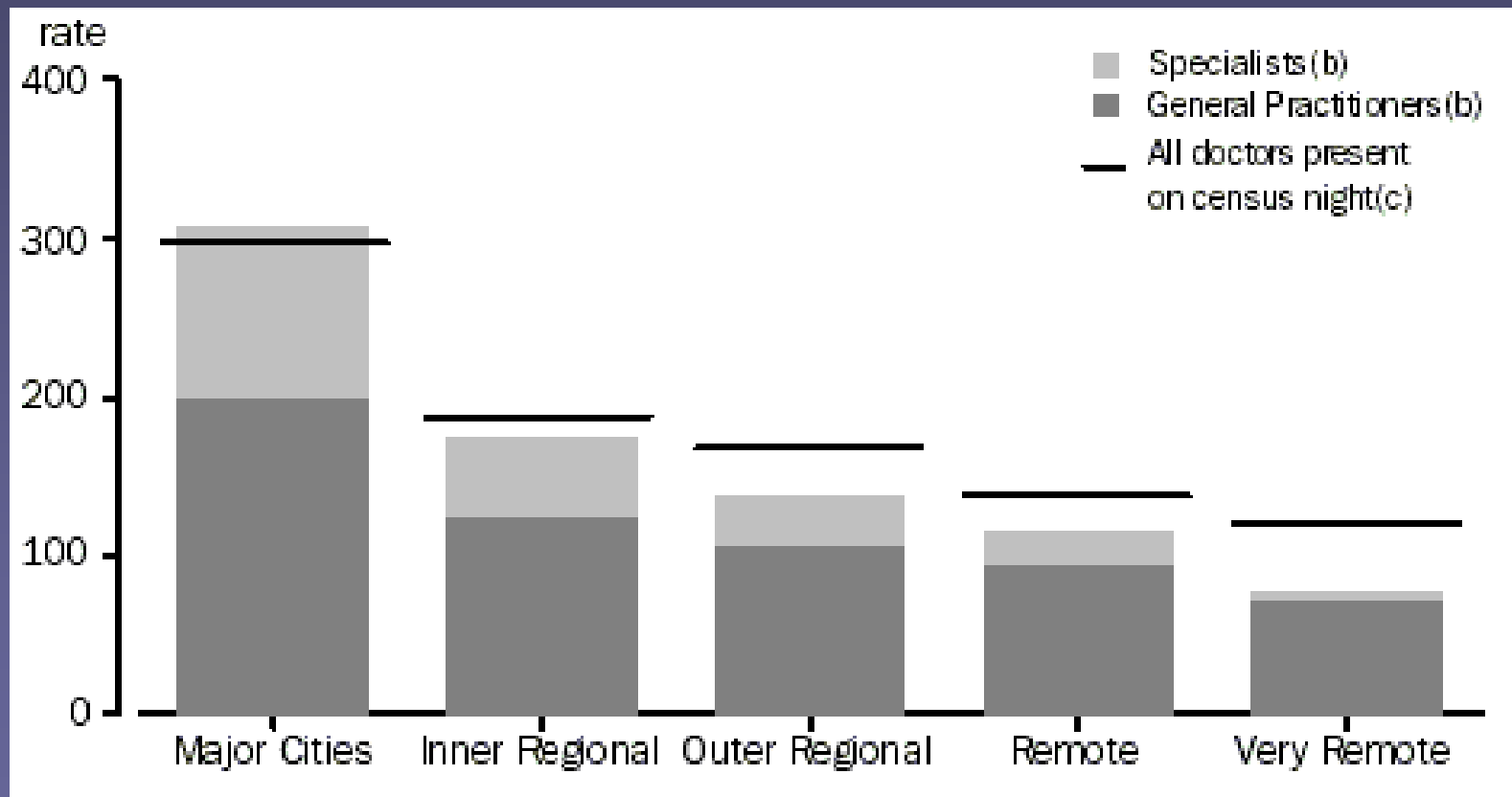
- Why task transfer is relevant to Australia
- The US experience
 - Training and certification
 - Clinical outcomes on safety and quality
- The Nurse Practitioner Role in Australia
 - Task transfer in teaching medical students
 - Victoria
 - NSW
- The future of task transfer in Australia

Task transfer: relevance in rural Australia

- Doctor workforce shortages, maldistribution
 - 80% of doctors live in major cities compared to 67% of population and 30% of Indigenous peoples
 - Doctors per 100,000 population:

	GPs	Specialists
Major cities	200	108
Inner regional	125	50
Remote	72	5

Health workforce shortages



Task transfer: relevance in rural Australia

- Rural doctors work more hours
 - Major cities: 58% work > 50 hrs/wk, 11% work >70 hrs/wk
 - Non-major cities: 63-75% work >50 hrs/wk, 15-24% work >70 hrs/wk
- Task transfer is happening already
 - NPs in NSW and Victoria
 - Colorectal screening in S. Australia
 - Aboriginal health workers
 - Rural and remote urgent care and hospital staffing
- MJA 3 July 2006 edition devoted to task transfer

RACP stance on task transfer

- Workforce shortages and changing models of care are driving task transfer in Australia
- RACP supports task transfer, as appropriate
- Explicit curricula and competency-based assessments should underpin the capacity for task transfer
- Task transfer must be evidence based, safe, cost effective and facilitate best patient care

AMA stance on task transfer

- Reforms must improve what doctors do, rather than risk reduction in standards of care
- Teamwork within current defined roles should improve, without creating overlapping/competing roles
- Doctors should lead teams
- (AMA Vice President Choong-Siew Yong, MJA 185(1):27-8. 2006)



Task transfer: pros and cons

Proponents say:

- Improves access to care
- Creates more providers esp. rurally
- Enhances preventive medicine opportunities
- Provides equal safety and efficacy
- Decreases doctor workload where doctors are working too hard
- Allow doctors to focus on more complex tasks
- May cost less

Skeptics say:

- Will compete for jobs with doctors
- May exacerbate nursing shortage
- Creates a 2-tiered system
- Fragments care
- Patients want a doctor
- May relieve doctor of work that the doctor enjoys
- Is patient safety really equal?
- Is quality of care really equal?

NPs and PAs in the U.S.

- Nurse Practitioners
 - >115,000 practicing NPs
 - >325 NP training programs, 6,000 grads/yr
 - 6 million patient visits to NPs annually
- Physician Assistants
 - >63,000 practicing PAs
 - >130 accredited training programs, 4,600 grads/yr

Scope of practice

- Nurse Practitioners
 - 2/3 do primary care: paediatrics, adult medicine, geriatrics, women's health
 - 1/3 specialize: endoscopist, anaesthetist, HIV/AIDS, neonatal, midwifery, mental health
 - Most states require some supervision
 - Can practice independently (16 states)
 - Can write prescriptions (11 states)
- Physician Assistants
 - Practice under the supervision of a doctor
 - Only recently gained some prescribing authority
 - More likely to practice in area of shortage



UNIVERSITY OF
VERMONT

Scope of practice

- Narrow scope of specialty practice
 - Post-op bypass patient care
 - Dialysis orders
 - HIV care routine monitoring and recognizing complications
 - Diabetes routine monitoring
- Lower complexity and protocol driven tasks
 - Routine management of chronic conditions
 - Asthma, diabetes, IHD
 - Urgent care for minor illness, common problems
 - Preventive medicine, wellness checks
- Counseling for behavior change
- Inpatient care when medical trainee hours restrictions to 80hrs/week came into effect



UNIVERSITY OF
WOLLONGONG

Training differences

- NP (since 1963)
 - 3 yr BNSc + 2 yr Masters
 - Curriculum includes evaluating the medical literature, applying it to practice

- PA (since 1965, Duke University)
 - Created after the Viet Nam war for returning medics
 - 5-10 yrs experience, + 2-4 undergrad + 26 month PA certificate program
 - Curriculum includes basic science, clinical rotations (like “mini-MD”)
 - Program accreditation required

- MD
 - 4 yr BA/BS+ 4 yr MD + 3-7 yr specialty training
 - Med school grads competency = 2nd year basic trainee in Australia

Certification and professional societies

- NP
 - Competency based certifying exam since 1993
 - Dx and management, acute & chronic conditions
 - Health promotion & disease prevention
 - Recertify every 5 years, CME also required
 - American Academy of NPs since 1985
 - 21000 members, 22nd annual congress

- PA
 - Competency based certifying exam
 - Recertify every 6 years, CME also required
 - American Academy of PAs since 1968
 - continuing education, research, govt relations, public education

- MD
 - Certifying exams
 - Recertify every 7-10 years
 - Specialty-based Colleges

Systematic review of whether NPs can provide equivalent care to doctors

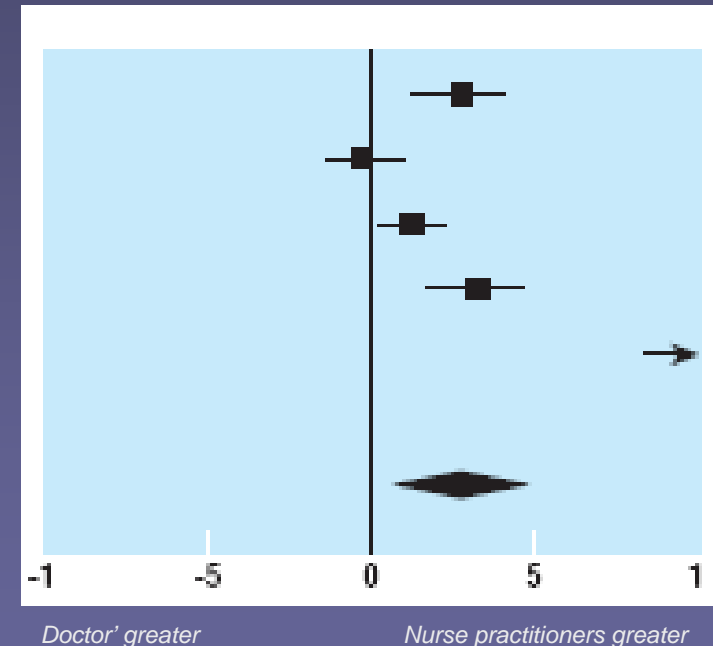
- BMJ review of the bests of 119 trials: 11 RCTs and 23 observational studies from 1966-2001
- Outcomes
 - Patient satisfaction same (3 RCT) or better (5 RCT) with NP
 - NPs spent more time with patients (5)
 - NPs gave more information, offered more advice (3)
- Compared to other patient satisfaction studies of doctors, key factors are:
 - time spent
 - meeting patient expectations
- Satisfaction does not mean quality, safety

NP vs doctor outcomes

- No difference in health outcomes (6 RCTs)
 - Communication skills, accurate dx and xray interpretation, appropriateness of investigations and medications ordered, and advice given
 - Variation in outcomes determined by level of experience more than by type of provider

NPs and patient satisfaction

Study	No. of patients in nurse practitioners group	No. of patients in doctor group
Kinnersley et al 2000 ¹²	334	403
Mundinger et al 2000 ¹⁴	644	389
Shum et al 2000 ¹¹	635	657
Venning et al 2000 ¹⁰	388	390
Winter 1981 ¹⁸	25	25
Total (95% CI)	2026	1864



NP vs doctor outcomes

- NPs ordered more tests
- NPs identified physical abnormalities more often (1)
- NPs had more complete records (2)
- NPs scored better on communication (2)
- No difference in number of referrals, return visits, number of prescriptions



NPs and process measures

Process Measures	No of studies	No in intervention group	No in control group	Odds ratio or weighted mean difference (95%CI)	Overall effect: P value
Consultation length	5	2277; mean 14.89 min	2286; mean 11.14 min	3.67 (2.05 to 5.29) *	0.00001
Prescriptions	4	1685/2503	1944/2861	1.02 (0.90 to 1.15)	0.8
Investigations	5	932/2573	1015/2896	1.22 (1.02 to 1.46)	0.03
Return consultations	6	835/2919	913/3247	1.05 (0.87 to 1.28)	0.6
Referrals	2	44/1293	59/367	0.71 (0.30 to 1.70)	0.4

Horrocks. BMJ:324:819-23

* Weighted mean difference. Only one study reported admissions and none reported patient adherence

NP vs doctor care review

- Limitations
 - Minimal data on cost differences
 - Not powered to detect differences in rare but serious adverse outcomes
 - Ambiguity over the definition of NP
 - Difficult to measure health outcome differences for single encounters of minor illnesses
 - In my experience outcome depends on individual characteristics and experience more than their title

Primary care outcomes with NPs vs doctors

- 2 year study in NYC 1° care (2004)
- 700 patients: 80% women, 93% Hispanic, 91% Medicaid enrolled (indigent care), mean age 47
- No difference in self-reported health status or health measures
- No difference in health utilization of ED, hospital, specialists
- Physician patients visited their primary care provider more

HIV specialty care by NPs, PAs and doctors

- Medical record review (Tufts, Boston)
 - 2005 Annals of Internal Med
 - N=6600 patients, 243 physicians, 66 NPs and PAs
 - 8 quality of care measures (viral load, HAART use, screening, prophylaxis)
- NP and PA quality of care similar to physician HIV experts
- NP and PA quality of care better than non-expert physicians
- Success of mid-level providers related to
 - high levels of experience
 - narrow scope, single medical condition
 - teamwork
 - easy access to expert physician for advice

NP outcomes, historical review of major studies

- Sackett et al, Annals of Internal Med 1974 (RCT)
 - NP 1-yr health outcomes no different
- Sox, Annals of Internal Med 1979 (review, 40 studies)
 - No difference in care
- Simborg et al, Am J of Public Hlth 1978 (chart reviews)
 - NP documentation better (symptoms, signs, follow-up)
 - More likely to prescribe non-prescription therapies
- Ramsay et al, Am J of Public Hlth 1982 (case-control)
 - NPs had more success managing HT, obesity
 - Attrition, appointment keeping the same
- Powers et al, Nurse Practitioner 1984 (case-control)
 - NP patients more likely to be “completely satisfied” with care
 - Attrition, appointment keeping the same



UNIVERSITY OF
VERMONT

NP outcomes historical review

- Avorn et al, Arch Internal Med 1991 (case vignettes)
 - NPs more thorough in history taking, fewer medications prescribed
- Safriet, Yale J on Regulation 1992
 - NPs use lower cost tests, prescribe fewer drugs, use lower cost treatments at comparable quality
- Brown et al, Nursing Research 1995 meta-analysis
 - Greater compliance with NP, greater patient satisfaction and resolution of disease
- Mundinger et al, JAMA 2000
 - No difference in outcomes with NP
- Lenz et al, Diabetes Educator 2002
 - NPs provide more education, do more routine tests for diabetic pts
 - No differences in outcomes

Limitations of evidence base

- Cost savings not reproducibly demonstrated
- Effect on doctor workload not well understood
- Little data available on whether task transfer increases access
- Little data regarding use of lay health-workers in remote communities

Task transfer examples in Australia

- Victoria
- New South Wales
- Task transfer in teaching at the RCS



NPs in Victoria

- 26 NPs in practice, 1 rural
- 8 NPs have limited prescribing rights
 - eg heparin, epo, calcium for dialysis nurse
- Largely specialist, hospital-based roles
 - emergency, palliative care, wound management, ICU liaison, dialysis, young people's health
 - no provider numbers or Medicare billings
- No published evaluation of efficacy or safety yet
- Nursing board sets training and skills assessment requirements currently

NPs in NSW

- 1998 Nurses Amendment (Nurse Practitioners) Act
 - Provides for recognition and accreditation of NPs in NSW
- 72 currently working
- 60 working on authorization
- 29 specialties represented, both rural and metro



UNIVERSITY OF
MELBOURNE

Task Transfer in teaching: use of a Clinical Education Facilitator (CEF) to improve undergraduate medical student education

Project funded by a Learning and Teaching Performance Fund grant University of Melbourne

Headed by Jennifer Critchley, PhD



UNIVERSITY OF
THE
PACIFIC



Task transfer: Clinical Education Facilitator (CEF)

The need

- Consultants rarely on the surgical ward to teach at the bedside
- Students not allowed on rounds
- Students uncertain of their role, unsupervised
- Registrars and interns too busy, work hours constraints
- Student clinical experiences are often totally self directed, ad hoc, random¹ and opportunistic²

- 1. Rural Clinical schools Evaluation. Unpublished data FRAME questionnaire.
 - 2. Liddell, M et al. *Medical Education* 36:1035-1041, 2002

CEF project: aim

- To improve semester 8-9 medical students' clinical experience through the introduction of a Clinical Education Facilitator

CEF project: methods

- CEF role
 - Create safe, structured, hands-on learning opportunities on the ward with real patients
 - Observe and give feedback on history-taking and PE
 - Teach and assess competence on procedural skills
- Outcomes
 - OSCE assessed student skill prior to and following their clinical rotation with the CEF
 - Progress compared with students at the two other Rural Clinical School sites
 - Student survey regarding effect of CEF
 - Ward staff interviews and focus groups regarding impact of project on ward function

Table 1: Student experiences of the Clinical Education Facilitation (N=25/35)

	Score †	Percent
Working with the CEF helped me improve my history taking skills	2	8%
	3	4%
	4	40%
	5	36%
	6	12%
	6	12%
Working with the CEF has helped me improve my PE skills	2	4%
	3	4%
	4	36%
	5	48%
	6	8%
	6	8%

†1= disagree strongly; 2= Disagree somewhat; 3= Disagree slightly; 4=Agree slightly; 5= Agree Somewhat; 6= Agree Strongly;

Table 2: Student experiences of the Clinical Education Facilitation (N=25/35)

Working with the CEF has helped improve my procedural skills	5	20%
	6	80%
The CEF provided me with feedback about my performance	3	4%
	4	12%
	5	44%
	6	40%
Working with the CEF increased my clinical confidence	4	8%
	5	36%
	6	56%

†1= disagree strongly; 2= Disagree somewhat; 3= Disagree slightly; 4=Agree slightly; 5= Agree Somewhat; 6= Agree Strongly

CEF: challenges to expanding the program

- Dynamic champion
 - Jennifer Critchley has made this successful
 - can it be replicated?
- Teacher training
 - What training is required to replicate teachers' competency and ensure efficacy of teaching?

Nurses teaching medical students: skills lab



Nurses teaching medical students: skills lab

Skills Lab Nurse Educator role

- PBL hands-on clinical scenarios with simulator
 - Arrhythmia recognition and management
 - MI recognition and management
- Skills practice and certification
 - IV cannulation
 - Blood draws
 - Suturing
 - Theatre scrub
 - BLS

Additional solutions for improved outcomes in the setting of workforce shortages

- Pay-for-performance schemes driving innovation in care provision in the UK and US
 - Automating preventive and chronic disease care monitoring at a check-in kiosk
 - Developing teams for improved clinic efficiency and care outcomes

Keys to success with task transfer

- Accreditation of training programs
 - Competency based curriculum
- Certification of skills and knowledge
 - Tied to licensing
 - Required periodic recertification
 - CME requirements
- Patient informed consent
- Clear scope of practice with defined lines of supervision and liability
- Protocols and monitoring for quality and safety
- Research/surveillance for monitoring safety and quality of care
- Provider numbers and remuneration schemes
- Indemnity coverage