Leadership: driving changes in medical education to address population health needs

Prof Nicky (JN) Hudson[1,2], Assoc Prof Kathryn M Weston[2]

[1]University of Adelaide, South Australia; [2]University of Wollongong, NSW

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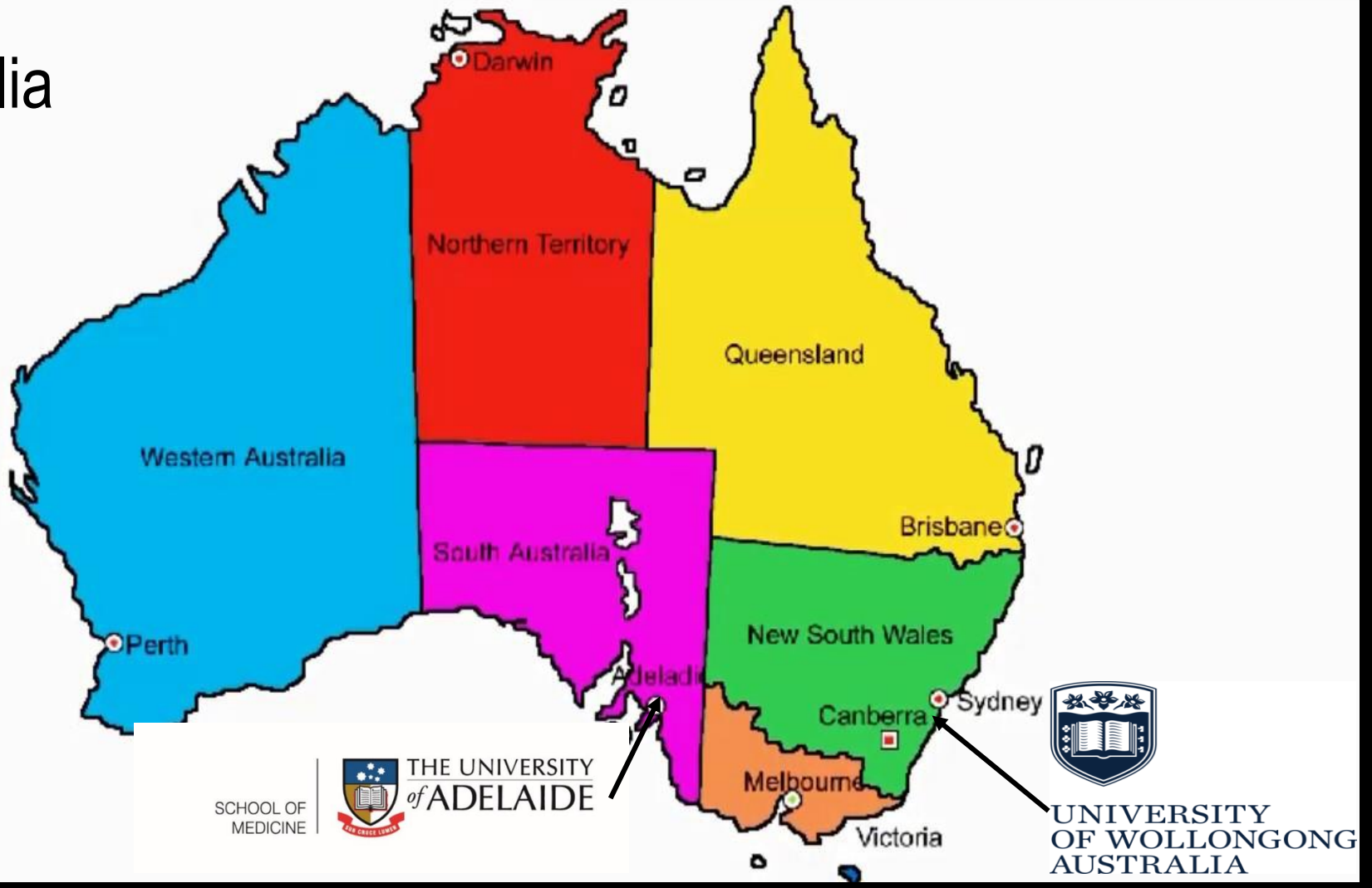
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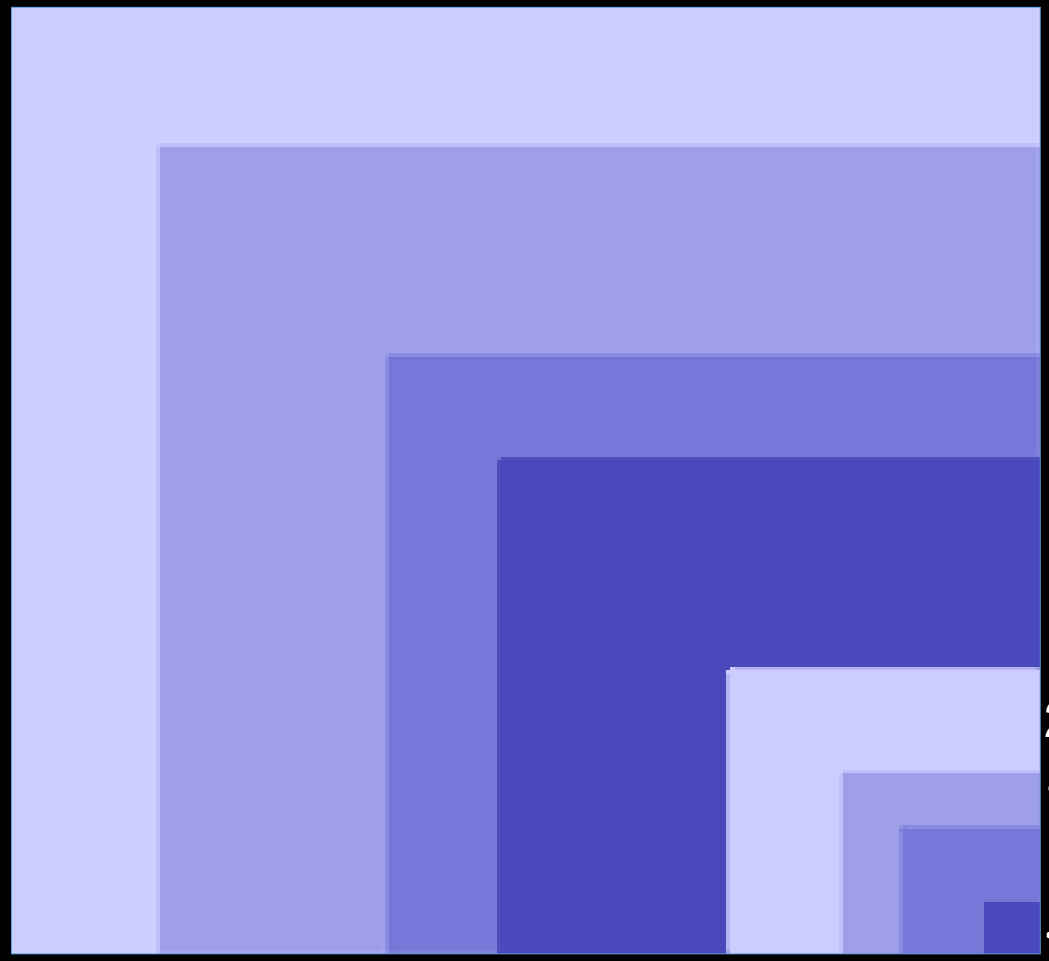
Context for Leadership in Education

- Continuing maldistribution of medical workforce globally
- Increased specialisation and subspecialisation within the medical profession and education system
- Ageing population and multimorbidity[1,2]
  - Associated with adverse health outcomes and increased use of health-service
  - Poor quality of life, disability, psychological problems and increased mortality.
  - Emergency hospital admission, adverse drug events, poly-pharmacy, duplicate testing and poor care co-ordination[1]

Universal health coverage: an aspiration for many countries worldwide

- Need more than financing and human resources
- A framework for universal health coverage: primary care[3]
- Primary Care core principles: first contact, continuous, comprehensive and coordinated care
  - Provides a framework for organising and delivering care; the ‘backbone’ of an effective healthcare system to meet population needs
  - Can improve health, reduce growth in costs and lower inequality[3]

Access to patients



1000 persons

800 report symptoms

327 consider medical help

217 visit a physician's office (113 - primary care physician)

21 visit a hospital outpatient clinic

13 visit an emergency department

8 are hospitalised

<1 hospitalised in academic medical centre

Medical training and clinical care: current focus on narrow disease silos[2]

- Medical training and care - largely informed by evidence and guidelines for single systems or diseases
- Clinical practice - increasingly specialist, with healthcare professionals often basing treatment decisions on relatively narrow aspects of an individual's health problems
- Long periods of training and increasing subspecialism – can lead to difficulty in changing scope of practice in times of surplus, or reluctance to move to geographic areas with medical workforce shortages[4]
- Need generalists, specialists and subspecialists in medical system but…
  - Is it viable or cost-effective for a subspecialist to manage a single clinical problem in regional or outer metropolitan settings (as in a major urban area)[5]
  - Will persistence of an organ- or disease-centred approach and fragmented clinical rotation structure, foster the skills and concepts for continued subspecialisation, and hinder the development of generalism in practice?

Generalism in medical education and clinical care: opposite of fragmentation[6]

- More useful focus on the breadth of the possible permutations of co-morbidity[2]
- More likely to equip graduates to tackle multi-morbidity or serve in settings of most need
- Society contributes to the funding of medical education and expects doctors to provide services to meet the patient's needs

Generalism: valued as a professional philosophy of practice

- Expertise in whole person medicine[7]
- Includes consultation skills, continuity of care, doctor-patient relationships, principles of person-centred decision making, practice of interpretative medicine and first contact care for a wide range of undifferentiated, often complex problems.
- *Specialists* mostly providing condition-focused care may use some of these features of generalist-care, but it is the ***whole-person focus*** that defines generalist expertise[7].

The generalist: able to utilise many food sources so can flourish in many habitats[8]

The specialist: lives in a restricted habitat as has special nutritional requirements[8]

Generalist vs Specialist

The grizzly and brown bear: one species living in the forest and mountains of North America, Europe and Asia.

- The mainland grizzly (very widespread)
- The Kodiak bear
- The recently extinct California grizzly
- The Mexican grizzly bear

Coeur d'alene salamander is confined to habitats in Northern Idaho

- Spring seepages; spray zones of waterfalls; edges of streams
- Forages primarily on aquatic insects
- Distribution depends on: fractured bedrock; relatively high substrate moisture; high relative humidity; moderate air temperature

Where best can undergraduate medical students flourish at their own rate?

- With a limited food source (learning) in the restricted environment of the specialist?

OR

- Immersed with generalists to learn and be nourished by a diversity of continuous and integrated learning experiences?

Distributing learning out of tertiary care centre into the community: valuing generalists' expertise

- In 2007, University of Wollongong, Graduate Medicine (GM)
- Graduate-entry medical school aspiring to produce competent and patient-centred doctors to address the shortage of generalist physicians (general practice and other specialities) in regional and rural communities

- A shift in emphasis from teaching and learning in *specialism* to *generalism*[9,10].

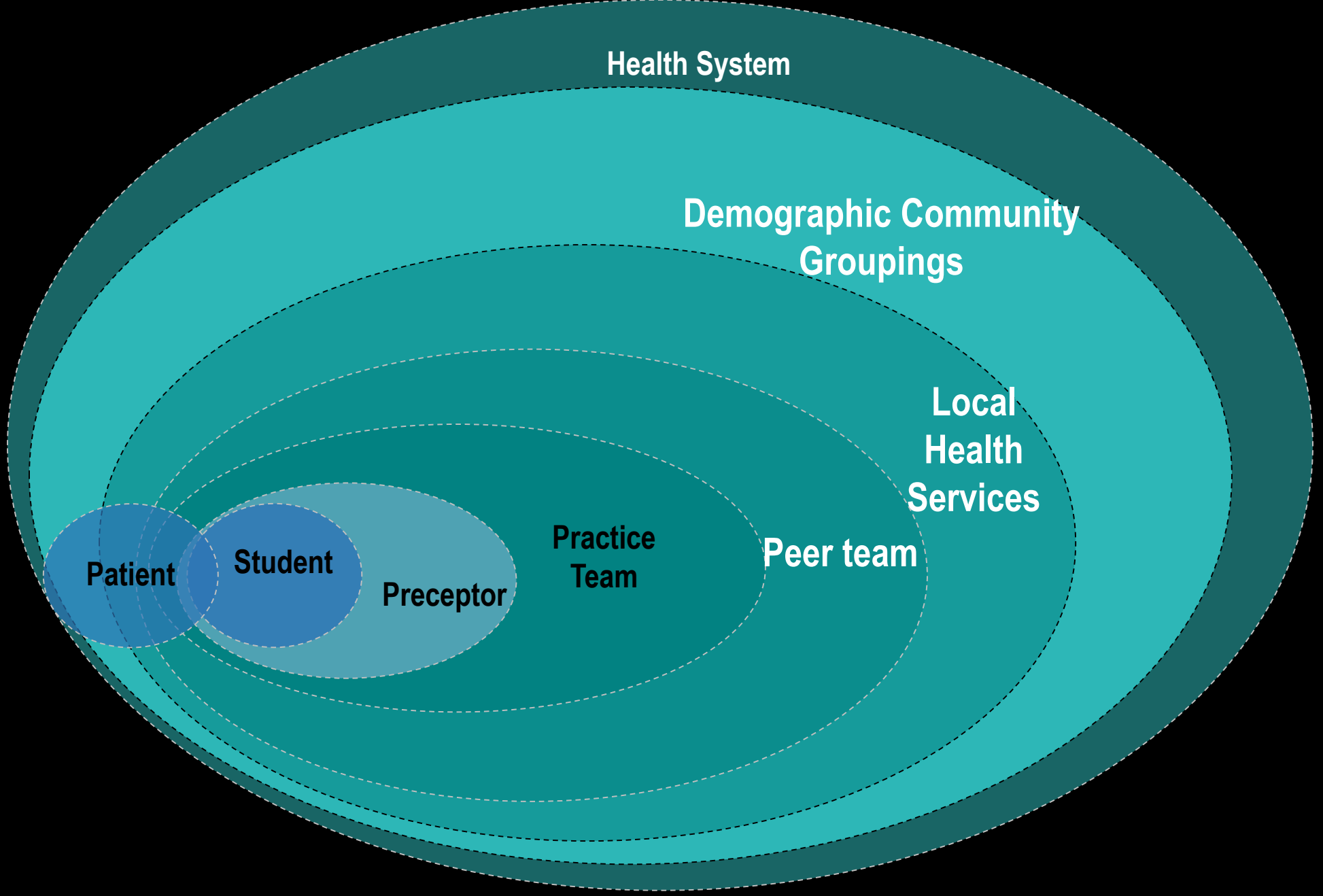
- Northern Ontario School of Medicine (NOSM), aiming to meet rural workforce needs in northern Canada, has also foregrounded learning in generalism[11].

One full academic year in real world of generalism

- A rich curriculum of acute and chronic medicine[12].
- Learning from generalist solutions to the complex problem of person-centred care for people with multi-morbidity[12,13]
- Exposure to undifferentiated patients, appreciation of the social determinants of health and increased participation and responsibility in patient care (clinical logs of GM students)[14].

Longitudinal Integrated Community–based Clerkships

- Continuity: the organising Principle[15]
  - Continuity of: care, curriculum, supervision, idealism, peers, systems
- Theoretical framework - Lave and Wenger's situated learning theory: legitimate peripheral participation in community(s) of practice[16]
- Pedagogy: modification of Flinders University Parallel Rural Community Curriculum (PRCC) model[17]



Student: immersed in a longitudinal teaching microsystem

Diagram: Twyfords Consulting

Teaching hospital: still key learning environment for medical education

- Follow patients in transitions between the hospital and primary care
- Learning from all stages of the patient's journey through care (longitudinal and integrated involvement in patient care)
- Learning and working with generalists across the continuum of medical education.
- In rural settings, specialists tend to be generalists by necessity, but generalists maybe incorporated into patient care teams in tertiary care teaching settings.

Promising signs from curricula with greater emphasis on generalist education

- GM graduates - choosing internships in rural settings (43%) or non-metropolitan areas (61%) contributing to healthcare of populations there[18]
- General practice/rural medicine was the career preference by 1/3 of GM students at graduation[19]
- About 1/3 of earliest graduates (PGY6/7) are currently working as General Practitioners or Rural Generalists (unpublished data)

- 61% of NOSM medical graduates have chosen family practice (predominantly rural) training.[11]

Leadership to meet population health needs

- Invest funding in:
  - Rural undergraduate medical education to manage maldistribution of the medical workforce (a major driver for more generalist training)
  - Teaching Payment for General Practitioners to support medical students' exposure to community generalist settings
  - Expand pre-vocational training settings, to a longitudinal integrated, transition to-practice model; and giving interns clinical experience in the full patient journey
  - Post-graduate education - regional-based specialist trainees; Rural Generalist program
- Recommend:
  - National integrated governance structure across all medical education to support an integrated and consistent approach to medical training and workforce planning[20].
  - National integrated accreditation approach likely will be influential in ensuring all medical education programs foster sufficient flexibility/exposure to generalism

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