



Health Education and Training

Clinical training -
Data management system

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Australian Health Ministers' Advisory Council
Health Workforce Principal Committee

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Introduction

Purpose of the paper

This directions paper is the result of considerable consultation by NHWT with health service providers, higher education providers, professional and student associations, jurisdictions and other stakeholders across Australia on the issues raised in the discussion paper *Clinical Placements Across Australia: capturing data and understanding demand and capacity*. Consultation consisted of formal submissions (70 received), six roundtables held in capital cities across Australia (over 300 registered attendees) and a survey of current arrangements for managing clinical training (151 received). The material garnered from all these consultations has been analysed to produce the position set out in this paper. Throughout the consultation process, it was clear that stakeholders' major interests are with the broader health/education system in which clinical training is organised and delivered. Their input often centred on the reform to the broader system and the role that an information system could play in that reform. While the broader health/education system is not in scope for this direction paper, stakeholder comments inform the discussion of the information system and therefore are included.

It has been concluded that there is a need to collect data on the demand for clinical training places and a need to collect data on the capacity of the health service providers to provide clinical training places. In requiring health service providers and education service providers to collect and submit data, an opportunity arises to establish a system to support them manage their clinical placements. It should be possible to establish an information system that, in serving the interests of the health service providers and education providers, required planning data would be gained as a by product. In so doing, that system may have the capacity to facilitate the identification of under-utilised capacity across the health sector, and to generate placement opportunities accordingly.

The primary purpose of this directions paper is to set out the key attributes of the clinical training data management system that would collect data nationally, while also supporting the those managing clinical placements.

The national health workforce agency

Reforms announced by COAG on 29 November 2008 provided funding for a number of health workforce initiatives including supporting the training of health professionals, establishing more effective, streamlined and integrated clinical training arrangements, and investigating funding approaches and incentives to ensure clinical training is delivered in the most cost efficient manner. COAG agreed to establish a new national agency to manage these initiatives. As a single body with a specific focus on implementing workforce reform, the agency was conceived as operating across both the health and education sectors, complementing jurisdictional responsibilities in health and being able to devise solutions that integrate workforce planning, policy and reform with complementary reforms to education and training.

It is envisaged that the agency will take a major role in the planning, coordinating and funding of professional entry clinical training across all disciplines, drawing upon funding from all governments. The aim will be to ensure increased capacity whilst achieving quality, efficiency and effectiveness. Clinical training for professional entry and post-graduates will need to occur in a streamlined, integrated and educationally effective manner with appropriate support for planning, coordination and supervision at regional, local and health service levels.

It is planned that this would include new structural arrangements that attach clinical training funding to students in whatever service setting they train, thus ensuring the training outcome and enabling an expansion into non traditional training settings.

Towards implementation

An information system to provide data to at state and national levels is to be in place for the 2010 academic year. To meet such a tight time line, a staged approach is planned. Subject to further consultation with stakeholders, in the first stage, only core data on the current demand for clinical placements by higher education providers (at professional entry level) and the current capacity offered by existing providers of placements across the health sector could be collected and stored. These data will include the mandated data, and may include optional data. Stage 1 will be rolled out in November 2009 ready for the 2010 academic year.

A system to capture data on demand and capacity

Collecting data on demand and capacity data clinical training

As outlined in the discussion paper, the Productivity Commission in its study into the health workforce noted that there was a dearth of accurate, consolidated information on such things as available clinical training capacity (professional and site) and the numbers of undergraduate and graduate students seeking clinical placements and that, whilst local and jurisdictional initiatives to map these things were supported, it was concerned that such things needed to occur within an overarching framework reflecting national goals and priorities and that there was a need for “a coordinated and ‘whole-of-workforce’, national approach to improving the clinical training information base”.¹

Collection of data at the national level is considered important as:

- A number of clinical placement challenges extend across jurisdictions, or are common to all jurisdictions
- Smaller jurisdictions will need to rely on larger ones to support clinical training of their students
- There may be efficiencies or synergies in developing nationally consistent solutions, rather than each jurisdiction tackling the same issues
- National approaches could support an overall strategic direction, rather than a proliferation of potentially competing approaches at the local, regional or jurisdictional level

At a national level, the information collected that would inform planning for overall system capacity would include: the capability to aggregate the numbers required; identify activity and its distribution; and identify capacity. Over time, this would enable clearer identification of clinical placement and health service delivery trends and could influence educational program development and curriculum design. This information would guide the development of consistent policy and be able to focus on clinical placement based on issues that impact across professions, jurisdictions, education providers and health services. Importantly, it would form the basis for dialogue between the health and education ministers at the national level on the need for additional undergraduate places and the ability of the health system to support those places.

It would also provide valuable activity and capacity data that would feed into policy-making processes, informing views around accreditation requirements and training and workforce issues in rural and non-acute settings.

A minimum data set

Because of the gradations and nuances in the concepts surrounding clinical training, the data set must be richer than raw numbers on the quantum of students and the quantum of places for those students. Clinical training is largely delivered in professional/discipline silos; therefore the number of students and places per professional/discipline is required. Moreover, the year level, competency and unit of study introduce greater complexity that must be understood in the delivery of resources to ensure that placements provide appropriate learning opportunities.

To enable the HWA to provide planning and resource allocation advice to jurisdictions, the data on the demand and capacity for clinical training would need to be broken down to the following data themes;

- Demand for placements:
 - Number of students per profession/discipline, and possibly per year level, and per specialty/unit of study;
 - Number of hours/days required, duration of placements, timing of placements and spread of placements over the year;
 - Location and site details where students can practically be expected to be placed;
 - Level and nature of supervision required.
- Capacity for placements
 - Number of qualified and eligible supervisors by profession/discipline;
 - Required student : supervisor ratio, and overall opportunity for multiple student placements;
 - Availability of those supervisors in terms of hours/days, duration of availability, timing of availability and spread of availability over the year;

¹ Productivity Commission Australia's Health Workforce 2006 p 100

- Location and site details relevant to priority areas;
- Capacity to provide learning opportunities relevant to curricula and competency generally and in priority areas specifically, in terms of case mix, field of activity, and expected exposure to health issues.

While for the purposes of planning and resource allocation, ex post data may be adequate, material and feedback collected from the consultation (i.e. submissions, surveys and roundtable) on the discussion paper *Clinical Placements Across Australia: capturing data and understanding demand and capacity* indicated that this would not be adequate for the management of those clinical placements by the education and health service providers. The data system must be able to produce effectively real time reports, if it is to be of use to both governments and stakeholders responsible for managing and delivering clinical training.

Further details on the nuances and complexities of the data required by stakeholders are presented in Section 5 of this paper.

A system to grow capacity for clinical training

Across Australia, there is a recognised need for more clinically trained health workers. There is also a recognised need to ensure that standards of clinical training are maintained. The Productivity Commission (2005) recommended that COAG establish an independent taskforce to *"collect and assemble comprehensive and nationally consistent information on: the demand for clinical training across all health professions; where it is being provided"*, with the purpose of informing the debate as to the best way to increase capacity to provide clinical training.

Current situation

Currently, across Australia considerable time and resources are being invested in ways to build the capacity of the health system to provide clinical training. At the jurisdictional level, for example:

- ACT is currently building a data base that will map the demand and capacity to provide clinical training across the ACT region and, in so doing, will identify extra clinical placement opportunities in nursing and allied health.
- In NSW, the Clinical Placement Capacity Information System (CPCIS) is used to develop benchmarks within and across hospital wards and services as to the number of clinical places available as well as identifying trends in requests for placements from education providers, highlighting times and locations of high and low activity thereby identifying opportunities to increase capacity.
- Queensland Health has established Clinical Education and Training Queensland with jurisdiction-wide responsibility for leading a coordinated multi-professional approach to creating training capacity, facilitating training innovation and improvements to clinical education and training quality, efficiency, effectiveness and sustainability across the continuum of training.
- South Australia Health's Multidisciplinary Clinical Placement Project is currently mapping supply and demand state-wide in public and private health sectors. The process has identified some extra capacity.
- Victoria has a comprehensive approach to mapping, managing and increasing capacity for clinical training. Its STaRT program, which should complete a roll out for all disciplines by 2010, has scope to load into it additional data capturing tools, including various forms of qualitative and quantitative surveys. STaRT is externally hosted, online in nature and allows ready access without the need to download specific software.

Overall, the systems currently used or being implemented by jurisdictions are used to identify capacity either directly or as a by-product of other clinical placement management activities. The extent to which these systems are able to identify capacity and generate placements on the scale that is needed into the future is not tested and has anecdotally been questioned through the consultations.

Education service providers, health service providers and professional bodies are also adopting a range of measures to build capacity. While these measures relate to the broader system in which clinical training takes place rather than the information system, *per se*, they are included here because they inform the debate on what stakeholders would like the information system to facilitate. Those measures include: innovative ways to progress more students through existing placements (e.g. Newcastle University); mapping of capacity and approaching sites. Griffith University expressed it *"Its complex++. Find more sites, increase beyond capacity, teach more in house, plead, look to the private/NGO sector where possible, plead again!"*

While an algorithm or formula based function in the information system might help overcome this, the current and recent use of such functions is not promising. For example, Health SA reported *"Previous attempts to develop a formula approach for determining capacity were abandoned in 2008 as evidence of its inflexibility and inefficiency became clear when implementation was attempted."* This was supported by GPET.

Any new capacity uncovered needs support that uses considerable resources, as medicine at UWA says *"training in supervision, support and close monitoring must follow these new placements to ensure that teething problems are identified as early as possible."*

Limiting factors to health services' capacity include a range of practical issues such as physical room constraints, but generally, it is a shortage of supervisors. Psychology at Sydney Children's Hospital, for example, said *"Given that we are chronically short staffed and senior clinicians are flat out and there is not true compensation for taking on the risk and time commitment involved in being a supervisor in a tertiary care facility, our capacity is limited due to limited qualified supervisors."* Therefore, a change to the broader system that frees up senior clinician time for supervision would be attractive at the local level.

While it was recognised that an information system might have the capacity to identify supervisor availability, any steps to enhance or better exploit that availability would need to be done at the local level and would not indicate the involvement of a designated function in the information system.

What could be done?

Whilst technically beyond the scope of work of the NHWT project to establish an information system that collects and assembles comprehensive and nationally consistent information on the demand for clinical training across all health professions and where it is being provided, stakeholders provided extensive contributions on what could be done to enhance overall capacity through reforms to the broader health/education system. Generally, the contributions indicated that stakeholders are aware of and agree with international trends that clinical training ought to follow an adult learning competency based model rather than the time-based models consistent with content-driven education styles and there is recognition of the interdependence of learning, teaching and providing quality services (e.g., Charles, et al 2008). The major themes of the comments on increasing clinical training capacity are:

- Settings and locations
- Innovative training options including interprofessional and simulated learning
- Supervision support including training, time release and financial compensation
- Industrial relations and legal issues
- Work capacity of the student / trainee
- The use of metrics and formulae to set benchmarks
- Funding

Settings and Locations

Stakeholders indicated that any growth in capacity should be across all settings and locations in the health sector including: metropolitan, regional and remote; acute care, community care and primary care; and in private, not for profit, community controlled and jurisdictional facilities. This is necessary to ensure that entry level graduates have the work-ready competencies necessary for sites across the sector, and because the current emphasis on public acute care settings in some disciplines places stress on those facilities. Non-health settings such as schools and community service settings provide important learning opportunities and career paths for some disciplines. Placements in regional and remote locations are considered important exposure to equip and attract graduates to work in these locations. Overall, there was a call for sites and locations to reflect the workforce needs, especially in priority areas.

Education providers indicated that capacity for clinical placements is difficult to quantify, labour intensive to find and would require detailed information from health service providers as well as the identification of new (and possibly novel) placement providers. University of Sydney noted that *“Additional capacity would need to come from information from the health service providers but more importantly needing to engage providers that have not traditionally been involved in clinical training; e.g. Division of GPs, private providers, community and charitable institutes.”* University of Queensland commented that to increase capacity *“would require a comprehensive survey of all placement providers: e.g., in the case of Pharmacy; across community pharmacies, hospital pharmacies and the pharmaceutical industry”*. There may be a role for an information system in the mapping of this capacity, but it is unlikely that the information system could generate the required detailed information because of the nuanced nature of the concept of capacity.

The market for student placement is very competitive and based on traditional links between education providers and health service providers. Monash University's Occupational Therapy Department commented that *“there is additional capacity available as many placements are community based and reside outside of large hospitals. There is a growth in private practice, in schools, occupational rehabilitation, and so forth. However, to tap into this additional capacity, much preliminary work is required in sourcing, nurturing and developing this and ensuring the often sole practitioner is adequately supported. Once developed this capacity is then usually linked to the university who developed the fieldwork and would not be offered to a competitor. Thus the capacity is tied to one educational provider and is not portable.”* Therefore, any mapping of capacity would need to link that capacity to a particular relationship and recognise that if that relationship is broken, the capacity may disappear. The subtlety of such a map would be beyond what may be envisaged as a likely information system designed primarily to provide data to government for the purposes of planning.

Overall, there was recognition that there is a need to change the dynamic in which educators 'push' the students toward placements rather than the health service providers 'pulling' students into their service (e.g., Brisbane roundtable discussion). The private sector is said to have great potential to provide clinical placements across all disciplines, but needs an incentive to drive the dynamic. Charles Sturt University, for instance, indicated that *"A significant amount of work needs to be undertaken to engage the private sector in providing clinical placements for students. It would be important to audit the number of private facilities that have the capacity for clinical education provision. It is important to note that clinical education for health students is not restricted to health providers. Health students may engage in a range of other practice experiences including in schools (e.g. speech pathology students), and in communities undertaking health promotion and project work. In this respect it is important for any clinical education system to be able to evolve as health services evolve. It is also important to note that whilst these other experiences may add to the overall clinical experience of students, the need for experience in core areas of competency remains"*.

Burgell Consulting has concluded such a task and reported in its paper *Medical Student Clinical Placements in Victorian General Practices* on behalf of Deakin University, Monash University, and University of Melbourne. The Australian Private Hospitals Association (APHA) indicated that the *"APHA Health Workforce Taskforce strongly supports the national collection of data on clinical placements and believes that the current piecemeal approach is unlikely to assist Australia in progressing a coherent national strategy to meet future health workforce needs"* and *"private hospitals have much to contribute to the national collection of data on the supply of clinical placements"*.

Other sectors indicated that they have the potential capacity to provide additional student placements but have identified specific support that would be required to see this potential come to fruition. The WA Country Health Services indicated that *"The rural and remote sector has the potential to provide additional student placements. However there are many limiters. These include the health service capability to provide accommodation and travel support for students, increased financial cost to the health service, impacts of recruitment and retention issues, high costs to the student (e.g. living away from home, inability to work part time whilst on placement). These all limit the health service capacity to supply places and the student's willingness and ability to undertake a rural/remote placement"*.

An information system would not be able to record let alone provide a solution to the range of the practical issues raised by the WA Country Health Services. Other responses indicated other obstacles and stated a clear need for an information system to be able to record them. For example, the Council of Physiotherapy Deans commented that *"Most providers we are dealing with are struggling with a number of factors that limit their capacity to take more students. These factors include (but are not limited to): training of staff to deliver education, staffing profile in departments/sites (especially having the range of specialist skills), stability of staffing, staff to patient ratios, bed numbers per specialty and patient case mix, physical space for staff and students, model of supervision proposed, teaching activities to be employed, and accommodation for new staff and for students"*.

Innovations

Innovative training options including interprofessional and simulated learning emerged as important facilitators of increasing capacity for clinical placement across the nation. While these were widely commented upon at the Roundtables and the Forum in Sydney, Rural providers appear more advanced in implementing interprofessional learning models whilst larger urban education providers are progressing innovative models such as simulation. WA Country Health Services indicated that any *"system will need to have capacity for multidisciplinary data tracking (i.e. the ability to cross-map numbers of students from each discipline placed at any one time) especially with the increase in focus on inter-professional learning at an undergraduate level – i.e. placements in rural and remote areas are often on a basis of 'total number of students at any one time' rather than a given number of students of each discipline. This related to cross disciplinary support and supervision (i.e. a midwife may supervise a medical student, limiting capacity to concurrently support a midwifery student) and also infrastructure restrictions (e.g. accommodation). This variability needs to be reflected in any data collection."*

Monash University Medicine noted that *"The increasing use of ambulatory services, short stay procedural units and 'hospital in the home' units have greatly altered the extent to which students can participate in current care teams and processes as well as the mechanics of that participation. Whilst innovative solutions to this problem are emerging, they have not been applied consistently and do not yet allow easy calculation of the placement capacity of an individual service"*. They went on to say *"Clinical education takes place in a broad variety of settings and further resources are required to develop these and explore alternative environments, including simulation"*. While the Roundtables indicated that an information system that could promote such innovation would be attractive, there was not widely held support for such an information system at the national level.

The following comments on related topics, further indicate stakeholder interest in changing the broader system in which clinical training is organised would be in ways that would not be driven by an information system. Queensland Health said that *"Consideration should be given to vertical integration of training opportunities with a view to developing a more integrated pathway from health professional student to beginning practitioner to specialist training. This could allow for greater efficiency and capacity through the integration of learning opportunities, coordination of multi-professional activities, greater standardisation of placements and utilisation of shared resources, staff and educational events that meet multiple needs."* ANZCA suggested that *"possible solutions include creating specific paid teaching positions (FTE specified) with formal job descriptions / selection criteria related to appropriate knowledge and skills...to firmly embed this as a legitimate and important component of the health service system...The College recognises that there are new models by which this can be achieved and is prepared to consider other potential solutions such as ward-based special teachers who have been successfully implemented in other areas of medical education."*

Supervision support

Supervision support including training, time release and financial compensation has been recognised by many organisations making submission to NHWT and attending events. The concern of many with the lack of 'train the trainer' within the health sector is consistent with the literature, for example, Molodsky et al., (2006) indicates that *"Clinical teaching is a part of everyday life for doctors, yet doctors are rarely taught to teach. Relying on natural talent and intuition to impart knowledge to the next generation of doctors may not be sufficient. Formal training in clinical teaching may be desirable if a clinician wishes to be an effective clinical teacher"*.

Many health professionals who undertake supervision of clinical placements have already pursued further professional development or formal qualifications in clinical education and the absence of requests for a formalised credentialing system was noted by NHWT during the consultation process, however characteristics of the supervision process including qualifications of supervisors were requested as part of the minimum data set. ACT Health indicated that, having recognised this crisis in supervisors, it has engaged dedicated allied health clinical educators to boost the number of places and relieve stress on the system.

Health service providers and education providers widely nominated need for support for supervisors including but not limited to training. For example, Occupational Therapy at Monash said *"Those 'on the ground' providing the training require professional development support, training for and supervision with their role, ongoing communication and recognition from the university. Recognition that they may need a year off or break in their role is also important."*

While an information system may be able to support the provision of train the trainer, there was not widespread support for this functionality. It was more acceptable that the information system should indicate a supervisor's qualifications as part of an overall indication of the placement's potential to provide learning opportunities.

Student work capacity

Work capacity of the trainee is an important factor for clinical placement providers to consider when assessing their capacity to offer a placement. The capacity of the student to provide services was debated at several roundtables, and is the subject of considerable debate in the literature, which indicates that innovative training models have shown that students can provide cost neutral services with community partners (e.g. Copley et al., 2007).

However, there factors that may limit a student's work capacity as noted by Charles Sturt University when they commented on *"the inability to send a student alone to a placement where they feel significantly out of their comfort zone i.e., rural students to metropolitan centres, metropolitan students to rural area."* As previously mentioned and as discussed at the Brisbane roundtable, all parties need to recognise the value of clinical placements so students would be 'pulled' by the health sector rather than be 'pushed' by the education sector and that this would then drive quality of placements and focus on work ready common competencies, adequate support for supervisors and students and equity and consistency across the student body.

There may be some potential for an information system to record information on the work capacity of individual or classes of students.

Benchmarking capacity

There was considerable interest in the use of formula and metrics to determine clinical capacity. As mentioned above, some jurisdictions and service providers have considered this approach, but generally, they have abandoned

the practice. Discussions indicated a strong agreement that benchmarking could only be used as a rough indicator to promote conversation on the potential for a particular site to offer more or less places. The centrality of the quality of the placement experience to student learning and to the graduate's likelihood to subsequently work in a like environment is recognised across the board.

Therefore, the suggestion of compulsion with its potential to negatively impact on placement experience for student, supervisor and even patients, is to be avoided. There was no support for such a 'soviet' style system or for the associated deeming of capacity. However, in the interest of transparency and of opening exclusive access to capacity in order to promote greater fairness, there is considerable interest in the use of metrics to enable benchmarking between 'apparently similar situations' (e.g. medical ward in hospital A and medical ward in hospital B) to facilitate discussions.

It was also indicated that each profession may be best positioned to identify possible capacity in specific settings. The complexity and interconnectedness of clinical placement setting and location, innovation of training options, supervision and funding is clear from the submissions received. Add to that the flexibility of metrics that would be required to identify clinical placement capacity and then build capacity and we are at risk of having an information management system that is unworkable and unable to provide data that can grow clinical placement capacity.

Relevant comments include: Griffith University "*A range of metrics has been discussed for assessing a health facility's capacity to provide placements including: number of staff, level of staff appointments/staff qualifications, beds, patient presentations, acuity of patients. Metrics would alter depending on the type of health facility in question (e.g., a retail pharmacy would require very different metrics to a public hospital). Any application of metrics would need appropriate flexibility to take account of local-level contexts and issues*"; and Monash Medicine "*There are no really satisfactory data which allow calculation of an optimal placement capacity in a health service even for well studied disciplines such as MBBS. Previous attempts have tried to use bed numbers per student placed or throughput figures to develop standards for this, but even these relatively simple approaches have been rendered ineffective by the recent trends in health care delivery. Educational training of clinical staff, staffing profile in departments/sites, Staff to patient ratios, bed numbers per specialty, physical space for staff and students, model of supervision proposed, teaching activities utilised would be some of the elements to be examined in attempting to quantify capacity*".

There is great potential for an information system to build in any formula as the basis of identifying capacity.

Funding

Stakeholder interest in funding related to two elements: funding of the information system and funding of clinical training. While the roundtables acknowledge a need for the mandated system to record and report data on the demand and capacity for clinical placements, there was considerable concern as to the cost of such a system to the health and education sectors. Participants in the consultation process almost universally commented on cost, and indicated that the agency should meet those costs. Many participants broke the costs down and indicated that the agency must be responsible for all of the costs including: design, build, implement, train, help-desk, data transfer, system integration and data transcription from any existing, data input, data quality, and system maintenance.

Similarly, the most common issue raised as a means to grow capacity *per se* was funding. It has been identified that funding for clinical placements needs to 'follow the student' and nearly all submissions and discussions at roundtables and forums across the nation indicated that adequate funding was a key issue. The Australian Psychological Society (APS) showed a very high level of concern for capacity and funding of clinical placements when it indicated that "*without appropriate incentives for health services to provide placements (i.e. at least adequate funding), services will be reticent to commit to any quantum of available places (or to any given capacity to make them available) ahead of time and in the case of psychology, services are in fact scaling back their involvement in placements. Adequate incentives must exist to drive services to maintain or increase placement capacity*".

There is considerable potential for the information system to reflect the subsidy attached to each student and track that to the placement health service provider. To the extent that this may present as an incentive for health service providers to offer more places, as the COAG Communiqué clearly indicates, it may prove a valuable tool. Therefore, depending on the process determined as appropriate for the funds to be attached to the student (an upcoming project for the NHWT/Agency) it is reasonable to anticipate that it should be included in the information system.

The Society of Hospital Pharmacists indicated that only a small percentage of pharmacists clinical training is undertaken as an undergraduate....the majority of pharmacists undergo the majority of their clinical training in the

private community sector....the pharmacist intern is responsible for meeting his/her own clinical training to meet accreditation requirements....and *"pharmacy already has substantial private sector involvement. The potential capacity in the public sector could be better defined and increased (to work towards clinical placements of 50% of graduates) as this is of proven benefit in future public sector recruitment. Currently public sector capacity is limited by funding of intern and preceptor positions rather than ability to offer clinical training"*.

Monash University OT department commented on industrial relations and legal issues associated with funding and said that *"Decisions made at management level can be quickly undermined if those required to provide the training are not adequately resourced to do so and feel punished by an increased workload requirement for no perceived benefit. In Victoria, funds are generated from the DHS to networks for student education following data supplied from Universities. These funds we are told DO NOT reach the OT services as intended, rather they are used by networks to offset debt."*

In summary

Currently, considerable time and resources are being invested across Australia in ways to build capacity. Any new information system will need to draw these works together rather than duplicate or 're-invent' them.

A range of drivers and barriers to growing the capacity of the health sector to provide clinical capacity have been identified by stakeholders including a range of reforms to the broader education/health system that could grow capacity. The implications of these for the information system are few because of the impractical nature of the extent and nuanced data that would be involved and the lack of widespread interest in the creation of a comprehensive information system that would incorporate extended functionality.

The information technology system would not only need to capture the minimum data set but also qualitative data relating to the barriers to clinical placement so that NWHT, jurisdictions, health service providers and education providers can, individually or through ongoing dialogue, brainstorm novel approaches to overcome barriers and increase capacity. Stakeholders would be able to use the data to compare clinical placements within and across health profession disciplines as well as other parameters and then re-engage in discussions to identify capacity.

The minimum data set needs to be obtained from the jurisdictions, health service providers, education providers and the new/novel/previously not identified providers of clinical placement. Once the data has been obtained, work needs to be undertaken to nurture the potential capacity through support for new providers of clinical placements which may include but is not limited to professional development of supervisors, financial and social reward for offering clinical placements. If this were facilitated by the agency, there would be more transparency in the provision of clinical placements and less rivalry between education providers to 'bolt down' a relationship between themselves and a clinical placement provider to the exclusion of all others.

There may be some potential for an information system to:

- Contain an agreed field that would indicate the work capacity of individual or classes of students.
- Build in any formula as the basis of identifying capacity.
- Identify the funds associated with particular students or classes of students and to identify ranges of values relative to, for example, the location of the clinical placement.
- Reflect the subsidy attached to each student and track that to the placement health service provider.

To the extent that this may present as an incentive for health service providers to offer more places, as the COAG Communiqué clearly indicates, it may prove a valuable tool. Therefore, depending on the process determined as appropriate for the funds to be attached to the student (an upcoming project for the NHWT/Agency) it is reasonable to anticipate that it should be included in the information system.

The information system required

As outlined earlier, stakeholders indicated that they seek reform to the broader education/health system in which clinical placements are demanded and provided and in which clinical training is delivered. At the strategic level, the stakeholders are interested in an information system to the extent that it can aid reform of that broader system. By and large, this means increasing the capacity of the health sector to provide clinical placements across the health sector (see Section 3, above). At the operational level, stakeholders are interested in a system that will streamline the current methods by which clinical placements are managed. While, overall, stakeholders want a system that will promote clinical placements that are of appropriate quality and educational value, there was considerable diversity of opinion across the roundtables and between the submissions as to the functionality of any system that the Agency would auspice. However, there was universal agreement on the system characteristics including data quality.

System characteristics and data qualities

Stakeholders indicated that any system must have certain characteristics and that the data should have certain qualities.

System characteristics

The characteristic most commonly identified by the stakeholders was ease of use. There was considerable concern that the system not be cumbersome to use. It was commonly stated that any system that is comprehensive in functionality risks being cumbersome. Systems currently used by jurisdictions were said to be cumbersome as were some of the better known international examples. The Council of Physiotherapy Deans of Australia and New Zealand (CPDANZ), for example, requested that *"The system would need to be easy to use, come with very clear instructions for completion, and enable time efficient data entry."*

Usability concerns were closely linked to the commonly called for outcome – less administrative work. While this was more important to education service providers, it was of considerable importance to health service providers. *"Reduce the administrative load currently involved in the sourcing and allocation of student placements and be able to provide data of a sufficient quality to allow planning for future placement needs."* UQ, SHRS.

Stakeholders with existing systems were concerned about the effort required of them in transitioning to, or adding on, a new data system. They indicated that the system must be able to accept data that is 'dumped' into it from existing sources. There was considerable concern that the system either seamlessly integrate with existing systems and so avoid re-entry of data, or that the system replace existing systems in such a way as to takeover all their existing functions without imposing parallel system issues on users.

System security was a common concern, especially if the system handles expanded data sets on students and supervisors.

Data quality

There was extensive concern that data quality be assured. Participants in the consultation process were concerned with the following elements of data quality: the meaning of the data, the usefulness of the data, the timeliness of the data, the accuracy of the data and the completeness of the data, as follows.

Meaning of the data. Across the systems currently in use, it is manifestly apparent that there is little consistency in the words used to describe common elements and that common words are meant to signify quite different phenomena. In introducing the system to capture the mandated data, it will be necessary to address these issues through standard and agreed field definitions. In order to facilitate dumping of data from legacy systems, it will be necessary to translate between systems. Or, it may be necessary to require that a clean set of data be purpose compiled for the Agency, at the cost of the desired system characteristic set out above.

Usefulness of the data. Several respondents indicated that the data must be useful to the stakeholders who provide it. This was considered to be fundamental to the provision of complete and accurate data in a timely fashion. As Canberra Hospital said "If the data collection is too complex or not useful to the suppliers then this will effect compliance". Given the breadth of uses that respondents identified for the data, and the lack of a consensus that a comprehensive system is wanted, it remains unclear as to what uses would be necessary to encourage compliance. Speech Pathology Australia said "The minimalist approach proposed in the NHWT Discussion paper

potentially would be a wasted effort due to limited usefulness and possible low compliance. The database will need to do more than just collect data otherwise compliance will be low.” Usefulness might best be enhanced by linking the data collection to existing administrative purposes. For example, linking the system to the enrolment/assessment system could ensure that the data are only entered once for the dual purpose of enrolment/assessment and placement.

There was considerable disagreement on the usefulness of benchmarking data. While some were quite disparaging, others indicated that it might be a way not only to identify potential capacity, but also to encourage underutilised elements of the health sector to recognise their potential for greater involvement. Even those who considered that benchmarking data had great potential use, recognised it as a method to open a dialogue on the capacity of a particular site to make places available rather than as informing any central allocation of students to sites.

Timeliness of the data. While some respondents wanted to provide data only once per annum, others wanted the data to be available in real time to facilitate their placements. The difference tends to reflect the uses for the data or system functionality. Most recognised that for planning purposes, yearly ex-post data would be adequate, but that would not necessarily help to identify unused capacity or potentially reduce the burden of organising placements through identification of capacity.

Accuracy of the data. Concern with the lack of accuracy of the current data sets was commonly reported. To some extent this is due to confusion over field definitions, and a lack of completeness of data. Health service providers reported a lack of accuracy about students, their training needs and the details of their placements. Moreover, they are not advised of changes, as Catholic Health Australia says: “it has been some CHA members’ experience that placements, whilst rostered in advance, do not always occur on the days indicated. A data collection mechanism that ensures certainty of placement dates and times on education providers would be welcomed.”

Completeness of the data. With the great variety in data that the respondents have indicated that they would require to have included in a system, the viability of a system that would incorporate all of those data and yet only offer minimal functionality is unlikely. However, it may be feasible to achieve completeness of data on a restricted data set required by the jurisdictions. It may also be feasible to achieve completeness of data for a reduced set of functions for the stakeholders. In this way a robust system may be able to be designed and built.

The responses indicate that compliance with data requests can either be driven by incentives of having access to funds linked to compliance or by self interest in the data. While there was a general agreement that the importance of the data warranted a ‘big stick’ approach, there was also recognition that compulsion can lead to poor data quality. As discussed in the introduction to this paper, the potential to link a placement management system to the provision of the mandated data has the benefit of making provision of the data a side effect of managing the places. Even without such a system, it may be that the mandated data will have intrinsic value to the stakeholders and thereby drive them to comply with good quality data. The Council of Physiotherapy Deans said “data integrity and quality would be best served by ensuring that contributors were able to identify the value of the data collection in terms of meeting their individual needs”.

Scope and functionality

Scope

Scope was of concern to numerous stakeholders who recognised a need to include: all ‘students’ (VET, higher education and professional development); all settings across the health sector and associated sectors (e.g. education and community services); all professions and cross-professional domains; all modes of clinical training and supervision (e.g., face to face/online, real/simulated, individual/group, profession-specific/interprofessional); and to focus on competencies rather than time served although the accreditation arrangements currently typically specify hours or days of clinical training.

Functionality

Functionality was of great interest to the stakeholders who indicated a range from minimal functionality in collecting fundamental clinical training data on numbers per discipline and placement site, to comprehensive functionality designed to facilitate a range of activities. Several respondents also indicated that, if in acquiring functionality, the system becomes unwieldy; it would lose its value, or become a burden. Therefore, while functions might seem attractive, many doubted the ability to develop a comprehensive system that would be simple to use. According to University of Newcastle “*There is high interest in a comprehensive database that provides information about*

placement capacity. This is achieved to some degree by the CPCIS database operating for Nursing in NSW; however the database is not user friendly which limits its usefulness."

Respondents like the idea of a 'map' of clinical placements rather than a comprehensive matching system. That is, a database of information with a few 'bells and whistles' (patient load, supervision type/ratios, qualitative feedback on placement post hoc, etc) but not a comprehensive system that divests established relationships of 'local knowledge and know-how'. *"The system should not subsume the complex process of matching individual students to an appropriate placement"* (UQ, SHRS). Others, including DHHS Tasmania, said that a system could help with matching and that this would be of value. *"DHHS would benefit from an easily accessible system which ensured that students were placed in appropriate facilities, with appropriate skills, and with all the necessary checks etc having been made before placement."*

Queensland Health considered that a *"national approach may provide opportunities for a jurisdiction with insufficient clinical placement capacity to negotiate with other jurisdictions which have additional capacity to their needs to secure clinical placements. This presents prospects for Queensland to attract Queensland school leavers studying interstate to return to Queensland for clinical placements. It may also assist Queensland to facilitate rural clinical placements in other jurisdictions because such placements are currently under pressure in Queensland"*.

Help placing students

Respondents were generally looking for the system to assist them in placing students. The Department of Human Services, Nurse Policy Branch indicated that *"Universities cannot give exact numbers so usually request larger numbers than anticipated and then refine their requests in February. This has implications for regional hospitals because often based on the initial requests the hospital could employ a clinical educator to supervise these students. The salary for this supervisor would be covered by charging the University for their clinical placements. However, as the Universities modify their requests based on student uptake the salary for the clinical supervisor becomes precarious"*. Interestingly, Uni SA Health Sciences pointed out that *"Placements are intimately linked to health workforce. Students on placements generally only go to where there are health professionals employed. It is curious as to why placements are being focussed on when another approach could be to gather better intelligence of where the health workforce is and then work on modelling how many students could be accommodated by that workforce. The workforce willing to have students on placement is the limiting factor – not the placement in itself."*

Concern regarding quality assurance of the processes used within any system and the facilitation of pre-existing relationships was raised by CPDANZ when they noted *"The potential centralisation of the management of clinical placements could be perceived as a threat to well-established and nurtured partnerships between institutions and health services. These relationships enable mutual agreement regarding the quality, quantity and type of clinical education that is desirable. In addition, some professional accreditation procedures (physiotherapy for example) require copies of agreements between health care services and universities that specify the clinical education provided to students. These agreements provide evidence that appropriate clinical education is available and that graduates from a course will have achieved the competencies required of a practitioner with full registration. CPDANZ would recommend that any national system should support the maintenance of established effective relationships between universities and health care providers and the development of new relationships"*.

Likewise University Notre Dame Nursing highlighted that *"If a ward area is not willing to take a student but is compelled to, then the practicum experience may become inappropriate and less beneficial than is required. Education facilities become aware of areas with a history of issues and tend to use these offered places only if absolutely necessary. Another concern that would not be reflected in data collection includes the use of students as inadequately supervised care providers to assist where staff shortages exist. This may not always be intentional as rostered staff may not come to work and no replacements are available, however it can place health care recipients at risk as students may be pushed beyond the limits of their scope of practice."*

Also raised by University of Newcastle, Social Work was its concern that *"Currently, the availability of placements are exclusively defined by the supervisor him/herself. Therefore, individuals are able to opt in and out of the training sphere as they wish. One concern regarding the suggestion of a national approach to placement co-ordination would be the possibility that placement availability may become a requirement of employment with supervisors being mandated to provide placement opportunities. In such cases where this occurred the potential for eroding the quality of training received could be significant if supervisors did not wish to participate in the process"*.

The AMA would be concerned *"if initiatives in this area moved beyond data collection to the establishment of an agency that used data collected to control or in any way micro-manage the allocation of individual clinical placements to universities and/or the content and structure of clinical placements...These types of changes would undermine the professional learning environment and potentially impose changes on the structure of medical school programs and curricula. These changes would diminish Australia's high standards of medical education."* The AMA believed that any system should be used in the best interest of students and in meeting local needs.

Facilitating relationships

Respondents indicated that the system should facilitate relationships that could build capacity, for instance University of Southern Queensland commented that with their current clinical placement arrangements, *"Relationships are formed between the health care staff and the university. This facilitates reporting and communication as well as enabling joint projects, via building on the strengths of both agencies."* They went on to say that through the strength of these relationships (partnerships or consortia) they may be able to provide more accurate data to a national system. Queensland Health concurred and indicated that a *"sustainable model is needed to enhance the coordination and collaboration of clinical placement bookings between the education and health sectors to meet future workforce demands."*

Local flexibility

Stakeholders repeatedly indicated that the information management system would need to be tailored to local interests in two ways:

- Recognising existing agreements and relationships at the local level that have been developed over years and which are fit to purpose and satisfy the needs of all parties.
- Recognising existing contextual issues that have particular training and associated recruitment needs.

Many respondents commented on the importance of relationships between schools and health service providers. Sometimes these relationships are between individuals rather than between institutions, and are the result of invested time and consideration over years. While some wanted these systems to be broken down to allow more equitable access to places, particularly for students of new education providers, more wanted them protected. They argued that they are essential to the actual, rather than theoretical capacity. *"The system should also take into consideration the relationships that are required to be developed at a local level to sustain the clinical placement process and be mindful of existing clinical placement legal agreements the universities have with placement providers that govern placement relationships, roles and responsibilities including insurance and support"* (University of Queensland).

National or local system

Stakeholders indicated that the choice was not between a national and a local system, because the best system would be constructed to give access where it was required and functionality where it would be used. As the University of Queensland says *"A multi-tier system is viewed as most appropriate. A national system could provide general benchmarking information but the specifics of matching capacity and demand for clinical education probably works best at a district level."* Tasmania's DHHS said *"a web based clinical placement management system administered by a central agency, which could be accessed by clinicians, managers and other staff to flag capacity, to indicate student prerequisites for particular placements, and other information such as dress codes and timetables etc."*

Griffith University disagreed by stating, *"There could be some benefits with aspects of national data collection and management; however a centrally-driven single placement management system is not seen as the preferred approach at this time given the importance of the need to focus on relationships and issues at the local level."* UNDA warned against attempting to force stakeholders to abandon their current system in favour of a new national system; *"Whilst there would be better standardised data from using one national system, education facilities and clinical placement providers will have spent considerable time and money on developing their own systems which they have tailored to their requirements. Dictating a national approach to placements management would not be feasible, nor just a compulsory data collection system. Here in WA we are fortunate in that a large percentage of educational institutions use SONIA so there is clear comparative data which can be collected."*

The idea of a national system that would take on the role of matching students was not attractive to Canberra Hospital: *"Please use the systems that are already in place (or being developed), don't reinvent the wheel. No to a National active clinical placement system."*

Charles Sturt University said that *"Given the diversity of the requirements for health student clinical experiences, new systems would need to be established...this system would need to transcend the boundaries that exist in health service provision and across states and territories."* The Sydney roundtable discussions strongly favoured a national system because of national regulations and distance education

The Council of Physiotherapy Deans indicated a need for a state system, but without duplication: *"State collection may still be required, and a state system that includes national metrics without duplication will be essential."* Whilst WA's Office of the Chief Nurse indicated *"A local approach should be attempted first. A centralised system or approach should be developed in order to enable equitable access, placement and reporting."*

The Australian Medical Student Association (AMSA) indicated that they *"would oppose moves by a new national body to assume the role of allocating medical students to their placements, or to determine the nature, content, length or location of these placements. We strongly believe that students' medical education are best served by individual universities having the primary responsibility for the organisation and management of curricula and clinical placements and are wary of higher level intervention"*.

In summary

From the roundtable discussions it was gleaned that an effective system would grow capacity to take pressure off current supervisors and sites but must be able to identify who is 'exclusive' and where capacity is not made available. It would identify students that have passed simulation hurdles or milestones before progressing to clinical experience and it would recognise primacy of patient care and safety. It would inform students of the learning opportunities offered by placement and it would indicate the quality of the students and their training to ensure work ready standards are met. Jurisdictions envisage a system that encompasses VET and higher education students so that the entire future clinical workforce is identified and produce work ready graduates.

Stakeholders were asked what their placement management needs were for this system to be successful. Health service providers indicated that they want resourcing to support students and supervisors. Education providers wanted to know training quality in terms of competencies and flexibility to cater for specific student needs. Students want quality of learning opportunities with respect to competencies and relevance for future employment and some students want to have their clinical placements to fit in with paid work that they are already committed to and family responsibilities. Accreditation bodies saw balance between safety and standards with need for flexibility and innovation as being important.

Overall, most respondents would be happy for a national system that was funded by new monies to exist and be used for future placement planning. Ideally, it should be a 'translational data collection system' that allows data to be 'dumped' from current systems, therefore requiring less administrative burden.

Data requirements

Preliminary surveys prior to roundtable discussions indicated that most stakeholders do not routinely produce reports from their current information systems regarding capacity or demand for clinical placements. At most, stakeholders produce HR type statistics that may be held in spreadsheet format that are then manually manipulated to match student to placement. General practice Regional Training Providers (RTPs) do supply detailed reports to GPET regarding placements on a regular basis. Western Australian stakeholders indicated that SONIA can produce reports on placement capacity, demand and placement history. Roundtable discussions and individual submissions were more productive regarding databases that already exist and the capacity of stakeholders to provide the data to a national system.

DHS Victoria indicated that it currently collects some of the required data elements in the Student Trainee Reporting Tool (STaRT). DHHS Tasmania indicated that their existing data collection in SPMS would provide some information. Nursing in NSW could provide data regarding public sector nursing via CPCIS. The Rural Health Workforce Agency pointed out that Medicare Australia holds information within the Practice Incentives Program (PIP) as incentive payment are available for general practices that host undergraduate students for teaching placements. Medicare Australia publishes PIP statistics for "Teaching: Hosting Medical Students". The APS indicated that data bearing on placement activity for pathway 1 trainees is held by each State and Territory registration board.

Education providers often have extensive information on students and clinical placements but it may not be collected in an accessible format and they are largely reluctant to share it at a national level if it risks loss of long standing relationships and deeply nurtured local mechanisms for organising clinical placements. These providers are also concerned about the cost and administrative burden of contributing to a national system but may be placated if the system allowed for data to be 'dumped' and that exclusive relationships were preserved. Underpinning their responses was recognition that a national system would require common data definitions.

The Adelaide Medical Students Association indicated that they currently input qualitative data into the Student Evaluation of Learning and Teaching (SELT) forms in use across many Australian Universities and that they would be keen for such qualitative data to be attached to any national system.

The data needs that were raised by stakeholders were extensive. However the common themes were by nature quantitative or qualitative.

Quantitative data included:

- Supply (number of clinical placements),
- Demand (number of students, disciplines etc including number of international students),
- Regional location of placements,
- Case mix of patients,
- Throughput (including inpatient and outpatient loads, bed numbers),
- Supervision capacity,
- Staff to student ratios,
- Physical space,
- Financial cost to health service,
- Block (of weeks) versus integrated (1-2 shifts per week ongoing) placements,
- Staff vacancies – current / future.

Qualitative data included:

- Learning outcomes of the courses/placement
- Service mix, levels of acuity and patient profile
- Extent to which trainees contribute to delivery of health care in the services
- Relationship with education institution (exclusivity or not)
- Clinical opportunities
- Accommodation and/or travel time required

- Identification of supervisors who have received training (both formal and informal professional development courses) for that role
- Availability of multidisciplinary or interprofessional placements and new models
- Quality of placements as indicated by previous students or as rated by education providers in meeting core competencies
- Students' immunisation status and police checks, previous placements, scholarship details

DHS Victoria gave an overview that encompassed many of the ideas proposed by many other stakeholders. It gave extensive information regarding recent scoping activities in which it identified elements that contribute to clinical training experience including:

- Supervision capacity: the availability and experience of health service staff to meet the requirements of students for supervision. Ensuring organisations have the necessary staff members with the skills and aptitude to provide appropriate supervision to students. Access to Information Technology (IT) for supervision purposes.
- Physical space: includes size of health service generally measured in terms of bed numbers or patients, the number of different types of service offered, space for related educational activity (tutorial and meetings rooms, library space and online IT access).
- Relationship with education institution: includes any arrangements where there is a preference by health services for accepting students from specific training institutions for broader human resource objectives.
- Clinical opportunities: includes the capacity to meet the academic requirements and objectives of the placement as set out by the education provider. Some institutions require specific levels of education and/or experience.
- Patient throughput: the number of patients might limit or increase the opportunity for students to witness/participate in clinical procedures.
- Financial: if clinical placements will pose a significant extra cost to the health service.
- Accommodation and/or travel time required, mostly with regard to rural clinical placements. Also if the health service wishes to give placement preference to students in their local community.
- Number of international students undertaking clinical placements in Australia and vice versa.
- Vacancies: Discipline specific employment vacancies (medical, nursing and allied health) which can impact on the number of supervisors available and demand for workforce disciplines.

Many stakeholders indicated concerns that curriculum design is rapidly changing and new courses entering the marketplace and that this may greatly impact on the collection of data. For instance, University of Canberra noted that *"The ratios outlined by both the education providers and health services may be limiting. Staff to student ratios are grounded in the curriculum design such as: Student learning outcomes."* Monash Occupational Therapy suggested that *"There needs to be data captured regarding any increases in enrolments of existing programs and for potential new programs. In the case of Occupational therapy a new course is being proposed in Melbourne in 2011 and a large provider of occupational therapy training continues to increase enrolments prior to resolving and sourcing the increased fieldwork training needs that may follow. Additionally, course structures continue to change and consequent fieldwork education needs change impacting on timing, duration and level of education required."*

While most respondents indicated that current systems are inadequate to collect the data that would be required across disciplines, universities, placement sites and jurisdictions, some believed that there is potential in particular systems, for example:

- SONIA which was designed for nursing and midwifery placement data, but University of Sydney, Faculty of Health Sciences suggests may have the capacity for other disciplines,
- STaRT which was developed for DHS (Victoria) and is currently being rolled out and completed, should have the capacity to provide all their data needs (see above) across medicine, nursing and allied health.
- CPCIS which was developed by NSW Health and currently captures public sector data but has not been used in private health care services

Other respondents indicated that current systems tend to be cumbersome, lack currency and accuracy. For example, Griffith University said *"It is almost certain that existing data collections would not provide the information sought, or enable comparisons. There are significant differences in the types of data collected and the way in which data is collected and stored across institutions. There are also significant differences in enterprise IT systems used which would require potentially-expensive modifications or work-around systems developed to enable transfer of data to a national system."* And Occupational Therapy at Monash said *"Existing data collections are unreliable"*

and currency is difficult to maintain. Most universities are cautious in respect of making fieldwork education databases available to other universities as they are developed often over a long time. Additionally, fieldwork needs are very specific to the curriculum of a program and comparisons across a sector are problematic."

General Practice Victoria indicated considerable confidence in recent work identifying data capacity for medical clinical training. *"In 2008, Deakin, Monash and Melbourne Universities collectively published Medical Student Clinical Placements in Victorian General Practices (referred to as the Burgell Report). This report mapped all general practices in Victoria with a snapshot of practice provision of undergraduate, prevocational and registrar placements. The report showed that 571 of 1729 practices in Victoria provided training at the time. While the detailed data was not published as part of the report, the database exists that shows the location of the practices, the relative rural and urban breakdown of training provision, and the practices that provide multiple levels of training. This is essential information for planning. It enables planners to map the number of practices they need compared to the number they have. However, it is important to note that this was a one-off data collection. The database should serve as a baseline for future mapping in Victoria. It should also serve as a model for the collection of clinical placements data in general practice across Australia. The report recommended that GPV & RWAV should be funded to collectively maintain the database but no resources have been provided to date to implement the recommendations of the report."*

Others indicated that both hospitals and universities have considerable difficulty collecting and collating data themselves because of the great variety in clinical placements. It is not clear if any one system has the capacity to collect the data required at the jurisdictional level. It is even less clear if any one system has the potential to collect the data required at the various stakeholder levels for their particular purposes. The NHWT is currently recruiting a system analyst to undertake the research necessary to identify the solution.

The importance of the quantification of capacity and of the associated metrics for measuring that capacity was recognised by most respondents. Many respondents indicated a concern with qualitative issues that may be poorly reflected in metrics. Some issues related to the context in which the placement takes place, such as the availability of accommodation. More generally, qualitative issues were typically related to the student's learning opportunities, and particularly the role of the supervisor. Queensland Health was concerned that *"There may be some details of scholarships or other awards (e.g. for travel, accommodation) that need to be captured. For example, a certain number of students may be required to have placements in a particular 'area of need' according to scholarships"*.

Even those who focused on quantitative issues for which metrics might be available, indicated a need for flexibility, e.g. Griffith University said *"Any application of metrics would need appropriate flexibility to take account of local-level contexts and issues."* Several commented that as the availability of supervisors was the critical factor, the system should focus on that particular metric. As DHS said *"I believe you need nursing management buy-in before you have metrics. I do not mean at executive level I mean middle management. Nurse Unit Managers hold the key to wards/units ability to provide placements and to encourage a learning environment. There is much evidence that NUMs are the leaders that control access and quality to clinical learning."*

Others commented on the instability in a particular site's capacity to provide placements, and that this instability must be reflected in any metrics. For example, the Council of Physiotherapy Deans (Australia and New Zealand) said *"A critical issue is that the capacity of health care facilities to provide placements is not stable or consistent, being most affected by fluctuating staffing levels in health care facilities. Considerable administration burden is associated with placements that are planned and subsequently cancelled. A database system would need to be able to record these obstacles."* The Australian Rural Health Education Network indicated that because of this variability, research was needed into the best way to identify capacity instead of relying on snapshot metrics.

In summary

The data needs of the system are vast and cannot be categorised according to jurisdiction, health service provider, education provider or across health disciplines.

The stakeholders claim to have limited ability to supply any data due to the administrative burden associated with such data transfer, unless a system was built into which they could simply 'dump' data.

The Agency needs to define the minimum data set and provide guidance/governance with respect to the definitions surrounding the data so that national consistency of data and quality will not be undermined.

The way forward

The preferred system

Currently, considerable time and resources are being invested across Australia in ways to build capacity. Any new information system will need to draw these works together rather than duplicate or 're-invent' them. A range of drivers and barriers to growing the capacity of the health sector to provide clinical capacity have been identified by stakeholders including a range of reforms to the broader education/health system that could grow capacity.

The minimum data set needs to be obtained from the traditional jurisdictions, health service providers, education providers and the new/novel/previously not identified providers of clinical placement. The method of obtaining the minimum data set should be straight forward and not increase the administrative burden of contributors.

The information technology system would need to capture the minimum data set as well as qualitative data relating to the barriers to clinical placement so that stakeholders can, individually or through ongoing dialogue, brainstorm novel approaches to overcome barriers and increase capacity.

Stakeholders should be able to use the data to compare clinical placements within and across health profession disciplines as well as other parameters and then re-engage in discussions to identify capacity.

Work needs to be undertaken to nurture potential capacity through support for new providers of clinical placements which may include but is not limited to professional development of supervisors, financial and social reward for offering clinical placements.

There may be some potential for an information system to:

- Contain an agreed field that would indicate the work capacity of individual or classes of students.
- Build in any formula as the basis of identifying capacity.
- Identify the funds associated with particular students or classes of students and to identify ranges of values relative to, for example, the location of the clinical placement.
- Reflect the subsidy attached to each student and track that to the placement health service provider.

An effective system would:

- Grow capacity to take pressure off current supervisors and sites.
- Identify who is 'exclusive' and where capacity is not made available.
- Inform students of the learning opportunities offered by placement.
- Encompass VET and higher education students so that the entire future clinical workforce is identified.

Overall, stakeholders are happy for a national system to exist that is funded by new monies and be used for future placement planning. The agency would need to define the minimum data set and provide guidance/governance with respect to the definitions surrounding the data so that national consistency of data and quality will not be undermined.

Role of the agency

Whilst not specifically sought in the consultations there was extensive comment on the role of the agency. Whilst there was considerable variation in the scope and level of involvement that stakeholders sought from the new agency in clinical training, there was clear consensus on the following themes.

Build capacity It is unclear whether an information system *per se* can build capacity although it could include the use of formulae and algorithms that may be useful to identify unused capacity. Through clear identification of this potential capacity the agency may then facilitate and open discussions on the potential of a particular site to host clinical placements. It was clear that the role of the Agency would not be to allocate students to clinical placements as this required local skills and knowledge that could not be encompassed within an information system alone without becoming overly burdensome. Likewise, it was not desirable for the Agency to deem capacity as this did not respect long standing relationships and pre-existing legal agreements.

Information system Stakeholders expect the agency to provide the information system that will collect the mandated data. They expect the agency to develop, implement and facilitate adoption of a national information system, including taking responsibility for all aspects of data quality, training and system maintenance.

Funding Stakeholders see the Agency as responsible for the funding of the information system and of students to undertake clinical placements. This is implicit in the COAG communiqué.

Quality assurance Stakeholders see that the Agency has a role in assuring that students undertaking clinical placements have a learning experience that is relevant to their needs to obtain core competencies and that their placements meet accreditation standards. Whilst this is a complex issue the current work being undertaken by NHWT /Agency on efficiency and effectiveness of clinical training arrangements for accreditation is a constructive beginning.

Implementation principles

The following principles will be applied for the design and implementation of the preferred system:

- While the provision of data will be mandated, health service providers and education service providers will not be obliged to use any particular system in provision of those data.
- The system will be designed to meet local placement management needs as well as providing data for analysis and planning.
- The system will be designed to have system qualities of user friendliness, scalability and sustainability.
- The system will be designed to around principles of data quality in terms of usefulness and useability, timeliness and consistency and clarity of meaning.
- Privacy and confidentiality protection and overall security will be fundamental to the system.
- Single data entry will prevail where possible as will single log on.
- The system will be designed for flexibility and for suitability to innovation and ongoing improvement.
- Protection of local issues in terms of data provision and access will be cornerstones of the system.
- Implementation and associated infrastructure, system adoption, transition from superseded and integration with legacy systems will be supported including training.
- Timeliness of implementation and roll out will be managed to ensure smooth transition and minimal reliance on parallel systems.
- Disruption of 'business as usual' will be kept to a minimum.

Next steps

In the first instance, a detailed business requirements document will be produced which will set the framework around which all other software development and cultural issues can be resolved. This investigation will be supported by the establishment of an expert user group that will include representatives from health service providers and education service providers, as well as jurisdictions and other stakeholders.

This will be followed by an extensive investigation of the adequacy or potential of existing systems to provide the data and functionality consistent with the use cases defined in the functional specifications document. Initially, the investigation will consider systems in use and in development in Australia and then internationally.

It is intended that communication with stakeholders be maintained throughout the development cycle and beyond the initial implementation.

Due to the scale of this endeavour and the number of organisations involved, a phased implementation will occur, with a scaled-back system implemented at the beginning of the 2010 academic year.

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