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Association**

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Medical Taskforce on Informatics

Final Report

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1 Executive Summary

This report summarises the major findings and recommendations from a review undertaken by Mr Ross Davey acting as consulting Project Officer on behalf of the specialist *Medical Taskforce on Informatics* and managed by Mr Frank Quinlan (AMA Chief Information Officer) acting as project manager on behalf of the Australian Medical Association and the Department of Health and Ageing.

The review, which was conducted over nine months from September 2003 to June 2004 was funded by the Department of Health and Ageing and was aimed at identifying the gaps in specialist use and adoption of informatics, and then recommend on how this should be addressed. In particular, the review identified the most appropriate way forward for advancing specialist use and involvement in informatics. It recommends what role specialist medical colleges should have in this agenda, and what financial support such a strategy may need.

1.1 Findings on gaps and barriers

The review examined the status of specialist informatics and found:

- The use of informatics varies greatly from specialty to speciality and within specialties. The findings from the interviews and surveys of the Medical Taskforce on Informatics members identified at least five functional areas for the use of informatics that were considered very important for the majority of specialists. These five functional areas include clinical record keeping for all patients; electronic transmission of investigation orders or referrals; chronic disease management/care planning/reminders/care pathways; surgical and other clinical audit; and risk management. Most specialties had a very low adoption of informatics in these five areas in their workforce, particularly in clinical areas.
- Although some colleges have a reasonable capacity to address informatics programs and support adoption of informatics in their speciality, this capacity is very limited because of minimal internal resources.
- There is very little involvement by specialist organisations or official representation on behalf of the specialties in the strategic planning or shaping of the broad health informatics agenda.

The review concluded that:

Specialists were not well engaged in any of the important decision making processes around informatics by the various levels of government or industry. Initiatives are compromised because of the lack of input from specialists and currently the majority of informatics initiatives are being undertaken without due consideration of the impact on specialists.

The barriers to specialist use of informatics were seen as:

- Specialists are 'time poor' and don't have the time to commit to learning new processes.
- Perception among specialists that computers take more time to do tasks.
- Connectivity issues are preventing specialists from achieving the many benefits of informatics.
- Evidence of the benefits of informatics is not available to specialists.
- The change management necessary to adopt informatics for knowledge, management, work practices, practice administration and staff, organisational change in institutions.
- Lack of infrastructure and facilities for education, training, knowledge support functions i.e. broadband, textbooks online, libraries online, 'last mile' speedy access, access within operating rooms.
- Lack of funding; to support Continuing Professional Development in informatics, and also to support the development and provision of electronically based Continuing Medical Education training.
- Lack of involvement in informatics activities from the colleges. "Colleges need new staff to support informatics activities."
- Lack of college leadership: i.e. "The College should mandate some informatics facilities (e.g. access within operating room to knowledge bases)."
- Lack of quality policies by the College regarding electronic clinical systems and use. "Self-education in informatics should be an accreditation requirement."
- There are no evaluation and quality control measures to determine the effectiveness of electronically delivered materials.
- Engagement of specialist groups by government-sponsored programs involving informatics is inconsistent.
- Lack of availability of suitable software.
- Lack of Information Technology (IT) support.
- Inadequate hardware/infrastructure in hospitals.
- There are minimal failsafe measures to protect specialists from the additional exposures brought about by the use of informatics (risk, burden of backups, etc.)
- Lack of awareness of presently available information.
- Inconsistency in funding policies (e.g. GPs large incentives, specialities very little).
- No payment of doctors related to better data collection and use.
- No clear consistent policies on payment regime for tele-consulting – still a grey area.
- Lack of commitment to secure broadband at realistic prices by funders.
- HIC Online is not interested in specialists.
- No funding available for second opinion tele-reporting.

1.2 The need for capacity building

Specialists and their underlying support mechanisms must have an increased capacity to understand and participate in the effective use of informatics.

Without the capacity of specialists to personally understand and embrace informatics, adoption of the facilities and technology will be slow.

This depends on support organisations such as colleges to facilitate a profession-wide approach.

Further, there is a need for support mechanisms such as informatics facilitators, educators, IT support people, access to experts, discussion groups and conferences, to advance specialist use of informatics.

There are three main areas where capacity-building is needed:

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- Within specialist colleges and other professional organisations.
- By individual specialists/the workforce.
- Across the specialist sector as a whole.

1.3 Recommendations

1.3.1 Continuing role for the Medical Taskforce on Informatics

The recommendations for the role of the Medical Taskforce on Informatics (MTI) include:

- The MTI – a focussed working group of representatives from the AMA and all medical specialist colleges – should continue to provide a focal point for strategic input from medical specialists to the rapidly advancing informatics agenda. This group should also provide a means for specialist colleges to collaborate in coordinating their input into the health informatics agenda and provide oversight to the specific initiatives, engagement activities and communications that grow out of the first 10 months' activity.

1.3.2 Capacity-building programme

1.3.2.A Capacity-building of medical colleges

The recommendations for capacity building the medical colleges include:

- The medical colleges should be supported to establish a small workforce of Informatics Officers. The Informatics Officers would be employed by and within the college secretariats, occupying a combination of full time positions, shared positions between strategically aligned colleges and part-time positions at the smaller medical colleges. The focus of these Informatics Officers would be to raise the capacity of the colleges and the specialist workforce in health informatics. The Informatics Officers would also undertake specific projects involving informatics, develop and carry out a work-plan addressing informatics issues, and implement an informatics communication strategy across the specialties for which they are responsible. It is proposed that a minimum of five full time equivalent positions be funded.
- The larger colleges that have a greater capacity to undertake and support work programs should work with the smaller, less resourced colleges to advance the informatics capacity agenda. The larger 'mentor' colleges would act as project/program fund-holders and would take the leading role of employing staff, administering the projects and engaging with the smaller colleges.

1.3.2.B Capacity-building of specialists

The recommendations for capacity building specialists include:

- Colleges should be invited to submit proposals either by forming college collaborations or for one College to be a lead-agent. The lead-agent college or collaboration of colleges would undertake the framing and development of common informatics training and education modules for fellowship training and

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1.3.2.D Specialist informatics work plan

The Department of Health and Ageing in collaboration with the specialist colleges and the MTI should advance the items of the draft Specialist Informatics Workplan to action the strategic and pre-cursor items. These industry representatives should also further refine the projects and initiatives in the work-plan that can be funded and actioned.

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2 Background

Informatics is the application of computer and statistical techniques to the management of information.

In a medical context, informatics is used in various specialties, in hospitals and in General Practice.

Uses include clinical record keeping for patients, planning, reminders and care pathways for chronic disease management.

In hospitals, informatics may be used for electronic decision support for diagnosis/interpretation and for remote access to patient clinical history and images.

It has been evident for some time that although the use and adoption of health informatics is quite advanced in some areas of medicine, its adoption in others is advancing at a very slow rate. This disparity is especially evident across the range of medical specialties and sub-specialties.

General practitioners have for many years accepted that informatics will have an important role as part of their future tools and facilities assisting them to practice medicine. Pathologists and radiologists have long been users of informatics at the very core of their work-practices and infrastructure. Anaesthetists and some sub-specialties such as emergency medicine have been using computer-assisted equipment in ways that members of their specialty now rely on to perform their tasks effectively.

On the other hand, cursory review across all specialties has suggested that there are quite a number of specialist areas that have been slow to become involved in informatics or to adopt informatics in their clinical work, administration, or training. To allow this situation to continue (where some specialties are falling behind in being involved in informatics advances and thereby not having the capacity to utilise important facilities which go to the core of providing integrated patient care) is to deny the important place that specialists have in the continuum of care and the importance of their being equipped with the latest information systems to facilitate that role.

It is therefore timely, and perhaps arguably overdue, that the needs of the various specialties, craft areas and medical colleges should be brought into focus, and these groups now participate in the strategic move towards participation in and adoption of appropriate informatics initiatives.

Starting in late 2002, the Australian Medical Association (AMA) first undertook a 'Medical Colleges Scoping Review' that compiled an overview of the status of college involvement in health informatics, and as a culmination of that exercise, hosted a one-day forum in the form of the Medical Colleges and Craft Groups Medical Informatics Round Table. This Round Table forum, held in December 2002 arrived at the conclusion that it was necessary and appropriate that specialist colleges should take the lead in facilitating specialists to advance their involvement in health informatics.

Specialist colleges involved in these discussions, in the scoping project and the College Round Table forum, were keen to take forward the recommendation that a taskforce of specialist sector representatives should be established to prepare strategies and actions for enhancing specialists' capacity in addressing informatics issues. Funding for support of such a taskforce was sought from the Department of

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Health and Ageing, and the AMA was identified as the preferred organisation to provide support for carrying forward this initiative.

In September 2003 the combined colleges with the assistance of the AMA established the Medical Taskforce on Informatics, with the purpose of providing a forum for the colleges to collaborate and focus their attention on advancing specialist involvement in the health informatics agenda.

This project has been undertaken as an initiative of the combined medical colleges through their involvement in the Medical Taskforce on Informatics and by the participation of representatives of the major medical specialties nominated by the colleges.

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3 Scope and Approach

3.1 Scope

This report documents the outcomes of a review undertaken over a nine-month period following on from preliminary work undertaken by the Australian Medical Association (AMA) scoping informatics use by the medical specialist sector and the status of specialist informatics adoption. The project was undertaken in conjunction with the activities of the specialist Medical Taskforce on Informatics, whose brief was largely to provide input to this project and to undertake preliminary planning for advancing specialist informatics.

The deliverables that were required by the project sponsor (the Department of Health and Ageing) were:

- Identify the extent to which different specialist groups use Information Management and Technology (IM&T) and for what purpose.
- Identify the barriers to the uptake of IM&T by specialist groups.
- Ascertain whether there is a need to build the information technology (IT) skills base and capacity of these groups, now and in the future.
- Identify the readiness of specialists to participate in ehealth initiatives (the use of digital data in the health care sector), such as HealthConnect and MediConnect.
- Make recommendations for actions and mechanisms that will increase the skills base of medical specialists.
- Outline the role that specialist associations could play in implementing the recommendations.
- Develop an estimate of the cost of the specific actions that are recommended.

3.2 Approach

Findings reported from an environment scoping project conducted by the AMA in late 2002 including a 'round table meeting' of representatives of the specialists medical colleges were used as guiding material to inform the initiation of this project.¹

A number of fundamental investigation questions governed the approach:

- What are the functions that are currently serviced by informatics for each specialty, and to what extent are they used by each specialty?
- Where are the gaps in use?
- Where are the gaps in availability of functions serviced?
- What are the barriers to adopting informatics in each specialty?
- How does the Department of Health and Ageing engage specialists to involve them in initiatives in which the Department has a leading role?

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Concurrent with and integral to this project, the Medical Taskforce on Informatics was convened consisting of representatives from most of the major Australian medical colleges. This Taskforce had as its primary task the informing of the investigations of this project, but also a broader role of considering the strategies for enhancing the involvement of specialists in the informatics agenda and representing the colleges in how this might be affected.

The project methodology included the following major elements:

- Survey of Taskforce members to identify the range of major functions that informatics currently serves across all specialties.
- Survey of Taskforce members (and their nominated second representatives) to identify the range of functions served by health informatics for each specialty, the level of use across the specialty and how important those functions were.
- Review and analysis of the survey responses to arrive at a list of 'gaps' in use; prioritised by degree of importance.
- Survey of the above representatives of specialties to determine views on barriers to uptake of health informatics by each specialty.
- Workshop of Taskforce members and other specialty representatives to review the 'gaps and barriers' to develop some priority initiatives to address these issues. This workshop also examined the issues that were considered to be barriers to effective informatics uptake.
- Interview of Department of Health and Ageing programme managers and directors to determine the current level and methods used for engaging input and involvement of specialists in initiatives that involve health informatics

The project commenced in September 2003 and proceeded through to the workshop conducted in April 2004, and a further consideration of strategies at a face-to-face meeting on 3 June.

Four face-to-face meetings of the Medical Taskforce were held from 2003–2004.

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4 Findings

4.1 Status of specialist informatics

The status of specialist informatics has been considered in three main areas:

- Degree and scope of use of informatics by specialists in their professional capacity.
- Capability of colleges to support and lead the adoption and development of informatics for their specialty.
- Involvement of the specialties in shaping the progress of informatics in the healthcare domain.

Each of these three areas of involvement in health informatics is critical to the advancement of the effective use of informatics by the specialist sector of the healthcare system.

Not only the level of use of informatics by the profession but also the range of functions for which specialists are using informatics in their daily practice of medicine reflect the current state of informatics adoption by specialist medical doctors. The level of involvement of the main specialist professional associations in informatics issues reflects the state at which the profession now sits with regard to embracing informatics at a professional level. Finally, the level of involvement of the specialist sector in shaping informatics agenda, developing policies and participating in the broader healthcare issues, indicates the degree of sophistication and advancement of the specialist sector in informatics.

4.1.1 Use of informatics by specialists

The findings from interviews and surveys with the Medical Taskforce on Informatics (MTI) members, representatives of medical colleges and individual specialist representatives show that specialist use of informatics varies greatly from specialty to speciality and within specialties. Some specialties (eg pathology) rely significantly on health informatics to support clinical practice, whereas other specialties could be described as very embryonic in their use of informatics at the clinical interface. Overall, specialists in Australia are not well advanced in use and adoption of informatics, and are now at a stage where this can be viewed as a significant barrier to effective development and adoption of informatics to assist healthcare in Australia overall.

Specialties that have a high procedural component to their clinical practice or traditionally have a high exposure to technology assistance in their clinical areas have adopted and embraced informatics more extensively than others. These include:

- Pathology.
- Radiology.
- Anaesthesia.
- Medical Administrators.

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One 'specialty' that is an exception to this profile is General Practice, which is not considered to be highly procedural nor technical but does have high adoption in some areas of clinical use (particularly prescribing). However, this might be considered to be a result of the special attention paid to this sector to increase take-up and capacity and to the strategic approach to health informatics in general practice taken over the last 20 years.

Our survey results show that the following uses of informatics have low adoption (25% of the workforce or less) amongst a majority of specialties and yet these functions were classified as **very important** to their specialty:

- Clinical record keeping for all patients.
- Electronic transmission of investigation orders or referrals.
- Chronic disease management/care planning/reminders/care pathways.
- Surgical and other clinical audit.
- Risk management.

The following functions were found to be little used by any specialty:

- Clinical record keeping for all patients.
- Research data accumulation.
- Online consultations (real-time with patients).
- ePrescribing.
- Chronic disease management/care planning/reminders/care pathways.
- Consultations with peers/advice.
- Videoconferencing with patients.
- Videoconferencing with colleagues.
- Risk management.
- Electronic transmission of investigation orders or referrals.
- Electronic transmission of investigation results or referral reports.
- Electronic notification of hospital stay/discharge information.
- Electronic decision support for diagnosis/interpretation.
- Electronic reminders/prompts (opportunistic Electronic Decision Support).
- Image storage and retrieval.
- Remote/mobile access to patient clinical history/images.

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- Connection to test equipment/treatment equipment.
- Continuing Medical Education (CME)/Continuing Professional Development (CPD)/self-paced courses.
- Customer relationship management.
- Trainee supervision.
- Clinical audit.

4.1.2 Capability of colleges to support, adopt and develop informatics for their specialty

Although some colleges have a reasonable capacity to address informatics programs and support the adoption of informatics in their specialty, in general this capacity is very limited.

Most colleges have a small secretariat and administrative capability and even the larger colleges are only at a stage where they have employed dedicated IT resource people to focus on internal infrastructure requirements with little to no capacity to address the needs of members.

Since the commencement of the Medical Taskforce on Informatics initiative in late 2000, more colleges have established or reconstituted their IT special interest groups or informatics committees, however these committees have limited resources, are made up of enthusiasts and experts and have little capacity to undertake any serious support of or engagement with their wider membership.

No college has dedicated significant financial support for informatics activities aimed at membership adoption of informatics, or informatics education.

4.1.3 Involvement of the specialties in shaping informatics in healthcare

There is very little systematic involvement by specialist organisations or official representation on behalf of the specialties in the strategic planning or shaping of the broad health informatics agenda. Certainly a number of individual specialists are active in strategic areas such as HealthConnect, standards development, healthcare informatics societies, informatics conferences and the Australian College of Health Informatics, however this is in their capacity as individual 'experts' and enthusiasts rather than officially representing the interests of particular specialty groups.

Government sponsors, project initiators or programme managers have been reluctant to engage the specialist sector in its planning process because it has not been clear how this might be done. There is no clearly defined process that provides for engagement of the specialist organisations' interests in a balanced and representative way.

Conversely, the specialist organisations have had little capacity to proactively provide regular and effective input to projects, programmes and strategic planning in advancing the Australian health informatics agenda.

Notable exceptions to this provide some view on how effective this formal involvement can and should be. The College of Pathologists (RCPA) has been effectively engaged by the Department of Health and Ageing via its Diagnostics and Technology Branch over many years at a clinical and policy level and have forums such as the

Pathology Consultative Committee and the Quality Use of Pathology Committee where industry and professional issues are addressed quite effectively. This has included informatics issues and initiatives. It is suggested that the main reason that this engagement process has been more effective than for many other specialities is that the particular Department of Health and Ageing (DHA) branch responsible for pathology largely focuses on that (and one other) speciality and hence are more familiar with issues, work practices and demands surrounding that speciality.

Likewise, the general practice sector and the College of GPs (General Practice Computing Group and Royal Australian College of General Practitioners) has for some time been actively engaged by DHA on informatics issues, largely because there has existed a branch that focuses on general practice and hence has a stake in addressing their specific issues. This branch has been actively involved in supporting and nurturing informatics take-up by GPs for a far longer time than other areas of health and has established a means of engaging the College on informatics issues through the General Practice Computing Group, directly with the College and with other GP groups.

4.2 How well are specialists engaged?

Specialists are not well engaged in any of the important decision making processes around health informatics.

Commonly, government initiatives at both Commonwealth and State level either rely on representation by a few well-known commonly-utilised specialist 'experts', or else seek input from college organisations which pass these matters on to their respective (volunteer-based) IT Committees or IT enthusiasts who have limited capacity to respond.

Initiatives continue to be compromised because of the lack of input from specialists and currently the majority of informatics initiatives are being undertaken without due consideration of the impact on specialists. This is in spite of international evidence indicating that the direct involvement of clinicians in the planning and implementation of new systems is a direct indicator of successful adoption.

Those people who are undertaking projects, decision-making, strategic planning or investigation are not necessarily to blame for this absence of engagement. It is quite difficult to engage the broad group of specialists for a number of reasons:

- The diverse range of work-practices, expertise and nature of medicine that is represented by the specialties, sub-specialties and special interests, means that any meaningful input must be sought from quite a number of people, and no single representative can do this effectively.
- The fact that no formal processes exists for specialists or specialist organisations to seek input and engagement.
- Specialists are typically 'time-poor' and private practitioners in particular find it difficult to devote time to provide their input on a voluntary basis.
- Colleges, being the most obvious organisations that represent specialist 'craft areas', have a variable capacity to organise expert input, have difficulty in addressing many informatics issues because of resource deficiencies, and in some cases do not perceive informatics as a high priority.

Three main areas have been selected as indicators of the effectiveness of engagement of the specialist sector in the current environment:

- 1) Consultation by DHA with the specialist sector in planning HealthConnect/MediConnect and other health programmes.
- 2) Evidence of established mechanisms for engagement of specialists and gaining access to the 'right' specialists.
- 3) Engagement with the specialist sector by the software industry to determine needs.

4.2.1 Consultation with the specialist sector by Department of Health and Ageing (DHA) programmes

Most members of the Medical Taskforce on Informatics (MTI) indicated that, to their knowledge the consultation process associated with either the HealthConnect or the MediConnect initiatives had not specifically engaged their specialty. By and large, engagement depended upon members of the specialty learning of one of the briefing sessions through the broad publicity processes employed by these initiatives, and then arranging for someone to attend. More formal input to ensure that the architectures, business processes and functionality are suited to the needs of each of the specialties has not occurred.

This was verified in an interview with the DHA officers that were working on the HealthConnect team. Upon questioning, the interviewee suggested that specialists would be factored in 'at a later stage'.

For example when asked about plans to engage specialists, the DHA programme managers responded:

"Trials are chosen 'bottom-up', and involvement of specialists is determined by trial proponents i.e. State Health Departments. If particular specialists were to be involved in a trial, we would approach the College. HealthConnect intends to engage all specialist groups, but may be 10 years away."

Also:

"Business Architecture engagement process involved a process of broadcasting invitation to comment but there are no specific specialist processes."

As demonstrated in the interviews conducted with DHA programme managers and directors, the degree of consultation varied greatly. Those programmes that worked most effectively with the specialist sector to determine strategies and needs were those that focussed on one particular specialty and DHA personnel had expertise and experience in engaging that sector e.g. radiology, and pathology.

Other effective engagement has resulted when a DHA programme has identified a 'lead college' that could undertake the coordination of the engagement process with the other colleges and interest groups e.g. College of Obstetricians (Royal Australian and New Zealand College of Obstetricians and Gynaecologists) working on a Continuing Professional Development (CPD) education framework.

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The pervasive experience of the DHA programme managers was that for informatics issues, the specialist sector was extremely difficult to engage because of its diversity, its capability to address informatics matters and the lack of any clear mechanisms or resources (on the part of colleges or any alternative organisation) to facilitate the effective engagement of the specialist groups on informatics matters.

4.2.2 Evidence of established mechanisms for engaging specialists

Consultation with the specialist colleges in 2000 during the scoping study that pre-empted the formation of the Medical Taskforce on Informatics (MTI) indicated that most colleges did not have formal mechanisms for providing input on informatics matters to initiatives that might seek their involvement.

Since that time, almost all colleges have instituted some form of 'Information and Computer Technology/Information Management Special Interest Group' or 'Informatics Committee', however, these groups tend to meet infrequently and are reliant upon unfunded participation by small groups of IT enthusiasts. Any real investment of time or resources spent responding to strategy documents or project planning or attending planning forums is still very limited. There is still evidence that despite the existence of these committees, the more common path for gaining input on informatics matters is for colleges to continue to direct enquiries to a small number of recognised enthusiasts and 'IT experts' with little capacity to gain systematic input from any cross-section from their specialty.

One result of this phenomenon is that input tends to be skewed towards the views and needs of the salaried or public sector of each specialty because private practitioners are not adequately funded to become involved.

The MTI is the first "inter college" initiative in the informatics arena.

4.2.3 Engagement with the specialist sector by the software industry

With a few notable exceptions (again radiology, pathology and perhaps Anaesthesia), most software companies have evolved their products from their offerings developed for the general practice sector; even in their clinical applications.

The reason for this is twofold:

- General practice led large-scale improvement in clinical record keeping with a view to computer-based clinical records. (Progression from the Royal Australian College of General Practitioners paper-based Problem Oriented Medical Record to computer adaptations of this in the 1980s). Software companies followed suit.
- The software industry is largely 'reactive', especially to perceived market demand, and General Practice was more attractive because it appeared to be a larger, more homogenous market. General Practice had a large demand for practice management systems (PMS), and was certainly homogenous in its needs. The natural progression meant that users of PMS would evolve their systems and move into clinical records over time.

Other specialities that had a strong business case to adopt IT facilities (i.e. would pay for custom developments of their clinical applications) and which demanded very specialised design in clinical and patient management areas also received attention from the vendor sector e.g. pathology.

Because the software industry relies on user-demand that has the possibility of translating into large market potential, most engagement of other specialist groups by the software industry to determine specific needs is quite limited and unsatisfactory. This lack of engagement is also evident in the adoption of monolithic hospital based systems.

There is little opportunity for specialists to provide consensus input to the software industry on needs for applications in their clinical work. Even more importantly, because they have little opportunity to influence application design at the needs-investigation stage, there is minimal opportunity for specialist organisations to ensure that they have some control on the effect that clinical software might have on standards of clinical care delivery.

4.3 Barriers to specialist use of informatics

The survey process sought views from the specialist members of Medical Taskforce on Informatics on the gaps and barriers in specialist informatics adoption. The respondents were asked what they perceived to be the main barriers to specialist take-up of informatics facilities. These questions were asked in relation to use in clinical areas, use in practice administration, use in areas of education, training, and knowledge support and finally in governance and policy areas.

These responses were reviewed and summarised as shown below reflecting those issues that were perceived as the highest priority i.e. seen as necessary precursors to effective informatics take-up.

4.3.1 Clinical use

4.3.1.A Time issues

- Specialists are 'time poor' and hence time commitment to learn new processes is a barrier.
- There is the perception amongst specialists that computers take more time to do tasks; there is need for evidence that this is not necessarily correct or else that other benefits outweigh the time impact.

4.3.1.B Connectivity issues are preventing specialists achieving major benefits

- Lack of connectivity of specialists to hospital facilities from outside (eg from their private rooms).
- Lack of multi-location connectivity and catering for mobility of specialists.
- Lack of interoperability of different intra-hospital applications and systems.

4.3.1.C 'Evidence-base' of benefits of informatics not available

- Lack of evidence and hence acceptance of specialists that informatics can deliver efficiencies at the clinical level.
- Perception that interference in the doctor/patient interaction is not refuted by published evidence.

- Need to change 'attitudes' of specialists; particularly by addressing their need to have 'evidence of benefit' before they will adopt technology.

4.3.2 Practice administration use

- The management of change including work practices, practice administration and staff, organisational change in institutions.
- Lack of availability of suitable software.
- Lack of IT support.
- Inadequate hardware/infrastructure in hospitals.
- Minimal failsafe measures to protect from additional exposures brought about by use of informatics (risk, burden of backups etc).

4.3.3 Education, training, knowledge support functions

- Lack of infrastructure and facilities were the most prevailing issues. i.e. broadband, textbooks online, libraries online, 'last mile' speedy access, access within operating rooms.
- Lack of funding; to support Continuing Professional Development in informatics, and also to support the development and provision of electronically based Continuing Medical Education training.
- Lack of awareness of presently available information.
- Time commitment to gain access skills.
- The change management necessary to adopt informatics for knowledge management.
- Lack of evidence of value to the specialist.

4.3.4 Governance, policy and organisational issues

4.3.4.A Stated or implied greater College involvement:

- Lack of colleges' involvement in informatics activities. "Colleges require staff to support informatics activities."
- Lack of college leadership. "The College should mandate some informatics facilities (e.g. access within operating room to knowledge bases)."
- Lack of quality policies by the College regarding electronic clinical systems and use. "Self-education in informatics should be an accreditation requirement."
- No evaluation and quality control of effectiveness of electronically delivered materials.

4.3.4.B Changes to doctor payment and funding issues:

- Inconsistency in funding policies (e.g. GPs large incentives, specialists very little).

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- No payment of doctors related to better data collection and use.
- No clear, consistent policies on payment regime for tele-consulting – still a grey area.
- Lack of commitment to secure broadband at realistic prices by funders.
- Health Insurance Commission Online is not interested in specialists.
- No funding available for second opinion tele-reporting.

4.3.4.C Including specialists in informatics policy, planning and project design:

- Engagement of specialist groups by government-sponsored programs involving informatics is variable and fairly ad-hoc.

4.4 Priority issues

The following issues have been developed from the Taskforce deliberations and are put forward as source information to serve as input to further development of informatics work-plans for colleges. Of the range of issues identified, the Taskforce identified the list below as high priority.

4.4.1 Priority needs

4.4.1.A College capacity:

- Colleges require staff to support informatics activities for their specialty.
- Colleges don't have financial resources to support informatics leadership.

4.4.1.B Workforce capacity:

- Need for Continuing Medical Education/Continuing Professional Development education materials and courses on informatics aimed at specialists.
- Need to develop workforce around specialists (e.g. colleges staff and others).

4.4.1.C Sector engagement:

- Little clinician-based consultation to set national informatics priorities (e.g. HealthConnect, standards development etc.).
- All branches of government to be more aware of specialist needs and focus on and engage specialists more. (To date specialists have not been engaged effectively and have little knowledge of government programs until it is too late to influence important priorities and decisions.)

4.4.1.D Leadership/facilitation:

- Colleges need to take leadership on informatics on behalf of their specialty.
- Colleges should actively participate in informatics development processes and keep members involved.

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- The Medical Taskforce on Informatics should continue to represent collective college strategic leadership in informatics.

4.4.1.E Incentives:

- There is no payment of doctors related to better electronic data collection and use.
- Colleges should mandate the availability of electronic access to electronic knowledge bases in operating rooms.
- Funding is not available for tele-consulting or electronic second opinions.
- Self-education in informatics should be an accreditation requirement.
- Information Management and Continuing Professional Development should be tied to the Continuing Medical Education point system.

4.4.2 System gaps

The needs of specialists are listed below, in priority order based on the number of specialties:

- Electronic transmission of messages and secure communication.
- Use of electronic decision support by specialists.
- Authentication and security: (problem specifically is Public Key Infrastructure – needs to be transportable, convenient and easily used between multiple locations)
- A standard clinical terminology thesaurus: (lack of this is hindering interoperability of systems and broad take-up).
- Access to all investigation results and reports generated by specialists on historical basis including solution of governance and interoperability issues. (Rationale: reduction of duplication of results).
- Too much of the clinical knowledge information available on the Internet is not tailored to specialist needs. (Even Cochrane is too unwieldy. The equivalent of HealthInsite is needed for each/all specialty e.g. Medscape.)
- Broadband connectivity that has multi-location workplace capability.
- Broadband connectivity that is practical for private specialists and rural/remote specialists.

4.4.3 Priority adoption gaps

- Electronic transmission of investigation orders or referrals.
- Surgical and other clinical audit.
- Clinical record keeping for all patients.
- Risk management system.
- Clinical reports to referring doctors.

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- Electronic notification of hospital stay/discharge information.
- Chronic disease management/care planning/reminders/care pathways.
- Remote/distance learning.
- Risk management – consent.

4.4.4 Barriers/impediments to take-up

- Lack of connectivity (e.g. private clinician rooms access to hospital facilities).
- Interconnectivity of systems (e.g. in hospitals which have information silos).
- Access to hospital networks from specialists outside.
- Lack of time on the part of specialists – commitment is necessary to learn and use informatics.
- Lack of attention to clinicians' workflow issues by system designers and system purchasers – workflow management and change management is required.
- Value evidence.
- Insufficient appreciation by specialists generally of inefficiencies relating to clinical activities that could be improved by appropriate informatics.
- Poor understanding by specialists of cost-effectiveness of IT solutions – articulate value message and provide evidence of value.
- Specialists do not yet realise that extraction of information is a main potential benefit. (Risk management, review and audit).
- Perception that use of IT makes you more vulnerable as systems may be either unreliable or insecure.
- Gap between perception of value and actual adoption. Big step for specialists between recognition of value and actually adopting.
- Access to IT support people by private practice.
- Knowledge information not 'filtered' to make it more readily available and relevant for specific specialties.
- Need for journals and textbooks online for both trainees and practitioners.
- College contribution to electronic library content.
- Better access to online libraries, especially for private practitioners.
- Education institutions having good resources online.
- Lack of awareness by specialists of the wide range of information on informatics that is available.

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4.5 Need for capacity-building

If major gaps and barriers in specialist informatics are to be addressed, the capacity of specialists to participate, their level of skill, their support mechanisms, must all be improved.

Without the capacity of specialists to personally understand and embrace informatics, providing the facilities and technology will have little affect on adoption.

Without the capacity of support organisations such as colleges to address issues such as standards, quality, work practices, education and training, individual endeavours at advancing the use of informatics will be less effective and lacking in a professional foundation.

Without the capacity of support mechanisms such as specialist-focussed information management facilitators, educators, IT support people, access to experts, discussion groups and conferences (to name just a few), specialists will find that their efforts to advance the use of informatics will be difficult, time-consuming and frustrating.

Although the experience of the general practice sector in Australia is looked upon by some specialties with some sense of envy, the truth is that the advancement of general practice informatics has been a very slow process that has taken over 20 years. Over those 20 years, the main restricting factor has always been the capacity of the profession to adopt informatics, the change management that has been demanded and also the capacity of other sectors (especially government) to support this adoption. Likewise, when capacity has been addressed, large forward leaps have been evident.

Some examples of initiatives that have made a significant contribution to GP informatics capacity which arguably have contributed to advancement and adoption are:

- Royal Australian College of General Practitioners (RACGP) sponsored GP informatics conferences every two years since 1978 have contributed greatly to the exposure, awareness and acceptance of informatics by the GP community.
- The appointment of RACGP computer fellows have provided expert capacity at the college level and allowed some focus by the profession on specific issues and initiatives.
- The support by the RACGP of the Computer Aided Practice Project (CAPP), which went a long way to running a trial and generating evidence for GPs of the potential and benefits of using computers for clinical purposes.
- The introduction of informatics into the GP training curriculum at the Monash University Department of Community Medicine was a national example that other educational institutions followed.
- The establishment of the Commonwealth Department of Health 'GP Information Management Steering Group' which was the start of the Health Department's changing attitude and internal capacity in understanding GP informatics.
- The establishing of Practice Incentive Payments (PIP) that were tied to adoption and use of informatics in daily practice.

- Guidelines for the Clinical Use of Electronic Mail with Patients
This widely referenced article from AMIA contains practical yet authoritative advice for practicing clinicians regarding the use of e-mail with patients.
<http://www.amia.org/pubs/fpubl.html>
- Palm Perspective: A day in the life...
An original article from handheldmed.com, is one clinician's perspective on how his handheld computer has become an indispensable clinical tool.
www.handheldmed.com/newsmore.php?NID=120&DETAIL=Columns%2FFeatures
- Telemedicine Resource Center
This special section of ACP Online offers an introduction to telemedicine that includes an overview of the essential concepts, a glossary, links to other telemedicine web sites, and an extensive bibliography of other high-quality resources. www.acponline.org/computer/telemedicine/index.html
- ACP Electronic Products
Authoritative, current, and searchable clinical information products, including journals, practice guidelines, systematic reviews, and online and CD-ROM based education products. www.acponline.org/catalog/electronic/
- ACP Observer—Computers in Medicine
Each month, the College's news magazine covers medical computing issues. An archive of these articles is available.
www.acponline.org/journals/news/compmed.htm
- ACP Computing Newsgroup
Join other college members in discussions about medical computing.
www.acponline.org/auth-cgi/readnews.pl?g=compute
- ACP Newsgroups
Join other college members in discussions about diagnostic and therapeutic clinical practice issues and residency. www.acponline.org/auth-cgi/readnews.pl

4.6.1.D

Radiological Society of North America (RSNA)

The RSNA is leading a joint effort with the Healthcare Information and Management Systems Society (HIMSS) in a project under the Integrated Healthcare Enterprise (IHE) initiative that is a project designed to advance the state of data integration in healthcare. This project brings together medical professionals and the healthcare information and imaging systems industry to agree upon, document and demonstrate standards-based methods of sharing information in support of optimal patient care.
<http://rsna.org/IHE/index.shtml>

4.6.1.E The Royal Academy of Medicine in Ireland (RAMI)

The RAMI has an Academy Section devoted to informatics.
<http://www.iformix.com/rami/sections.php?id=21>

flagships of Malaysia's Multimedia Super Corridor project (MSC). Integrated Telemedicine consists of four applications:

1. Lifetime Health Plan (LHP)
2. Mass Customised/Personalised Health Information and Education (MCPHIE)
3. Continuing Medical Education (CME)
4. Teleconsultation.

4.6.1.B The Hong Kong Medical Association (HKMA)

At their web site, (www.hkstar.com/~shwan/cmecomer.html), the HKMA provides access to an impressive array of accredited Continuing Medical Education (CME) programs that are provided online around the world. The HKMA has integrated these online CME courses into their CME program. Direct links are provided to:

- American College of Cardiology.
- American Medical Association.
- The American Academy of Physical Medicine and Rehabilitation.
- Hong Kong Medical Association.
- Southern Medical Association.
- Cleveland Clinic.
- The Harvard Medical School.
- The University of Texas Medical Branch at Galveston.
- The Mayo Clinic.
- The Hospital Authority of Hong Kong.
- The University of Washington.
- Southern Medical Association – Alabama.
- Temple University School of Medicine.

4.6.1.C The American College of Physicians (ACP)

ACP offers an impressive variety of products and services to help internists make the best use of computers in patient care and continuing medical education at www.acponline.org. These resources include educational programs, publications on computers and medicine, and multimedia medical education products. ACP also offers resources to aid internists to learn about the many uses for computers in the clinical setting.

- Practice Management Center (PMC)
The PMC offers ACP members free, personalised advice and consultation on selecting practice management, electronic medical records, **PDA (Personal Digital Assistant)** software and hardware and information on other business-related topics. <http://www.acponline.org/pmc/practice.htm>
- American Medical Informatics Association (AMIA)
The AMIA is the premier organisation of the medical informatics community in America. The AMIA makes many of its publications and educational offerings available via its website, www.amia.org/about/fabout.htm

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4.6.1.F The Royal College of Physicians (RCP)

The RCP has a special 'Health Informatics Unit' that has as its aim 'improving information management in health'. It provides an excellent range of resources including a website intended for all clinicians, patients and the general public. It provides information about the Royal College of Physicians' work in the field of healthcare information management and communications technology (health informatics). It also provides access to generic educational resources for doctors. <http://hiu.rcplondon.ac.uk/index.asp>

4.6.1.G The Royal College of Surgeons of England (RCSE)

RCSE has a section on its web site for Health Informatics Resources that provides reference to electronic journals and databases such as Medline, Best Evidence Topics, Cochrane, etc. It is clear that the College has ambitions to further exposure its members to health informatics. Its 'Current Awareness' access points (online links) is quite an interesting concept for 'time poor' specialists. http://www.rcseng.ac.uk/services/library/hi_resources/current_awareness_html

4.6.1.H The Royal College of Obstetricians and Gynaecologists (RCOG)

In many of the RCOG clinical standards documents, informatics use is listed as important. For example its 'Standards in Colposcopy January 1999' lists as one of the attributes of a 'lead clinician' as one who adopts responsibility: [To] "Develop and put in place effective and accurate informatics to facilitate audit, communications and failsafe."¹ (www.rcog.org.uk/mainpages.asp?PageID=432)

They state elsewhere in the document: "Thus ideas such as leadership, organisation, informatics and training should all be considered as part of a quality patient centred service."

Evidence from a range of Medical Taskforce members in Australia suggests that Australian colleges are by-and-large considerably less advanced than many of their comparable associations in other countries.

4.6.2 Importance of health informatics to specialists

One body of opinion has a compelling argument that informatics is important for all sectors of medicine and that use of informatics must be adopted by the profession at all levels.

Buckeridge states in the article, "Medical Informatics: Review of the Field and Education in Canada" for the Royal College of Physicians and Surgeons Canada²:

"Medical informatics principles and applications play a role in health care, and their importance will increase. To realize the full benefit on quality and efficiency, physicians must be educated in the field. Current educational opportunities are limited in Canada. Improved

¹ 'Standards in Colposcopy', Royal College of Obstetricians and Gynaecologists, Jan 1999
<http://www.rcog.org.uk/mainpages.asp?PageID=432>

² David L. Buckeridge MD, MSc, FRCPC on Royal College of Physicians & Surgeons of Canada, "Medical Informatics: Review of the Field and Education in Canada", Dec 2000
http://rcpsc.medical.org/publications/annals/vol33-8_e/informatics_e.php

education will require appropriate action by professional organizations, academic centres, and health-care institutions."

Huang and Alessi in their article, "An Informatics Curriculum for Psychiatry" in Academic Psychiatry Online³ state:

"As information management becomes a greater part of the definition of psychiatric practice, it becomes critical that an understanding of medical informatics principles as applied to psychiatric practice should be incorporated into psychiatric residency training."

Certainly the groundbreaking and arguably world-significant work being undertaken by the radiologists in North America under the Integrated Healthcare Enterprise initiative (IHE)⁴ shows that specialists are now realising that they must take a lead at a professional level to ensure that progress is made in their specialty. This initiative will possibly place specialists back into the centre of consideration when treating the healthcare system as a cohesive continuum of care; particularly if other specialties take note of and follow this example.

Likewise, it has now been seen as critical that doctors in all areas of medicine in the United Kingdom (UK) must be involved in and consulted on any major implementation. For example, the Department of Health (UK) from a recent survey on the National Programme for Information Technology (NPfIT), has highlighted the lack of clinicians' engagement with this £6 billion project. They found that, "Only 4% of respondents thought, however, that they had been adequately consulted."⁵ In a letter from John Powell, *chairman* BMA Information Technology Committee⁶, he states, "...any programme of change management requires the involvement and commitment of all stakeholders. Consultation should not be limited to the select group of doctors with technical skills. The programme requires major changes in the ways all NHS professionals work, and the promised engagement should involve the 'average' clinician in the 'average' clinic."

³ Milton P. Huang, M.D. and Norman E. Alessi, M.D., 'An Informatics Curriculum for Psychiatry', *Academic Psychiatry* 22:77-91, June 1998
http://ap.psychiatryonline.org/cgi/content/abstract/22/2/77?maxtoshow=&HITS=10&hits=10&RESULTFORM AT=1&andorexacttitle=&andtitleabstract=informatics&andorexacttitleabs=&andfulltext=communication&andorexactfulltext=&andsearchid=1089771012872_3321&stored_search=&FIRSTINDEX=0&sortspec=relevance&tdate=7/31/2004

⁴ 'IHE - Integrating the Healthcare Enterprise', RSNALink, Website of the Radiological Society of North America
<http://rsna.org/IHE/mission.shtml>

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⁶ Powell J, chairman BMA Information Technology Committee 'NHS national programme for information technology: Changes must involve clinicians and show the value to patient care', (Letter to BMJ) *BMJ* 2004;328:1200 (15 May), doi:10.1136/bmj.328.7449.1200
<http://bmj.bmjournals.com/cgi/content/full/328/7449/1200?etoc>

5 Recommendations

5.1 Continuing role for the Medical Taskforce on Informatics

In the months of operating and meeting, the Medical Taskforce on Informatics has had an important role in focussing on the issue of engaging the specialist medical sector in the advancement of health informatics in Australia.

There is clear evidence that, to date, the engagement of specialists in most aspects of the health informatics agenda has been ad hoc at best and absent in many significant areas. Those specialisations that have been readily accessible, proactive or well resourced have been more engaged than others. Those specialisations that have a predominance of 'public practice activity' (i.e. salaried) have been more frequently represented in forums, workshops and strategy committees. This has demonstrated the difficulty of assessing the needs and professional perspectives of the private specialist workforce at a time when a comprehensive view is so urgently needed.

The Taskforce has used its short existence to concentrate on identifying the issues that relate to the capacity of the specialist sector to participate in new informatics developments.

It is clear from the investigation of specialist college activities, that although a small number of colleges will now progress to continuing participation and perhaps leadership in the informatics agenda, most colleges do not have either the capacity or momentum of activity to sustain any significant level of involvement on their own behalf. Without the involvement of the Medical Taskforce for Informatics (MTI) and colleges, there would appear to be no other mechanism for the specialist workforce and professional medical perspectives of specialists to participate in the health informatics agenda nationally.

It is recommended that a focussed working group of representatives of all medical specialties (the MTI) should continue to provide a focal point for encouraging and facilitating the strategic input of medical specialists to the rapidly advancing informatics agenda. This group should also provide a means for specialist colleges to collaborate in coordinating their input into the health informatics agenda and provide oversight to the specific initiatives, engagement activities and communications that grow out of the first ten months' activity.

5.2 Capacity-building programme

Evidence from the investigations undertaken in this project indicates that there is a clearly identifiable need to build the capacity of the medical specialist sector to contribute to, participate in and adopt medical informatics.

The need for capacity building has been identified in three main areas:

- Capacity of individuals in the specialist workforce to embrace health informatics in their practice of medicine, including their education, continuing professional development (CPD) as well as their ongoing skills development at a personal level.
- Capacity of medical colleges to contribute their specialist expertise and professional medical input to the emerging health informatics agenda and the capacity of colleges to provide leadership and support to their sector membership, trainees and staff in the adoption of medical informatics.
- Capacity of the specialist sector as a whole to contribute its specialised knowledge to the forums that are developing healthcare informatics strategies and initiatives, and to articulate the needs of the specialist medical sector to government, policy-makers, project managers and industry.

The capacity building issue should be coordinated and strategic in its approach, with an accent on 'bottom up' culture-change sometimes referred to as 'sector bootstrapping'. Hence involvement of the medical colleges in such a program is critical.

Specialist colleges must take a lead role in the education and training activities that must underpin this capacity building, while the AMA should take on the role of coordinating efforts and directing strategic activities across the sector.

5.2.1 Capacity-building of medical colleges

5.2.1.A Information officers within colleges

Although some colleges have a reasonable capacity to address informatics programs and issues within their secretariat, most colleges have a small administrative capability that is fully occupied addressing the core college charter areas of education, training, quality and accreditation. There is limited capability within most colleges to provide informatics leadership, facilitation, co-ordination or even engagement with the main health informatics agenda.

It is recommended that the medical colleges be supported to establish a small workforce of Informatics Officers, employed by and within the college secretariats, occupying a combination of full time positions, shared positions between strategically aligned colleges and part-time positions at the smaller medical colleges. The focus of these informatics officers would be on raising the capacity of the colleges and the specialist workforce in health informatics, undertaking specific projects involving informatics, developing and carrying out a work-plan addressing informatics issues, and implementing an informatics communication strategy across the specialties for which they are responsible.

It is proposed that a minimum of five full time equivalent positions be funded.

The college informatics officers would:

- Establish appropriate mechanisms for communicating with the membership workforce of each college on informatics matters, seek input and contribution on informatics issues and consult with experts in their specialties.

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- Project-manage projects that are undertaken under the mentorship of a college, whereby fund-holding is undertaken by the larger college in collaboration with other colleges. (See 4.2.2 Mentor colleges).
- Participate in the development of training programs and activities.
- Be supported by an Australian Medical Association (AMA)-employed national facilitator overseen by the AMA/Medical Taskforce on Informatics (MTI) to establish a coordinated College Informatics Officer forum.
- The forum of College Informatics Officers would collaborate, communicate and prepare complementary informatics work-plans that would feed into the preparation of a draft Specialist Informatics Work-plan.

It is recommended that the Department of Health and Ageing in collaboration with the specialist colleges and the MTI, should advance the items of the draft Specialist Informatics Work-plan to action the strategic and pre-cursor items, and further refine the projects and initiatives in the work-plan that can be funded and actioned.

5.2.1.B Mentor college programme

Just as the capacity of colleges to provide resources to embrace informatics issues varies greatly from college to college, likewise the capacity of colleges to manage any significant informatics-related program varies greatly. Some colleges have fewer than 5 secretariat staff.

Because a number of the larger colleges have had greater capacity to undertake and support work programs and hence may be more advanced and experienced in the support of informatics initiatives, it is proposed that these colleges with greater capacity could work with the smaller, less resourced colleges to advance the informatics capacity agenda. The larger 'mentor' colleges would act as project/program fund-holders and would take the leading role of employing staff, administering the projects and engaging with the other smaller colleges.

There are already successful precedents for inter-collegiate cooperation in programs other than those involving informatics (eg professional development and clinical standards) whereby a major college has acted in a role of mentor/fundholder in collaboration with a number of other, less well-resourced colleges. Hence the smaller, less resourced colleges have gained benefit from the strengths of a mentor college and been able to benefit from a larger College infrastructure, experience and/or project management experience. The participating colleges still share responsibility for outcomes and contribute appropriately to the project. These examples include expanding the Continuing Professional Development (CPD)/Continuing Medical Education (CME) curriculum framework, developing clinical guidelines, and developing of tools for service improvement in acute care.

It is proposed that 'mentor colleges' be identified and their areas of skill/resources be mapped against desired initiatives. These 'mentor colleges' could be grouped or 'paired' with smaller, less resourced colleges, based on synergies, work program, tasks being addressed; with each 'cluster' financially resourced to achieve their developed work-plan.

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It is proposed that this would be the main mechanism for delivering outcomes against the overarching work-plan developed from the 'gaps, barriers, issues and strategies' identified in this review and overseen by the Medical Taskforce on Informatics. Hence 'college-clusters' grouped around a mentor college would be funded for one or more of the identified major work items that is proposed for that group to undertake with the mentor college acting as fund-holder/project manager.

5.2.2 Capacity-building of specialists

5.2.2.A Training and education

5.2.2.A.i Shared informatics curriculum/materials

This project identified a need for development of education materials in informatics both at the fellowship training level and at the Continuing Professional Development (CPD) level to address the capacity of specialists to adopt, use and benefit from health informatics.

Although there are now many undergraduate medical programmes that include informatics as a component of their curricula, it is well-accepted that a large part of the specialist workforce remains minimally exposed to informatics and continue to resist its use because of the basic lack of skills training. Conversely, it is also accepted that (by and large) specialists readily adopt new technology once they are familiar with its use and are convinced of the benefits that the technology can deliver.

Unless we are prepared to wait until a large part of the experienced specialist workforce have progressed to retirement and the younger recently-trained fellows have moved through to take up the greater part of the workforce, it is important to provide opportunities for existing specialists to gain training and experience in the new technologies.

Certain elements of both fellowship training programmes and CPD programs lend themselves to utilisation of common materials/curriculum for education in health informatics.

It is a more practical and an efficient use of resources to facilitate the development of common shared curricula and materials across as many colleges as is possible, with a lead college undertaking project management in the development of these courses with the collaboration of as many other colleges as is appropriate.

It is recommended that colleges should be invited to submit proposals either by forming college collaborations or from a college as lead-agent. A lead-agent college would undertake the framing and development of common informatics training and education modules for both fellowship training and CDP with a view to being funded to undertake this work in cooperation with all other specialist colleges.

5.2.2.A.ii Specialised informatics modules

Although there are common informatics issues that can be dealt with by developing common informatics educational modules, there is also a need for materials that are targeted to suit the specific needs of particular medical specialties.

Further, as a matter of urgency, the Expert Specialists' Bureau should develop and then publish a clear protocol for consultations on issues affecting specialists, to be coordinated via the MTI.

b) For provision of specialist experts to sit on committees and working groups. Investigation has shown that the engagement of specialist input to program working groups, forums and committees established for significant government-sponsored health informatics initiatives is on similar ad hoc basis.

The combined colleges informatics expert bureau should be sufficiently financed to enable reasonable and appropriate representation from parts of the specialist sector on program committees, forums and workshops. Hence those who may have been disenfranchised by financial constraints (e.g. private practitioners) can be supported to serve on these committees or attend these workshops. The appropriate range of specialists would be accessible through the expert bureau because channels for identifying appropriate representatives will be established by that group.

5.2.3.B Sector 'bootstrapping' programmes

Bootstrap is an ancient computer science term. When you turn on a computer it bootstraps, or 'boots'. First it loads the most ancient bit of code, probably written in the 1970s. It runs a program written in the 80s, which in turn launches a program written in the 90s. Each of the levels loads only for the purpose of loading the next bit of history. The computer science term is derived from "Pulling yourself up by the bootstraps."

This term is appropriate in the context of raising the capacity of the specialist sector to adopt informatics facilities. There is a need to encourage and facilitate the specialist sector to raise its informatics capacity largely by its own volition, commencing with its own desire to increase its own capacity, 'raised by its own bootstraps'.

5.2.3.B.i

Information dissemination to specialist community

In the past, broad dissemination of information on medical informatics issues has not targeted the specialist community of medical practitioners specifically. It seems to have been assumed that specialist medical practitioners will become aware of information if it is made publicly available through normal channels. E.g. on the Department of Health and Ageing website, Health Online Forums, conferences, etc.

Evidence suggests that this has not been effective in informing specialists and engaging them in the current debate, whereas those specialisations that have been targeted specifically (e.g. GPs, pathologists and radiologists) are clearly more involved and more informed on current clinical informatics developments.

Affirmative action needs to be taken to ensure that the specialist sector as a whole is always an identified target for any information that might be distributed by governments related to programmes, standards development or awareness communications on health informatics.

If effective channels are established by the specialist colleges for disseminating information to their constituency, government program managers and other health informatics leaders will be more ready to provide information and direct information to

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these channels. The activities of the College Informatics Officers will help to establish these channels, such as supporting college informatics special interest groups, clinical informatics email list-servers, and a special focus on informatics in normal college communications and publications with overall co-ordination by the Medical Taskforce on Informatics.

5.2.3.B.ii

Awareness programmes and culture change activities

There is an immediate need to raise general awareness of the current initiatives in health informatics among the specialist organisations. There is also a need to gather input from specialists on the ground and increase the "readiness" of specialists to take up new activities. Although the Medical Taskforce on Informatics is capable of identifying awareness and culture change requirements across the specialist workforce, there is a need for an ongoing and coordinated approach to addressing these requirements, and an organisation that can deliver programs and activities to address them.

It is recommended that the AMA eHealth team should undertake a program of activities addressing this general need for awareness raising and should utilise the existing administration and communication facilities of the AMA plus the resources of the capacity-building facilitators to undertake awareness-raising activities. Activities could include regular communication with specialists on the ground, visits to workplaces, conferences, local meetings, combined presentations and publications including Department of Health and Ageing staff, Health Insurance Commission staff, Australian Medical Association and college staff.

5.2.3.C Addressing jurisdictional disconnect

The question of demarcation of responsibility and finance across the Federal, State and local jurisdictions has a great impact on the issues of health informatics as experienced by the specialist sector. Specialists' work as private practitioners is financed significantly by the federal purse or under a range of federal healthcare programs such as aged care or the Department of Veteran Affairs. However, they also commonly work on a daily basis in public hospitals managed and funded from State funds.

Many of the frustrations that specialists have related are brought about by the 'disconnect' that occurs because of the divide in jurisdictional responsibility.

Differing approaches to privacy, different implementation of standards in informatics, lack of access from private practice to public facilities to ensure the continuum of care, lack of capability to move from location to location, different approaches to rollout of broadband access; are just some of the issues that specialists see as barriers to delivering optimal patient care.

Although this divide is being addressed in part by the 'top down' governance level approach of Commonwealth engaging State jurisdictions through the National Health Information Group (NHIG), it is evident that significant assistance can be affected by cooperation with the medical workforce that crosses these state boundaries. NHIG involves government officers rather than clinicians, and this leads to an inherent limitation in its vision.

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Individual colleges do not have strong state-based representation, resources or relationships.

It is recommended that the MTI should utilise the strong AMA State Branch structures to formulate a plan to engage State Health Departments, Commonwealth Department of Health and Ageing and DVA to facilitate a specialist approach to jurisdictional issues. It is recommended that this mechanism would initially consist of a series of State/Commonwealth Specialist Informatics Forums that will be designed to address issues of barriers, gaps and issues relating to the jurisdictional divide.

6 Workplan

6.1 Governance, facilitation and management

ACTION/ISSUE	STRATEGY	WHO	TIME-LINE	\$
Appoint MTI facilitators	<ul style="list-style-type: none"> • Two facilitators are needed. Initial task to focus on preparatory/establishment work leading to appointment of College Informatics Officers; then to provide assistance to capacity-building initiatives. • Facilitator 1. To cover MTI, expert bureau and consultative group communication, sector bootstrapping programmes and 'Addressing Jurisdictional Disconnect' forums. • Facilitator 2. To cover assistance to College Informatics Officers, Informatics Officers forum, college work-programme development, assist college-run projects. 	DHA AMA	Last qtr 2004	Salaries \$200,000 per yr • Recruitment costs • Office costs Admin of facilitators \$150,000/yr
Assist colleges to develop Informatics Officer proposals	<ul style="list-style-type: none"> • Facilitator 2. To work with colleges and Taskforce members to develop proposals for funding of Informatics Officers for colleges. • Agree on natural synergies of colleges for clustering. • Agree on focus of needs to be addressed by each Informatics Officer. 	Facilitator 2 MTI reps college executives.	First qtr 2005	Inter- College meeting \$6000 • Facilitator travel & accommodation

<ul style="list-style-type: none"> • Facilitate MTI Meetings • . • . • . • . 	<ul style="list-style-type: none"> • MTI Taskforce to meet face-to-face twice per year. • Meet further two times per year by tele/videoconferencing. • Facilitator 1 to act as moderator/communications officer. 	Facilitator 1 AMA	3 years 2005 - 2007	\$10,000/yr
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6.2 Sector capacity

ACTION/ISSUE	STRATEGY	WHO	TIME-LINE	\$
Establish Specialist Expert Consultative Bureau	<ul style="list-style-type: none"> Taskforce to form core of Consultative Bureau. Request colleges to identify and facilitate approximately five members who would participate actively on email listserver and provide comment on documents. Identify sub-set of three persons per specialty available to represent on committees etc when needed. Establish protocols and methods of interacting in panel community. Facilitator 1 act as moderator/communications officer. 	Facilitator 1 MTI reps College execs.	Establishment Oct 2004 – March 2005 Funding for 3 years 2005 - 2007	\$20,000 /yr Admin, infrastructure & paid participation in reviews/commentary
Awareness and Culture change	<ul style="list-style-type: none"> MTI members/facilitator 1/facilitator to attend college conferences and scientific meetings throughout the year to raise informatics awareness. 	AMA FACILITATORS MTI REPS.	2004 - 2007	
Document evidence of benefits	<ul style="list-style-type: none"> AMA with DHA involvement investigate and document case studies and benefit cases to provide evidence for specialists. Participate with assistance of colleges and College Informatics Officers for specialist-specific case studies. 	AMA/MTI Colleges	1 st half 2005	\$45,000
Address Jurisdictional Disconnect	<ul style="list-style-type: none"> Facilitator 1 and AMA to convene forum series held in each State. Supported by State AMA offices. State Health, DHA, DVA, hospital reps and specialists attend. Focus on specific jurisdictional issues Provide report and 	AMA FACILITATOR 1	1 st half 2005	\$42,000 One forum in each State, 7 forums @ \$6,000 per forum.

<p>.....</p>	<p>recommendations to Medical Taskforce on Informatics, Australian Health Information Council and the National Health Information Group.</p>			
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6.3 College capacity

ACTION/ISSUE	STRATEGY	WHO	TIME-LINE	\$
Colleges recruit Informatics Officers	<ul style="list-style-type: none"> Colleges recruit and appoint Informatics Officers according to criteria laid down in their proposals and work-plan. Facilitator 2 assist in recruitment and help in induction. 	College execs. Facilitator 2	April – June 2005	Salaries \$500,000
Establish Informatics Officers' Forum	<ul style="list-style-type: none"> Facilitator 2 assist to convene. Identify mentor colleges with capacity and willingness to take lead. Refine sectorial work-plan & convert to colleges and cluster work plans. Establish communications channels. 	Facilitator 2 College Informatics Officers	April – June 2005	Planning meetings 3 x \$3000
Colleges develop sectorial work-plan (Specialist Informatics Workplan)	<ul style="list-style-type: none"> MTI Taskforce, Informatics Officer Forum plus facilitators work with colleges to refine specialist sector work-plan. 	Facilitators 1,2 College Informatics Officers MTI	April – June 2005	See above
Develop project/programme proposals	<ul style="list-style-type: none"> College Informatics Officers prepare proposals for respective colleges and/or clusters. Facilitator 2 assist. Submit to DHA under a funding proposal. 	College Informatics Officers Facilitator 2	April – June 2005	See above

6.4 Specialist Capacity

ACTION/ISSUE	STRATEGY	WHO	TIME-LINE	\$
Develop shared informatics Continuing Professional Development(CPD) curriculum	<ul style="list-style-type: none"> College cluster undertake CPD curriculum development as project. Lead by Informatics Officer. Coordinate with all other colleges. 	College/s project team College Informatics Officer	2 nd half 2005	\$200,000
Develop and maintain 'product information guide'	<ul style="list-style-type: none"> College or College cluster undertake 'Product Guide' development as project. Lead by Informatics Officer. Coordinate with all other colleges for input and critique. 	College/s project team College Informatics Officer	2 nd half 2005	Development \$30,000 Annual maintenance \$10,000
Introduce incentives/rationale for adoption of health informatics	<ul style="list-style-type: none"> Consolidation of use of informatics into CME point programme. 	College/s project team College Informatics Officer AMC	2 nd half 2005	Project \$40,000

6.5 Address lack of effective infrastructure

ACTION/ISSUE	STRATEGY	WHO	TIME-LINE	\$
Messaging capability	<ul style="list-style-type: none"> College facilitate an initiative to introduce common messaging interoperability by messaging solution providers. (Standards, Integrated Healthcare Enterprise Project) Colleges lead a program to identify and encourage application vendors to implement key message types beneficial to specialists. (e.g. referrals and reports) Implement specialist messaging in pilot program, evaluate and document benefits. 	College Informatics Officers ICT industry Standards group/s DHA	2 nd half 2005	Major project \$200,000
Shared information on diagnostic tests	<ul style="list-style-type: none"> Initiate or participate in a HealthConnect project that focuses on diagnostic test repository access. 	DHA/Health Connect College/s project team College Informatics Officer	2 nd half 2005	Major project \$200,000
Access to affordable broadband by all specialists.	<ul style="list-style-type: none"> Develop strategy for linking into GP broadband initiative 	DHA/Health Connect College project team College Informatics Officer	2 nd half 2005	Project \$40,000

6.5.1 Address adoption gaps

ACTION/ISSUE	STRATEGY	WHO	TIME-LINE	\$
Use by specialists of electronic decision support.	Develop a program and policy for encouraging use of Electronic Decision Support (eDS) by linking to obtaining Continuing Medical Education (CME) points. Identify key eDS capability of most utility to most specialists. E.g. associated with access to diagnostic report history database.	College/s project team College Informatics Officer	2006	Major project \$200,000
Use by specialists of electronic health record for all patients.	Develop a program and policy for encouraging use of eDS by CME point offering.	College/s project team College Informatics Officer AMC	2006	Project \$40,000



7 Funding and financing

The following estimates of funding requirements are based on financing the resources recommended for the 'specialist capacity building programme'. The funding requirements also cover the programme's support infrastructure and a work program that is based on the capacity of those resources to undertake projects and initiatives in the time allocated.

In addition to the work-programme at the project level, support resources that require funding include:

- Ongoing meetings and coordination of the Medical Taskforce on Informatics.
- Employment of five college-based Informatics Officers.
- Employment of two programme facilitators managed by the AMAMTI.
- Administration and coordination at College, AMA, and MTI levels.

Keystone projects to be funded include:

- Seven forums on addressing jurisdictional disconnect.
- Case studies for evidence of benefit to specialists.
- Specialist Informatics Expert Bureau.

7.1 Macro financial cost estimates (per year)

Macro financial cost estimates (per year)		
Personnel		
Two MTI/AMA Programme Facilitators	\$86,000 + 16% o/h	\$100,000
Five college-based Informatics Officers	\$75,000 + 16% + 15% College admin	\$500,000
Administration		
MTI meetings	Two face-to-face, four electronic	\$10,000
Management of facilitators, MTI coordination.	AMA programme administration.	\$150,000
Keystone projects		
Specialist Informatics Expert Bureau Keystone Projects	Admin, infrastructure and paid participation in reviews/ commentary etc.	\$20,000
Forums on addressing jurisdictional disconnect. Specialist Informatics Expert Bureau	One forum in each State, seven forums at \$6,000 per forum. Admin, infrastructure and paid participation in reviews/ commentary etc.	\$42,000
Benefit/evidence case studies on specialist informatics use. Forums on Addressing Jurisdictional Disconnect.	Three studies at one month each. One forum in each State, seven forums at \$6,000 per forum.	\$45,000
College Work-plan		
Five major projects per year	5 x \$200,000 each	\$1,000,000
Five minor projects per year.	5 x \$40,000 each	\$200,000
TOTAL		\$2,067,000

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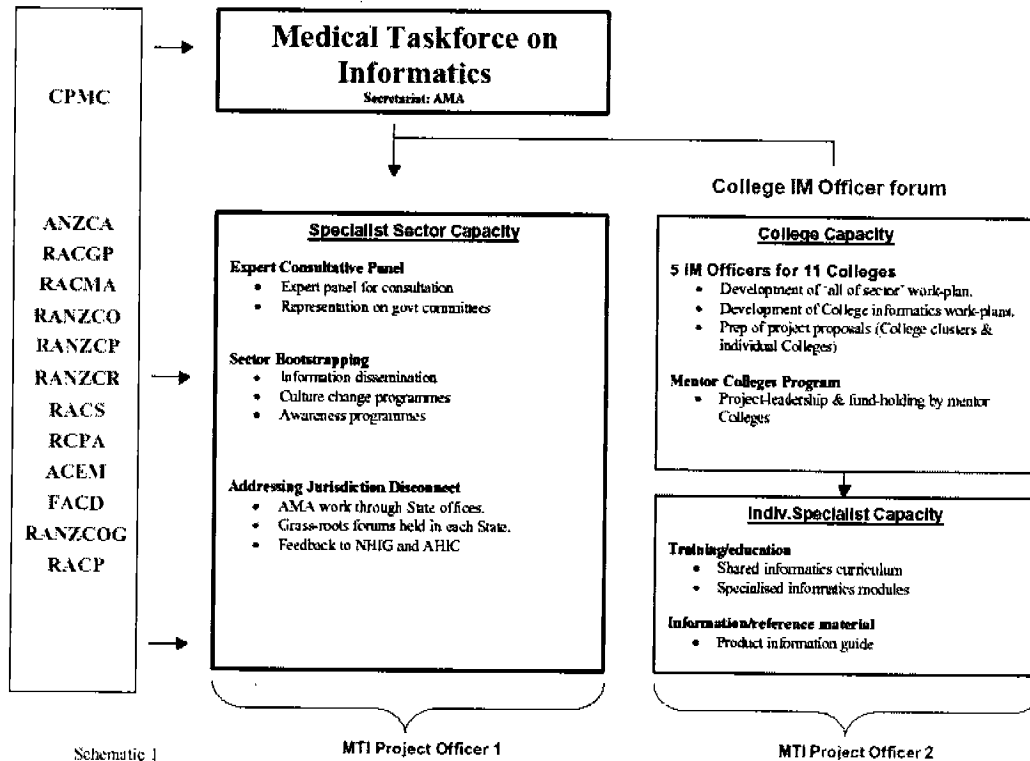
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9 Medical Taskforce on Informatics – organisation/responsibility chart



Schematic 1