



**Committee of Deans of Australian Medical Schools (CDAMS)
Medical Schools Outcomes' Database Project**

STAGE 1 FINAL REPORT
April 2004 – June 2005

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July 2005**

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EXECUTIVE SUMMARY

This Final Report to the Department of Health & Ageing (DHA) documents the activities and milestones achieved by the Medical schools Outcomes Database (MSOD) Project from March 2004 to June 2005. It details the successful achievements of Stage 1 of the project as defined by the principal objectives outlined in the formal Agreement. It also contains explanations of some of the unforeseen obstacles met in the course of Stage 1, and recommends a number of strategies for overcoming those obstacles, primarily through a planned Stage 2 of the project. This document also includes the *Fourth Progress Report*, highlighting the achievements made since the last progress report submitted to DHA on 29th April 2005.

In March 2004, DHA provided funding to CDAMS through the RUSC Projects of National Significance program to undertake a 12 month project to design and initiate a national process to collect reliable demographic and educational data on medical students across all medical schools, and to establish a national database that will provide the basis for short and long-term monitoring and reporting on outcomes of medical education programs.

Due to the complexities of the project, which unfolded over the first 12 months, DHA granted a 3 month extension from 1st April to 30th June 2005 to assist the CDAMS Steering Committee to deliver the outcomes required under the Agreement. The Project has been successful in meeting the Stage 1 objectives and outcomes set out on pages 17 to 21 of the original Agreement.

In summary, Stage 1 of the Project has:

- Audited all medical schools for current data collection/ storage mechanisms and data sets;
- Developed a nationally agreed minimum data set and definitions to provide the basic database framework;
- Designed a national database as a central facility and piloted the collection of demographic and identifying data;
- Implemented a highly productive national workshop, bringing together over 60 staff and students from the (then) 12 operating and 3 planned medical schools, plus invited representatives of relevant stakeholder organisations. Professor Howard Rabinowitz (Jefferson Medical College, Pennsylvania, US) was a keynote speaker at the workshop and continues to act in an expert advisory role for the project;
- Established the basis for a network of staff within medical schools to be responsible for the (i) management and administration of a national data collection process; (ii) ethics approval applications, and (iii) further development and implementation of the database;
- Consulted extensively with a wide range of people representing diverse stakeholder groups and initiated valuable links with external organisations;
- Conducted efficient and productive Steering Committee and various Working Groups meetings;
- Employed an effective Project Officer;
- Managed the project's finances responsibly; and,
- Established the foundations for a Stage 2 to further develop the database for national operation and to identify and develop a longitudinal tracking process that utilises the national database in order to evaluate outcomes of rural programs and medical education more broadly, assist in medical workforce planning, and provide a national research resource.

There has been a demonstrable high level of progress in the project to date, and the Steering Committee is pleased with the achievements so far. Most importantly, the Steering Committee acknowledges the ongoing commitment of the Deans of Australia's 15 medical schools who have taken the globally unprecedented step of working collaboratively to support the project and guarantee its successful development and implementation.

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INTRODUCTION

The importance of monitoring the success of education and training programs designed to ensure an adequate supply of appropriately trained medical practitioners, particularly those opting to take up rural practice, cannot be underestimated. The Medical Schools' Outcomes Database (MSOD) Project is one of the most ambitious projects ever undertaken in Australia, and its implementation culminates many years of advocacy and preliminary activity by many committed individuals and organisations.

In responding to the national shortage and maldistribution of rural doctors, the RUSC program was introduced by the Commonwealth Government in the mid-1990s as one long-term component of a comprehensive strategy to improve the recruitment and retention of general practitioners in rural and remote areas. Funding was provided to medical schools with the expressed aim of encouraging more medical students to pursue careers in rural general practice, thereby increasing the recruitment of rural doctors.

Predicated on the basis that undergraduate exposure to rural practice is associated positively with the choice of a rural practice career, the RUSC program has provided \$2.5million per year to enable all medical schools to increase the number of students from rural backgrounds; increase the rural experience of medical undergraduates through strengthening curricula, assessment and rural placements; and provide rural support systems for students and staff.

A midterm review of the RUSC program was conducted to monitor the progress of the individual medical schools, and a final review to evaluate the program's progress and achievements. In view of the paucity of agreed quantitative data, a key recommendation from this review was the need to progress as a matter of urgency the development of a common minimum agreed data set and consistent methodology for data collection which would allow the dynamic assessment of outcomes against targets and ongoing tracking.

In the 2000-2001 budget the Commonwealth Government announced a further initiative to address rural workforce shortages with the establishment of the Rural Clinical School Program. This would provide for significant rural experiences for medical students and build capacity in rural health services. A joint CDAMS and DHA Working Group was established to develop proposals for the evaluation of the Rural Clinical Schools in terms of the funding parameters of the program and the long term impact of the Clinical Schools on the medical workforce. This group rapidly recognised the need to pursue the RUSC recommendations as a key evaluation strategy. Its membership was extended to include representation from RUSC and it proceeded to develop the proposal and funding submission for this project.

In March 2004, DHA provided 12 months funding to CDAMS through the RUSC Projects of National Significance program for the MSOD project. The project aims were to design and initiate a national process to collect reliable demographic and educational data on medical students across all medical schools, and to establish a national database that will provide the basis for short and long-term monitoring and reporting on outcomes of medical education programs.

This Final Report on Stage 1 of the MSOD project outlines the enormous achievements that have been accomplished in the past year by the CDAMS team associated with this ambitious and complex task – such as the linking of all key professional organisations and universities in a national collaborative venture; finding common agreement on some of the most complex and contentious issues (including how to define 'rural', how to develop a unique tracking identifier to link data sets, and how to negotiate ethics and privacy legislation across different states and territories); the development of agreed processes across all university medical schools; the development of an agreed national IT data collection tool; and scoping arrangements for the development of a longitudinal tracking study.

The Final Report is divided into 5 main sections: Achievements Against Outcomes and Objectives of Project; Difficulties in Meeting Objectives; Recommendations for Future Achievements; Financial Management; and Conclusion. The first section gives summary details of the major milestones achieved in Stage 1 as defined by the 3 principal objectives in Item A in the Agreement; this section also details the administration, consultation and networking operations of the project.

Section 2 outlines some previously unforeseen obstacles encountered during the operations of the project so far. The third section gives the Steering Committee's recommendations on how some of those obstacles might be addressed and for the continuation of the MSOD project in future. The final two sections give a brief summary of the final budget position and administrative details for the project secretariat; and a final summing up of Stage 1 of the MSOD project. The Steering Committee commends the Final Report to DHA, and looks forward to continuing our collaborative work on this landmark project.

SECTION ONE: ACHIEVEMENTS AGAINST OUTCOMES AND OBJECTIVES OF PROJECT

The formal Agreement between CDAMS (through UNSW) and DHA sets out 3 principal objectives for the project:

- Develop a nationally accepted approach across medical schools to the collection student data;
- Develop an agreed minimum data set to be adopted by all medical schools, and nationally consistent definitions for key terms and concepts; and,
- Design, develop and pilot a national database which provides a reliable data source for medical schools and the Commonwealth for internal and external reporting requirements on the outcomes of education programs.

Further tasks and goals to enable these objectives were set out in the Agreement, including:

- *Appointing a Project Officer* – After extensive national advertising, Ms Baldeep Kaur was appointed to the position of Database Project Officer. Ms Kaur took up the full-time position in mid-April 2004, initially being based in the School of Medicine, Flinders University, Adelaide until relocating to the permanent secretariat location at the Faculty of Medicine, UNSW, Sydney, in mid-May. Ms Kaur received high-level direction and guidance from the Steering Committee, in particular Professor Andrew Coats, Professor David Prideaux, Professor John Humphries and Ms Danielle Brown; and from the CDAMS Executive Professor Bruce Dowton (2002-2004 CDAMS Chair) and Professor Lindon Wing (2005-2006 CDAMS Chair).
- *Maintaining and expanding the MSOD Project Steering Committee* – The original Working Group responsible for developing the project over the first few years became a formal Steering Committee responsible for overseeing the direction of the project. The Steering Committee was gradually expanded over the course of Stage 1 to include representation from the following stakeholder groups and organisations:
 - CDAMS
 - DHA
 - RUSC Reference Group
 - Australian Medical Workforce Advisory Committee (AMWAC)
 - Australian Medical Students Association (AMSA)
 - National Rural Health Network (NRHN)
 - Confederation of Postgraduate Medical Education Councils (CPMEC)
 - Australian Rural Health Education Network (ARHEN)
 - Federation of Rural Australian Medical Educators (FRAME)

The full list of current Steering Committee members is on the title page. Particular mention must be made of the contributions from previous Steering Committee members Professor Bob Moorhead, representing CDAMS; Ms Katy Balmaks and Mr Tony Hyland from DHA; Ms Rebecca Jacobs representing the NRHN; and Dr Andrew Perry (representing AMSA in 2004). Six productive Steering Committee meetings (four face-to-face and two teleconferences) were conducted during Stage 1.

A number of smaller Working Groups were formed to meet specific project requirements and were an effective method of accomplishing specific tasks. Working Groups included the Minimum Data Set Working Group, the Unique Identifier Working Group, and Administrators Advisory Group. These Working Groups convened in face-to-face meetings and by teleconference. An Executive Group was delegated responsibility for management and decision-making, which reported back to the full Steering Committee. The outstanding contributions of the Steering Committee and Working Groups are acknowledged and commended for their commitment to this project.

- *Conducting medical school visits* – Ms Kaur undertook a heavy schedule of travel around the country within the first 6 months of the project’s commencement to visit all 15 medical schools. Visits to medical schools included meetings and interviews with Deans, medical educators, administrative staff, IT staff, students and researchers. The visits proved extremely productive in raising awareness and generating support for the project. The national audit of current data sets and data collection methods was also the subject of face-to-face meetings and interviews (see below).
- *Consulting relevant health/education organisations* – Consultation with a wide range of people and organisations was an essential part of the Project’s development and implementation. Over the last 15 months, the Database Project Officer and CDAMS Executive Officer presented the MSOD Project and formed networks at workshops and conferences held by the following groups:
 - CDAMS Faculty Administrators Workshops, 2004 & 2005 (Sydney)
 - NSW Rural Doctors Network (Sydney), 2004
 - 2004 Australian & New Zealand Association of Medical Education (ANZAME) Conference (Adelaide)
 - AMSA Council Meetings (Hobart, Adelaide & Sydney), 2004 & 2005
 - CDAMS Mid-year Meeting (Melbourne), 2004
 - CDAMS Annual Meeting (Wellington, New Zealand), 2004
 - Leaders in Indigenous Medical Education (LIME) Connection (Perth), 2005

The MSOD Project was also discussed in detail at the CDAMS/AMC Medical Education Conference 2005 “Medical Education Towards 2010: Shared Visions & Common Goals”, and the 2005 ANZAME Conference in Auckland.

Valuable and productive connections have been made with representatives from:

- Department of Health & Ageing (DHA)
- Department of Education, Science & Training (Higher Education Section)
- Australian Bureau of Statistics (ABS)
- Australian Health Workforce Officials Committee (AHWOC)
- Australian Institute of Health & Welfare (AIHW)
- Australian Medical Council (AMC). In particular, interactions with Mr Ian Frank (CEO, AMC), Ms Theanne Walters (Deputy EO, AMC) and Mr Chris Palmer (Research & Policy Officer) were conducted regarding the joint project between the AMC, the Joint Medical Boards Advisory Committee (JMBAC) and the Department of Health & Ageing, on the development of a unique identifier as part of a new Australian index of medical practitioners. This project is of relevance to the MSOD Project for a unique identifier code to enable longitudinal tracking.

It is recommended that communication with these groups continues to strengthen the foundations for potential future collaborations. The Database Project Officer has also established productive links with Dr Anne Young and Ms Jean Ball from the Women’s Health longitudinal study, who have provided helpful feedback on both the database and longitudinal tracking aspects of the MSOD project.

1. Develop a nationally accepted approach across medical schools to the collection of student data

1.1. National Audit

The Database Project officer undertook a major audit of current data collection/ storage mechanisms and data sets to assess how the national database could complement and/or utilise pre-existing systems, and to map which data items medical schools needed to begin collecting. Medical schools were provided with an audit template to fill in, and interviews conducted during the visits to medical schools supplemented this information. The audit of medical schools was completed in August 2004 and the templates are attached as Appendix A.

Results from the national audit showed that background demographic data items are collected in a variety of ways and stored in a myriad of systems that were incompatible with each other. On the basis of this audit, it was concluded that it was logistically too difficult to coordinate and consolidate these systems at a national level. Therefore, it was decided the demographic/ identifying data will be collected directly from the medical students via a questionnaire.

The majority of the educational data items in the original proposed minimum data set were collected by medical schools. However, the audit, national workshop and ongoing consultation with medical schools showed that the collection of different data is often undertaken by individuals or departments with a particular interest in one area, and that there is little central coordination of data collection processes at a school-wide level (although there are 1-2 examples of useful school-wide approaches to data collection). In many cases, senior Faculty staff are not aware of what data are collected and stored in which departments within their schools. The national audit demonstrated to Deans and senior Faculty administrators the limitations of this 'silo' approach, and consequently has generated a greater level of awareness of and support for the immediate practical applications and benefits of the MSOD project in centralising data collection within their schools.

1.2. National Workshop

A two day national workshop was held in Sydney on 2nd and 3rd September 2004. 66 participants attended the workshop, including medical school staff performing a range of functions (teaching, academic development, student support/administration, and information technology); invited guests from DHA, AMC, Committee of Presidents of Australian Medical Colleges (CPMC), Australian Medical Association (AMA) and Health Insurance Commission (HIC); and student representatives from AMSA and NRHN.

Professor Howard Rabinowitz, Professor of Family Medicine and Director of the Physician Shortage Area Program at Thomas Jefferson University in Philadelphia, was invited as keynote speaker for the national workshop and to provide expert advice regarding the project. Professor Rabinowitz and his wife Dr Carol Rabinowitz have been actively involved in longitudinal tracking projects at the university and state level for many years. Professor and Dr Rabinowitz made a week-long stay in Sydney, working with the MSOD Project and CDAMS Executives on the project, and attending the workshop. Professor Rabinowitz has continued to provide expert advice and feedback on the project (see Conclusion for further comments).

The workshop attendees formed smaller groups to discuss and develop recommendations on specific issues regarding the development, implementation and maintenance of the national database and national data collection process. A number of the groups also brainstormed possibilities for a longitudinal tracking process as a second stage of the project. The recommendations from these groups are in the attached proceedings of the national workshop (see Appendix B).

The workshop successfully raised awareness and interest amongst medical school staff and stakeholder groups of the project. Most importantly, it firmly established a sense of community and collaboration amongst the disparate groups represented. The collaborative approach established at the workshop has provided a firm foundation for wider consultation and a useful direction for the conduct of the project overall.

1.3. National Network of Medical School Staff

The basis for a national network of medical school staff and students was established as a result of both the national workshop and medical schools visits. This has since been strengthened by ongoing and inclusive consultation with a large number of staff, students and stakeholder representatives across Australia. Attendees at the national workshop were particularly keen about the idea of a standing network, and indicated their interest in remaining in contact about the project.

Since that time, staff at the 6 pilot medical schools were identified to be responsible for the administration of the Commencing Medical Students' Questionnaire, and for coordinating ethics approval applications at their school. The CDAMS Faculty Administrators' Network, comprising Faculty Managers/Executive Officers and other senior administrative staff, has also proved a valuable network for the project. Further development of the national network is recommended and will be an important factor in the implementation of Stage 2 of the Project.

1.4. Pilot Commencing Medical Students Questionnaire

CDAMS had conducted a series of surveys of commencing medical students at all medical schools from 2000 to 2004. The CDAMS Entry Survey collected demographic data on medical students. It was decided that this pre-existing survey would be the most efficient and cost-effective method of collecting demographic data on students. A sub-group of the MSOD Steering Committee worked on revising the 2004 questionnaire. Feedback on the design of the questionnaire was sought initially from AMWAC with regard to the questionnaire used in the AMWAC Career Decision-Making by Doctors in Vocational Training study. A number of other experts and organisations were consulted, including the Monash IT Team (see below for details on the IT consultancy).

The outcome is the 2005 MSOD Commencing Medical Students Questionnaire (see Appendix C). In order to code the responses to questions relating to languages and countries, the Australian Standard Classification of Countries and Languages was used. This classification is used by the Department of Education, Science & Training for their national student statistics collection at Australian universities.

The major benefits of collecting demographic and identifying data via a questionnaire are (i) to standardise the collection of data and maintain national definitions; (ii) to avoid the logistically complex task of connecting different data storage systems at the medical schools; and (iii) to lessen the impact on the workload of medical school staff as information will be collected directly from students. The direct survey of all commencing medical students also facilitates the process of informing students about both the short-term database project and the eventual longer-term longitudinal tracking project, and gaining their informed consent to participate in both projects.

The questionnaire was piloted at 6 medical schools early in Semester 1 2005, including Monash University, University of Sydney, University of New South Wales, Griffith University, University of Melbourne and Flinders University. The cost of the pilot questionnaire was covered by CDAMS. The Educational Testing Centre at UNSW, previously used by CDAMS for the Entry Surveys, was responsible for printing and scanning the questionnaire forms. The Centre produced csv files comprising the raw data which were then uploaded to the database (see below). Dr Anne Swinbourne from the School of Psychology at James Cook University has analysed the results of the pilot and the questionnaire form itself and has provided valuable insight into how the questionnaire will feed into the operation of the project overall (see Appendix D for a full copy of Dr Swinbourne's report). Dr Swinbourne continues to act in an advisory role for the project, and her advice has proved invaluable.

1.5. Ethics Approval Applications

There was extended discussion amongst the Steering Committee members, DHA and the Deans in 2004 regarding the necessity of gaining ethics approval for the project, particularly the questionnaire. While opinions differed slightly, it was generally agreed that as it is intended that the questionnaire forms the basis for an eventual longitudinal tracking process that may assign students a unique identifier, that ethics approval would need to be sought from each medical school.

In late 2004 and early 2005, ethics applications were prepared at each of the 6 medical schools participating in the pilot questionnaire. Student information sheets and consent forms were developed at the same time. In most cases, the respective university Human Research Ethics Committee gave initial approval conditional upon further information being provided or clarified. It appeared that the HRECs were more likely to support the applications when they knew of approval being granted at other schools. Eventually, ethics approval was granted at the 6 schools for a period of one year. Ethics approval will need to be sought from all 15 medical schools for the national launch of the project in Semester 1 2006 (see Section 2 below).

2. Develop an agreed minimum data set to be adopted by all medical schools, and nationally consistent definitions for key terms and concepts; and,

2.1. Minimum Data Set

A minimum data set has been developed and endorsed by the Steering Committee and medical schools Deans. Developing the data set has been long, complex and challenging; however, the process itself has been highly productive in raising awareness across the medical education sector about the aims of the MSOD project in general and its potential benefit for short and long-term evaluation of medical education.

An initial data set was proposed at the outset of the Project. This proposed data set developed out of work undertaken by the RUSC Reference Group for the review of the RUSC program, and the CDAMS Working Group for the Rural Clinical Schools Evaluation Project. The main steps involved in developing and gaining final agreement on the data set included:

- Gaining feedback on the data set from Deans and faculty administrators by presentation and discussion at CDAMS meetings and workshops;
- Gaining feedback from Deans, administrators and medical education staff;
- Gaining feedback from medical education researchers following the ANZAME conference in 2004;
- Presenting the proposed data set to attendees at the National Workshop and using those discussions to refine the data set;
- Comparing and refining the data items in relation to those already included in the AMWAC Junior Doctors Careers study, and getting extensive and regular feedback from AMWAC;
- Circulating the proposed data set separately to staff with expertise in medical education research and longitudinal studies;
- Presenting the data set to a number of AMSA meetings and gaining their endorsement;
- Establishing a Minimum Data Set Working Group (as a sub-group of the Steering Committee) responsible for revising the data set and developing a set of detailed guiding principles for the data set, along with a rationale for each data item.

The final minimum data set is in Appendix E.

Development of the minimum data set also entailed identifying the best data collection methods. The data set has therefore been separated into 3 distinct categories:

- Identifying data – to be collected directly from medical students via the Commencing Medical Students Questionnaire, to be administered at all medical schools within the first few weeks of Semester One every year;
- Educational data – to be collected annually by medical schools in the last term of Semester Two;

- Future intentions data – to be collected by medical schools from all final year medical students towards the end of Semester Two. Questions 15 & 16 from the Commencing Questionnaire will be put to students again in their final year to assess any changes in career decisions during their studies.

The Steering Committee has recommended actions for further development of the data collection methods (see Section 3: Recommendations).

The data items and categories have been designed with both short and long-term goals in mind. In the short term, annual reports will be able to be generated on overall student numbers and educational experiences, which should provide a valuable source of information to individual medical schools and DHA, as well as other stakeholder bodies. In the longer term, the data set will be able to be used to build a comprehensive picture of how medical education experiences may impact on career directions.

3. Design, develop and pilot a national database which provides a reliable data source for medical schools and the Commonwealth for internal and external reporting requirements on the outcomes of education programs.

3.1. IT Consultancy

The MSOD Project involved appointing an IT consultant or team responsible for designing and setting up the national database through a tendering process. Four private Sydney-based IT companies were identified and asked to submit tenders. In addition, following feedback from the Deans, the call for tenders was extended to the 15 medical schools as well, recognising that the project might benefit from IT personnel with experience in the university sector. The decision to allow medical schools to tender for the IT consultancy created some delays in the start of the consultancy. Nevertheless, it proved a valuable step when a team from Monash University was awarded the consultancy tender.

The Monash IT Team has been working on constructing the database and web applications since December 2004. The database (see below) is hosted on a secure server at Monash University. The IT team is also responsible for advising the MSOD Steering Committee and CDAMS on relevant management, maintenance, security and development issues. A contract was drafted and signed between Monash University and University of Sydney (acting on behalf of CDAMS; the contract is at Appendix F).

3.2. National Database

Working with the Database Project Officer, CDAMS Executive Officer and Administrators Advisory Group, the Monash IT Team has designed and set up a database in order to house, process and provide remote access to the data collected from the students and the medical schools. Following a detailed investigation of different database platforms and options and feedback from Faculty Administrators, the database has been developed as an online web application accessed using a web-browser (eg. Internet Explorer or Netscape) that is installed as standard with all Windows or Macintosh operating systems. Of the options canvassed, the online web application was the most efficient and cost-effective approach, and will require the least amount of resources for implementation at medical schools (see below). Figure 1 provides a schematic representation of the national database and the data collection processes.

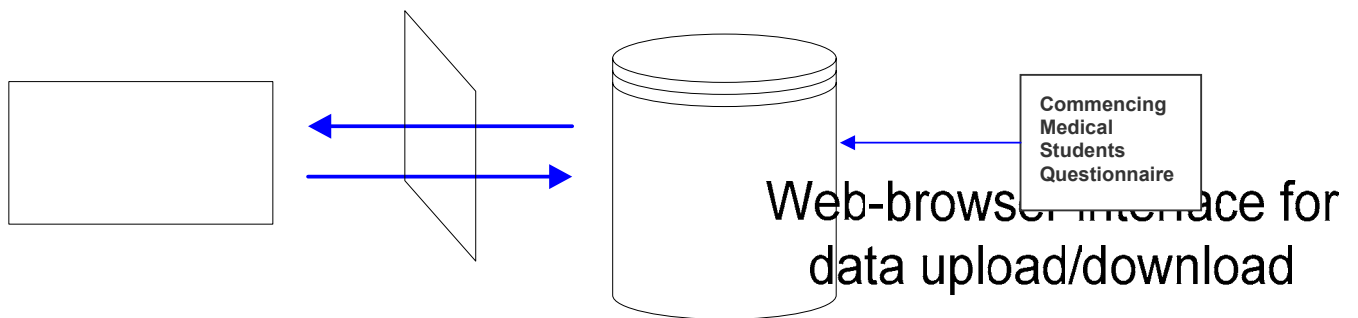


Figure 1: Schematic representation of the national database and the data collection processes

The Monash IT Team has prepared a full report on the design, structure and operation of the database (see Appendix G).

University student data (spread across a variety of internal systems)

3.3. Implementation Requirements

It was originally determined that the Steering Committee and IT consultant would determine an implementation benchmark which sets the minimum standard for implementation and operation of the database. This benchmark was to be based on an evaluation of school's data capability and ability to implement the project. This requirement was based on the original expectation that the national database would be a stand-alone database in a particular platform, and that data would be uploaded from 15 unique school-based databases. Accordingly, the expectation was that some medical schools might require some additional IT resources.

At the national workshop, however, the discussion group looking at IT options recommended that the most cost-effective approach would be a web-based application. The online application was subsequently endorsed by the Monash IT Team in their independent advice to the Steering Committee as the most user-friendly, cost-effective and efficient model. Accordingly, it is the opinion of the Steering Committee that no medical school will require any additional IT resources for implementation of the data collection process or use of the database.

However, the national audit process and advice from the Administrators Advisory Group suggests that some medical schools may need some initial assistance in establishing, modifying or improving their data collection methods. Discussions amongst the Deans over the last few years have also canvassed this at length, and the Deans are aware that in some instances they will have to take steps to bring their data collection processes into line with the requirements of the national database.

The Monash IT Team will develop standard templates (based on the items in the minimum data set) for different spreadsheet and database platforms (eg. Access, Excel etc) for the medical schools. The medical schools can then use those templates to store the data items required by the minimum data set, as well as any other additional data items they may care to begin collecting. In effect, the national database will provide a central structural template for all medical schools for the collection of student data.

Taking the above points into consideration, it is the opinion of the Steering Committee that the main resource necessary for successful implementation of the database project at the school level will be personnel. It is proposed that each school nominate at least one senior academic or administrative staff member to:

- act as central point of contact for the MSOD Project secretariat;

- be responsible for coordinating other school staff in data collection processes (including Commencing Medical Students Questionnaire and annual educational data);
- undertake training in using the national database for the purposes of uploading and downloading school-based data;
- liaise with the Database Project Officer and Monash IT Team in organising school-based training sessions on the operation of the database;
- manage school-based databases/spreadsheets as a central coordinated resource for each school.

The Deans are expected to provide financial and administrative resources within their schools to support the nominated staff members in fulfilling the above responsibilities and engaging with the national network as well.

3.4. Data Security, Ownership, Access, Privacy and Confidentiality

National and state-based privacy legislation has been taken into consideration throughout Stage 1 of the project. The database design has taken security considerations into account by establishing different types and levels of user access. Access to the complete records in the national database will be restricted to 2 nominated CDAMS representatives (at this stage the Database Project Officer and Executive Officer) and the responsible members of the Monash IT Team. The nominated medical school staff will have access to the data for their school only, for the purposes of annual data uploads. This information was included in the informed consent forms handed out to students as part of the pilot Commencing Medical Students' Questionnaire. This overall approach will preserve the confidentiality of students' information.

In previous discussions with DHA, it has been agreed that CDAMS will own the national database and collated data therein. DHA staff will not have access to the database. However, annual reports will be prepared for DHA (and other stakeholder groups) to present disaggregated data. Further discussions will need to be held with DHA as part of a planned Stage 2 of the project about their reporting requirements.

SECTION TWO: DIFFICULTIES IN MEETING OBJECTIVES

While there have been many noteworthy accomplishments, there were a number of difficulties that made some aspects of Stage 1 of the MSOD Project particularly challenging, resulting in some outstanding tasks at the end of Stage 1. The outstanding tasks are (i) to pilot the collection of educational data items; (ii) to revise the Commencing Medical Students Questionnaire prior to national launch of the project in Semester 1 2006; and (iii) to produce a final draft of the data glossary.

At its simplest level, the major difficulty in achieving all objectives within the first 15 month timeframe has been the complexity of the project. Although the original project proposal prepared in 2003 had already been under discussion for some time, the challenges inherent in a project of this size and scope only became apparent when the project was formally under way.

In particular, it quickly became clear that consultation processes on the minimum data set, data collection processes and database structure would need to be far more inclusive and widespread than previously thought. A more careful and considered approach to consultation has been taken over the last year which has provided direct benefits in terms of increased support for the project. Details of the main reasons for time delays have previously been provided in the application for the 3 month extension.

It should also be pointed out that one of the more frustrating aspects of this project has been the lack of communication and collaboration amongst stakeholder organisations about similar projects. Just as there have been unnecessary levels of task duplication at the medical school level (which is being addressed through agreement on nationally consistent data definitions and data collection processes), there is a clear and pressing need for a more coordinated approach at the national level to health data collection processes and projects.

The Database Project Officer has often been in the position of informing one national organisation of valuable work being undertaken by other organisations of direct and immediate relevance to their projects. Nevertheless, one of the unintended benefits of this has been the increasing role of the MSOD project secretariat as a central national storehouse of information about similar or complementary projects, and acting as a channel for communication amongst a wide range of people and organisations.

The outstanding tasks from Stage 1 still to be completed include:

1. Pilot of educational data items – As a result of determining the timing of data collection processes for the 3 main categories of information in the minimum data set, the collection of educational data items will need to occur late in second semester each year. Accordingly, a pilot of this data will need to be undertaken in Semester 2 2005 at the 6 previously identified medical schools.
2. Revise the Commencing Medical Students Questionnaire – The pilot questionnaire process has identified some questions that can be amended or rephrased to make the data more relevant and useful. Dr Anne Swinbourne, JCU, has analysed the pilot results and has recommended a number of changes. Initial feedback from Dr Christine Rimene, University of Otago, has also indicated some areas that will need to be addressed in the questionnaire in relation to questions on Aboriginal and Torres Strait Islander identity. Further consultation will also be undertaken with Professor Helen Milroy, President of the Australian Indigenous Doctors' Association, about the questionnaire and the operation of the database project more broadly.
3. Data glossary – As a result of the delay in determining the minimum data set, there was insufficient time for completion and final sign off on the data glossary. Further delays were caused by the lack of awareness amongst different organisations of work undertaken elsewhere. For example, it has only recently been brought to the attention of the Database Project Officer and Steering Committee that a national health data dictionary has already been produced that has significant applications to MSOD data glossary. A draft of the data glossary has been produced (see Appendix H) and will be discussed and endorsed by the medical schools during Semester 2 2005.

In 2004, Professor Rabinowitz provided some early feedback on the Stage 1 timeline which served to highlight some of the difficulties in meeting all the project's objectives within a relatively short timeframe. Professor Rabinowitz remarked that:

This is a very ambitious project, even in its first stage...[with particular] challenges with timelines...Approval from 15 ethics committees within a short timeframe is a concern... [The] IT component usually goes over schedule and budget... [and] definitions of data will be time consuming, eg: definition of rural. The hardest thing to achieve at the beginning is perspective [and] a clear plan and direction with appropriate timelines is critically important. [It is] essential to get concepts and major issues and challenges right... A lot of discussion from multiple constituents is important and will be time consuming (email correspondence, August 2004).

Nevertheless, Professor Rabinowitz has repeatedly and consistently commended the MSOD project as extremely important and valuable, and well worth continuing over time. Professor Rabinowitz has recently provided a short statement on the achievements of Stage 1, attached at Appendix I.

SECTION THREE: RECOMMENDATIONS

At the conclusion of Stage 1 of the Project, the Steering Committee recommends the following strategies for the next stages of the MSOD project:

- 1. Change in workplan:** It is recommended that the commencement of national operation of the MSOD project (incorporating collection of demographic data and operation of the national database) be deferred until 2006. The 2006 cohort of commencing medical students will become the first cohort to be tracked throughout their studies.

The rationale for this recommendation is based on the timing of the pilot Commencing Medical Students Questionnaire at 6 medical schools in Semester 1 2005. The Steering Committee feels strongly that administering the questionnaire at the 9 remaining schools in Semester 2 2005, or re-administering a final version at all 15 schools, could potentially undermine the perceived validity of the 2005 cohort data. Other advantages of the revised workplan include:

- Allows more time for developing and refining the database;
 - Allows more time for consultation, training and capacity-building of administrative, research and other staff in medical schools;
 - A pilot test of the collection of educational data can be conducted in Semester 2, 2005 following more consultation with Deans and administrative staff;
 - Allows more time for coordinating ethics approval application processes at the 15 participating medical schools for full operation of project in 2006.
- 2. Stage 2: MSOD stream** – The Steering Committee recommends progression to Stage 2 of the MSOD project. A full project proposal will be submitted to DHA for Stage 2, which will be incorporate the continuation of the database project over the next 2.5 years (development and operation); and a 12 month study investigating the feasibility of utilising the database as the foundation for longitudinal tracking of students throughout the education/training/practice continuum.
 - 3. Commencing Medical Students Questionnaire** – The questionnaire to be revised based on analysis of the pilot data and on recommendations from Steering Committee, external consultants and stakeholder organisations. Produce a final draft for national implementation in 2005
 - 4. Educational data** – A pilot should be conducted for collection of educational data at the six participating medical schools which have been granted ethics approval from their Human Research Ethics Committees (or relevant Faculty/University body).
 - 5. Ethics approval** – Ethics approval will need to be sought from all 15 medical schools prior to administering the Commencing Medical Students Questionnaire early in Semester One 2006. Ethics approval applications should include reference to tracking successive cohorts of students, commencing in 2006.
 - 6. Steering Committee** – It is recommended that the current membership of the Steering Committee be maintained and that Professor Andrew Coats (Dean, Faculty of Medicine, University of Sydney) continue as Convenor. In recognition of the relevancy of the project to a widening group of stakeholders, it is recommended that representatives from the Committee of Presidents of Medical Colleges (CPMC) and Australian Indigenous Doctors' Association (AIDA) be invited onto the Steering Committee.

7. **Unique identifier** – The Steering Committee recommends that stronger links be established in future with the joint project between the Australian Medical Council (AMC), the Joint Medical Boards Advisory Committee (JMBAC) and DHA on the development of a unique identifier as part of a new Australian index of medical practitioners. Other stakeholder groups will also be increasingly consulted as part of a proposed feasibility study in Stage 2 (see Recommendation 2).
8. **Website and public report** – A website should be developed in order to provide a public interface for the MSOD project, and a version of this Final Report prepared for public dissemination. The Monash IT Team has indicated they are happy to design and host a project website as part of an ongoing IT consultancy.
9. **Implementation benchmark** – The Steering Committee recommends that each medical school commit whatever staffing resources necessary for successful operation of the project within the schools, initially by nominating at least one senior administrative or academic staff member to:
 - act as central point of contact for the MSOD Project secretariat;
 - be responsible for coordinating other school staff in data collection processes (including Commencing Medical Students Questionnaire and annual educational data);
 - undertake training in using the national database for the purposes of uploading and downloading school-based data;
 - liaise with the Database Project Officer and Monash IT Team in organising school-based training sessions on the operation of the database;
 - manage school-based databases/spreadsheets as a central coordinated resource for each school.

SECTION FOUR: FINANCIAL MANAGEMENT

The Steering Committee and CDAMS would like to express their thanks for the project funding provided by DHA for Stage 1 of the project. Total funding of just over \$316,000 has been given. Regular financial statements were provided to DHA with the Progress Reports. The financial statement attached to the Fourth Progress Report (submitted separately to DHA) covers project expenditure from April 2004 to 30 June 2005. An audit is currently underway and a qualified accountants' report will be submitted to DHA by 29 July 2005. All remaining amounts will be identified and then returned to DHA. The last remaining tranche of project funding is payable upon receipt of this report.

New South Global, the commercial arm of UNSW, has provided high-level financial accountability and reporting systems for this project. The project secretariat has been located at UNSW since May 2004. Due to the possible expansion of the project in a planned Stage 2 and the general lack of office space at UNSW, the Project Secretariat will be relocated to the University of Sydney to work closely with the Convenor of the MSOD Steering Committee. The CDAMS secretariat is also relocating to the University of Sydney.

Through the University of Sydney, CDAMS has offered a further contract of employment to the Database Project Officer, commencing 16th July 2005 immediately following the termination of contract employment at UNSW on 15th July. This is not intended to pre-empt DHA's decision on Stage 2, and is contingent upon DHA's response to the Stage 2 proposal. However, the Stage 1 Agreement refers to DHA's interest in potentially funding a Stage 2 of this Project and CDAMS and the Steering Committee are keen to retain the excellent services of Ms Kaur.

SECTION FIVE: CONCLUSION

It is difficult in a report of this format to do justice to the significance of the outcomes achieved during the first 15 months of this project. Professor Rabinowitz, arguably the world's leading authority on tracking graduates from medical programs, was effusive in his commendation for the work and accomplishments of the CDAMS team in undertaking this project.

Not only has the project achieved all its contractual objectives in a constrained time frame and under sometimes challenging collaborative circumstances, it has also laid the groundwork for pioneering an initiative of international significance. This investment provides the Australian Government and university medical schools with one of the potentially most valuable resources to underpin its workforce planning, monitoring and evaluation. Through auspicing the funding of the MSOD project, the Australian Government has shown foresight and commitment to ensuring that education and training programs are delivering outcomes to meet the workforce needs of communities throughout the nation.

A project like this is the cumulative effort of many minds. The Steering Committee would like to express its grateful thanks to the following people for their mostly unpaid and often unacknowledged contributions to Stage 1:

- Professor David Prideaux, who led the project Working Group and Steering Committee from its first inception in 2001 through to March 2005. Professor Prideaux's leadership qualities and extensive educational expertise have been instrumental in garnering widespread support for the project, and he has consistently highlighted the central importance of this project for researching, evaluating and improving medical education in Australia.
- Professor John Humphreys, who has been working through the RUSC Reference Group for at least 10 years on getting this project off the ground. Professor Humphreys' unflagging enthusiasm, support and encouragement has been one of the mainstays of the project so far, and the project owes a great debt to his continuing involvement.
- Ms Dani Brown, CDAMS Executive Officer, and Ms Baldeep Kaur, Database Project Officer, who frequently worked beyond their designated positions and in times of some difficult personal circumstances to ensure that the project was well supported and administered.
- The individual members of the Steering Committee, both past and present, have given of their time, wisdom, expertise and advice in developing, steering and overseeing the project. Their excellent contributions should be applauded.
- The consistent and ongoing support of the Deans, staff and students of Australia's medical schools has guaranteed the success of the project so far. Many staff and students have been an enormously important source of valuable insight and advice over the years. In particular, the Steering Committee wishes to thank the medical school Deans for continuing to support, encourage and believe in the importance of this project both for their own institutions and for medical education more broadly. The collegial and collaborative approach of the Deans to this groundbreaking project is to be highly commended.

Finally, we sincerely thank the Department of Health & Ageing and its staff for the high quality advice, feedback and efficient support we have received during the implementation of Stage 1 of this Project. Your commitment is deeply appreciated and valued. We look forward to working together to further the achievements of this remarkable Project in future.

A handwritten signature in black ink, appearing to read "Andrew Coats", with a long horizontal stroke underneath.

Prof Andrew Coats
Convenor
Medical Schools Outcomes' Database Project Steering Committee
15th July 2005

LIST OF APPENDICES

- A. Completed Medical School National Audit Templates
- B. National Workshop Proceedings
- C. Commencing Medical Students Questionnaire
- D. Report on the 2005 Pilot Survey for the MSOD Project, Dr Anne Swinbourne, JCU
- E. Minimum Data Set & Rationale
- F. IT Consultancy Contract, Monash University and University of Sydney
- G. Monash IT Team Report on the National Database
- H. Draft Data Glossary
- I. Statement by Professor Howard Rabinowitz