THE UNIVERSITY OF
MELBOURNE

Health & Biomedical Informatics Centre, Research Information Technology Unit
Department of General Practice, Melbourne Medical School
Faculty of Medicine, Dentistry and Health Sciences

Data Warehouse Engineer

POSITION NO	0044853
CLASSIFICATION	PSC 7
SALARY	$88,171 - $95,444 p.a.
SUPERANNUATION	Employer contribution of 9.5%
WORKING HOURS	Full Time
BASIS OF EMPLOYMENT	Fixed Term for 1 Year from date of contract Fixed term contract type: Externally Funded Contract Employment
OTHER BENEFITS	http://about.unimelb.edu.au/careers/working/benefits
HOW TO APPLY	Online applications are preferred. Go to http://about.unimelb.edu.au/careers, select the relevant option ('Current Staff' or 'Prospective Staff'), then find the position by title or number.
CONTACT FOR ENQUIRIES ONLY	Associate Professor Douglas Boyle Tel +61 3 5823 4521 Email dboyle@unimelb.edu.au *Please do not send your application to this contact*

For information about working for the University of Melbourne, visit our website:
about.unimelb.edu.au/careers

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Position Summary

The HaBIC Research Information Technology Unit (HaBIC R^2) based within the University of Melbourne, Department of General Practice develops and implements one of the most sophisticated mechanisms for ethical acquisition and management of health data in Australia. This system (Generic Health Information Technology for the Enterprise - GRHANITE) is implemented nationally across more than 1,000 organisations.

HaBIC R^2 and the Department of General Practice are implementing a data warehouse to be populated with primary health data extracted by GRHANITE from enrolled primary health sites. The vision is to leverage our unique technologies and access to data to allow our researchers to elevate what they do to the international stage. The platform will play a transformational role in enabling the characterisation of our population's health and developing the next generation tools to use linked data to impact health care processes and outcomes. The successful candidate will be oversighting the ongoing curation of the data repository including the refinement of automation, data ingestion, data characterisation, data dictionary development and management, integration, reporting and exporting. The incumbent will also develop standard mechanisms and tools to support the delivery of research datasets derived from the warehouse data. The Data Warehouse Engineer will be supervised by the HaBIC R^2 Development Team Leader.

Advanced, proven technical competencies are required in all aspects of MS SQL including advanced warehousing, architecture and SQL code development. Expertise in additional programming languages, cloud-based SQL implementations and Linux implementations is also advantageous. We utilise GIT, JIRA and Trello as part of our management processes. Effective team-working and communication skills are paramount.

About GRHANITE^{TM}**:** http://www.grhanite.com/

1. Key Responsibilities

Note: Training in the GRHANITE systems and ETL capabilities will be provided.

▶ GRHANITE performs ETL functions to load heterogeneous data in a standard structure into an SQL Repository. Apart for the standard tabular structure, the clinical data and information remains heterogeneous. The Data Warehouse Engineer (DWE) is responsible for the design and implementation of efficient mediators for the integration of such heterogeneous data with a focus on efficiency and integrity in a repository that is updated daily and which will be in the TB scale.

▶ The DWE is responsible for developing conceptual data models and the physical data model underpinning it that are efficient and capable of responding to frequent dimensional change.

▶ The DWE is responsible for the development of data dictionaries, standard mapping mechanisms, data linkage and automation mechanisms to support easy access to data subsets by researchers.

▶ The DWE is responsible for the delivery of research datasets to customers with the support of the HaBIC R^2 Business Analyst who shall develop the scope of the data request in conjunction with the researcher and the DWE.

▶ The DWE is responsible for the day-to-day security and integrity of the Data Warehouse and must work with the HaBIC R^2 team to proactively manage all aspects of risk in relation to the warehouse.

▶ The DWE will undertake other data warehousing and related activities as required for example applying our developed DW methodologies and systems to other warehouses that are part of HaBIC R^2 projects utilising GRHANITE.

- The DWE must collaborate extensively with academic and professional services personnel to advance reporting capabilities and improve accuracy of data.

- The DWE shall contribute to client discussions and effectively represent subject expertise.

- Work closely with other the HaBIC R^2 staff and sub-contractors to ensure a streamlined link from code development through to data release and on-going support.

- The DWE shall participate in University and the HaBIC R^2 quality processes.

- The DWE shall adhere to the University of Melbourne's Policy on the Management of Research and Records. (www.unimelb.edu.au/records/pdf/research.pdf)

- The DWE shall adhere to Occupational Health and Safety (OHS) and Environmental Health and Safety (EH&S) responsibilities as outlined in section 5

2. Selection Criteria

2.1 ESSENTIAL

- Degree level qualification in Software Engineering or similar with formal SQL and Data Warehousing training being mandatory

- 3+ years' experience in managing and implementing complex data warehouses including advanced analysis, automation, optimisation, management and SQL development

- Proven experience, skills and understanding of Microsoft SQL Server Data Warehousing tools and methods

- Demonstrated ability to be adaptive and accepting of new ideas, and a willingness to approach new challenges including flexibility to adjust plans to meet new priorities

- Demonstrated tendency to contribute ideas and initiate new ways of working.

- An ability to interact positively with diverse groups of people including team members, clients from external organizations and suppliers/vendors

- Proven skills in report writing and presentations

- Superior time management, analytical and organisational skills allowing prioritisation, problem solving and timely, accurate completion of tasks

- High level verbal and interpersonal skills

2.2 DESIRABLE

- An interest in public health

- Knowledge and experience of medical research projects in healthcare sector

- Experience with a wide variety of database technology and database programming and scripting languages

- Experience in Linux environments and Linux-based database platforms

- Familiarity with Nectar Cloud Computing (https://nectar.org.au/) and RDSI (https://www.rds.edu.au/) Commonwealth initiatives

- Knowledge and awareness of compliance requirements in medical research projects including confidentiality and privacy

2.3   SPECIAL REQUIREMENTS

▸ Flexibility in working hours is required including occasional out-of-hours attendance when urgently required.

▸ On request, to sign an agreement regarding the confidentiality of patient and organisation information

3. Job Complexity, Skills, Knowledge

3.1   LEVEL OF SUPERVISION / INDEPENDENCE

The Data Warehouse Engineer (DWE) will receive general direction, and work under the leadership of the GRHANITE™ Development Team Lead. The position shall report to the Director, HaBIC R^2. The DWE will need to be self-driven and independent in nature so as to assume responsibility for the architecture, design and implementation of the warehouse. Extensive experience is available within the unit to support the DWE in the job role and to help formulate the Warehouse architecture and approach.

3.2   PROBLEM SOLVING AND JUDGEMENT

The DWE must be able to confidently develop solutions as requested and directed by senior members of the team and systematically work through complex problems with a minimum of supervision. The incumbent will be required to exercise sound and independent judgement about operational matters specific to the core functions and responsibilities of the position. The position will be required to perform a range of tasks varying in complexity and will involve problem solving and decision making at a day-to-day and longer term strategic level. The GRHANITE IT systems and interfaces are often mission-critical. Sound judgment must be employed to help minimize risk to ourselves and to our customers.

3.3   PROFESSIONAL AND ORGANISATIONAL KNOWLEDGE

The incumbent must possess or develop a sound understanding of the operation and application of information technology in ways which meet the job role and the wider business needs of HaBIC R^2, our clients and research partners. The position is expected to keep abreast of all relevant regulations, standards and codes of practice applicable within the Department and the University. The position is required to develop and maintain excellent working relationships with senior staff internally, across the University.

3.4   BREADTH OF THE POSITION

This position is building on 11 years of development in a product implemented in over 1,000 locations nationally. The job role involves new areas of development with great potential for innovation and on-going personal development.

4. Equal Opportunity, Diversity and Inclusion

The University is an equal opportunity employer and is committed to providing a workplace free from all forms of unlawful discrimination, harassment, bullying, vilification and victimisation. The University makes decisions on employment, promotion and reward on the basis of merit.

The University is committed to all aspects of equal opportunity, diversity and inclusion in the workplace and to providing all staff, students, contractors, honorary appointees, volunteers and visitors with a safe, respectful and rewarding environment free from all forms of unlawful discrimination, harassment, vilification and victimisation. This commitment is set out in the University's People Strategy 2015-2020 and policies that address diversity and inclusion, equal employment opportunity, discrimination, sexual harassment, bullying and appropriate workplace behaviour. All staff are required to comply with all University policies.

The University values diversity because we recognise that the differences in our people's age, race, ethnicity, culture, gender, nationality, sexual orientation, physical ability and background bring richness to our work environment. Consequently, the People Strategy sets out the strategic aim to drive diversity and inclusion across the University to create an environment where the compounding benefits of a diverse workforce are recognised as vital in our continuous desire to strive for excellence and reach the targets of Growing Esteem.

5. Occupational Health and Safety (OHS)

All staff are required to take reasonable care for their own health and safety and that of other personnel who may be affected by their conduct.

OHS responsibilities applicable to positions are published at:

http://safety.unimelb.edu.au/people/community/responsibilities-of-personnel

These include general staff responsibilities and those additional responsibilities that apply for Managers and Supervisors and other Personnel.

6. Other Information

6.1 HABIC RESEARCH INFORMATION TECHNOLOGY UNIT

http://www.grhanite.com

The HABIC Research Information Technology Unit (HaBIC R^2) is a research information technology unit operating within the Department of General Practice. The unit specialises in providing services for the ethical acquisition of data for research (activities go across all healthcare and are not restricted to General Practice). The tools and services include the flagship system 'Generic Health Information Technology for the Enterprise' – GRHANITE (with interfaces to over 1,000 organisations nationally) and REDCap – a system for

surveys and questionnaires currently in use for over 500 Melbourne University research projects. GRHANITE is an enterprise-scale middleware software platform developed and operated by the HABIC R^2 unit.

6.2 DEPARTMENT OF GENERAL PRACTICE

www.gp.unimelb.edu.au

The Department of General Practice originated as a unit within the Department of Community Medicine in 1977. It was established as a separate department within the School of Medicine in 2001 and established the Primary Care Research Unit (PCRU) as a centre of excellence in primary care research, research training and knowledge exchange in 2006. With an increased profile within the Melbourne Medical School, the Department has utilised its growing network of general practitioners (GPs) and primary health care providers in the community to ensure that University of Melbourne medical students are provided with quality community based medical education. The Department delivers postgraduate training for primary care nurses, and research training for medical, Honours, Masters and PhD students.

The Department focuses on clinical and health services research and training to achieve its vision through three major research themes. Using clinical data analytics, we explore patient pathways and describe the epidemiology of health and disease in primary care. We are developing a range of risk stratification tools for use within primary care. With a focus on primary care innovation we develop, test and implement simple and complex interventions including digital technologies with an emphasis on co-design and patient centred care. Our work informs evidence for stepped care models and the medical home. Central to our work is understanding the patient and practitioner experience and involving them in identifying the challenges designing and testing solutions. The Department has successful research programs in Cancer; Children and Young People's Health; Diabetes and Cardio-Metabolic Conditions; Mental Health; and Abuse and Violence.

6.3 MELBOURNE MEDICAL SCHOOL

www.medicine.unimelb.edu.au/

The Melbourne Medical School (MMS) was established in 1862 and has a substantial international reputation for its leadership in teaching and training, health research, policy and practice. The MMS is committed to working with the communities we serve to improve health and advance health care. We will do this through our teaching, learning, research, clinical care and advocacy.

The MMS is composed of eight clinical departments (General Practice, Medical Education, Medicine and Radiology, Obstetrics and Gynaecology, Paediatrics, Psychiatry, Rural Health and Surgery) which are embedded within clinical health services throughout metropolitan Melbourne and rural Victoria.

The MMS delivers a suite of health related graduate programs including the Doctor of Medicine (MD), the first professional entry Masters level medical program in Australia. The Melbourne MD delivers a fresh approach to medical training and creates a new benchmark in 21st century medical education.

The MMS is committed to improving the wellbeing of the community through the discovery and application of new knowledge. The research effort of the school is highly collaborative and spans basic to translational research and involves over 800 graduate researchers and 1000 academic staff.

The MMS also actively participates in the public debate and advocacy around key health issues and policy based on our values of commitment, integrity, compassion, respect and service.

6.4 FACULTY OF MEDICINE, DENTISTRY AND HEALTH SCIENCES

www.mdhs.unimelb.edu.au

The Faculty of Medicine, Dentistry & Health Sciences has an enviable research record and is the University of Melbourne's largest faculty in terms of management of financial resources, employment of academic and professional staff, teaching of undergraduate and postgraduate (including research higher degree) students and the conduct of basic and applied research. The Faculty's annual revenue is $628m with approximately 55% of this income related to research activities.

The Faculty has a student teaching load in excess of 8,500 equivalent full-time students including more than 1,300 research higher degree students. The Faculty has approximately 2,195 staff comprising 642 professional staff and 1,553 research and teaching staff.

The Faculty has appointed Australia's first Associate Dean (Indigenous Development) to lead the development and implementation of the Faculty's Reconciliation Action Plan (RAP), which will be aligned with the broader University – wide plan. To enable the Faculty to improve its Indigenous expertise knowledge base, the Faculty's RAP will address Indigenous employment, Indigenous student recruitment and retention, Indigenous cultural recognition and building partnerships with the Indigenous community as key areas of development.

6.5 THE UNIVERSITY OF MELBOURNE

Established in 1853, the University of Melbourne is a leading international university with a tradition of excellence in teaching and research. The main campus in Parkville is recognised as the hub of Australia's premier knowledge precinct comprising eight hospitals, many leading research institutes and a wide-range of knowledge-based industries. With outstanding performance in international rankings, the University is at the forefront of higher education in the Asia-Pacific region and the world.

The University employs people of outstanding calibre and offers a unique environment where staff are valued and rewarded.

Further information about working at The University of Melbourne is available at http://about.unimelb.edu.au/careers.

6.6 GROWING ESTEEM, THE MELBOURNE CURRICULUM AND RESEARCH AT MELBOURNE: ENSURING EXCELLENCE AND IMPACT TO 2025

Growing Esteem describes Melbourne's strategy to achieve its aspiration to be a public-spirited and internationally-engaged institution, highly regarded for making distinctive contributions to society in research and research training, learning and teaching, and engagement. http://about.unimelb.edu.au/strategy-and-leadership

The University is at the forefront of Australia's changing higher education system and offers a distinctive model of education known collectively as the Melbourne Curriculum. The new educational model, designed for an outstanding experience for all students, is based on six broad undergraduate programs followed by a graduate professional degree,

research higher degree or entry directly into employment. The emphasis on academic breadth as well as disciplinary depth in the new degrees ensures that graduates will have the capacity to succeed in a world where knowledge boundaries are shifting and reforming to create new frontiers and challenges. In moving to the new model, the University is also aligning itself with the best of emerging European and Asian practice and well-established North American traditions.

The University's global aspirations seek to make significant contributions to major social, economic and environmental challenges. Accordingly, the University's research strategy *Research at Melbourne: Ensuring Excellence and Impact to 2025* aspires to a significant advancement in the excellence and impact of its research outputs.
http://research.unimelb.edu.au/our-research/research-at-melbourne

The strategy recognises that as a public-spirited, research-intensive institution of the future, the University must strive to make a tangible impact in Australia and the world, working across disciplinary and sectoral boundaries and building deeper and more substantive engagement with industry, collaborators and partners. While cultivating the fundamental enabling disciplines through investigator-driven research, the University has adopted three grand challenges aspiring to solve some of the most difficult problems facing our world in the next century. These Grand Challenges include:

- Understanding our place and purpose – The place and purpose grand challenge centres on understanding all aspects of our national identity, with a focus on Australia's 'place' in the Asia-Pacific region and the world, and on our 'purpose' or mission to improve all dimensions of the human condition through our research.

- Fostering health and wellbeing – The health and wellbeing grand challenge focuses on building the scale and breadth of our capabilities in population and global health; on harnessing our contribution to the 'convergence revolution' of biomedical and health research, bringing together the life sciences, engineering and the physical sciences; and on addressing the physical, mental and social aspects of wellbeing by looking beyond the traditional boundaries of biomedicine.

- Supporting sustainability and resilience – The sustainability and resilience grand challenge addresses the critical issues of climate change, water and food security, sustainable energy and designing resilient cities and regions. In addition to the technical aspects, this grand challenge considers the physical and social functioning of cities, connecting physical phenomena with lessons from our past, and the implications of the technical solutions for economies, living patterns and behaviours.

Essential to tackling these challenges, an outstanding faculty, high performing students, wide collaboration including internationally and deep partnerships with external parties form central components of Research at Melbourne: Ensuring Excellence and Impact to 2025.

6.7 GOVERNANCE

The Vice Chancellor is the Chief Executive Officer of the University and responsible to Council for the good management of the University.

Comprehensive information about the University of Melbourne and its governance structure is available at http://www.unimelb.edu.au/governance