

QUT e-Health Capability Statement

BRIEFING NOTE – 20 October 2004

Members from across the QUT community updated the table below by nominating key projects and people associated with the field of eHealth. The table is an aid to QUT's presentation at the next eHealth Research Centre's 'eHealth Leaders Forum' at Customs House, Brisbane on Wednesday 20 October 2004.

The QUT areas of expertise in eHealth are:

- Effective Health Information Sharing
- Electronic Health Records
- Health Education
- Health Communication - Systems, Processes, and Tools
- Risk Management of Resources Within Healthcare
- Intelligent Pattern Recognition in Health Industry
- Management of Health Privacy, Freedom of Information, Confidentiality, Consent
- Acute Clinical Care

QUT Area of Expertise	Relevant Projects	Key People	External Parties
Effective Health Information Sharing	<ol style="list-style-type: none"> 1. Long Term Preservation of Medical Records (Freedom of information, privacy and confidentiality) 2. YAWL (Yet Another Workflow Language) 3. ACROSSnet (Australians Creating Rural Online Support Systems) website 4. Sons and Daughters of Vietnam Veterans website 5. ACT:ION for Health (Applied Communication Technology: Information, Organisations, Networks for Health) 6. Development of domain information model for aged & community care in Australia, ARC Linkage grant. 	<p>Faculty of IT A/ Prof. Arthur ter Hofstede Prof Peter Croll A/ Prof. Mark Looi Prof. Wil van der Aalst A/Prof. Glen Stewart A/Prof. Alan Underwood</p> <p>Faculty of Law Prof. Bill Lane A/ Prof. Lindy Willmott Dr Ben White Mr Simon Young</p> <p>Faculty of Business Prof Lyn Simpson Ms Danielle Penn Ms Susan Leggett Mr Gavin Edie</p>	<p>UQ (Centre for Online Health) and Griffith University (Australian Institute for Suicide Research and Prevention), Lifeline, Parentline, Kids Helpline, Queensland Government, Womens Justice Network, Department of Veterans Affairs Social Sciences and Humanities Research Council of Canada Initiative of the New Economy grant – led by Simon Fraser University – international consortium from British Columbia, Ontario, Atlantic, UK, Netherlands and Austria. Collaborators from Centre for Global e Health.</p> <p>SAP, FileNet, Staffware. Tibco, Fujitsu</p>
<p>Electronic Health Records</p> <p>QUT engages in research in the areas of health classification, and health terminologies - development and management.</p> <p>QUT engages in research in the legal implications of storage of medical records and the associated privacy and freedom of information issues</p>	<ol style="list-style-type: none"> 1. NCCH: health terminologies - development and management, analysis of business requirements, evaluation of existing (inter)national terminologies eg SNOMED-CT 2. Long Term Preservation of Medical Records 3. Assessing the legal implications for electronic storage of medical records, particularly in relation to: <ul style="list-style-type: none"> - Confidentiality, privacy and freedom of information - Patient access to records - Periods to store documents to meet legal obligations. 	<p>Faculty of Health Ms Sue Walker</p> <p>Faculty of Law A/ Prof. Lindy Willmott Dr Ben White, Prof. Bill Lane Mr. Simon Young Dr Ben Mathews</p> <p>Faculty of IT Prof. Ed Dawson</p>	<p>ABS, AIHW, Department of Health and Ageing, Qld Trauma Registry, Commission for Children and Young People and Child Guardian, Health Promotion Qld, Brisbane City Council, Transcultural Mental Health Centre, Uniting Care / Uniting HealthCare</p>
<p>Health Education</p> <p>QUT are leaders in Health Pedagogy and Learning. Offer a wide range of undergraduate and postgraduate programs in the areas of Nutrition and Dietetics, Podiatry, Health, Safety and Environment, Environmental Health, Health Administration, Health Information Management and Epidemiology. QUT also provides education at undergraduate and postgraduate level on aspects of health law. Multimedia and Computer Games Design</p>	<ol style="list-style-type: none"> 1. Law at the End of Life Website – a project to provide health professionals with electronic resources 2. Social capital and community capacity through integrated child and family services (ARC) 3. Medical Computer Games 	<p>Faculty of Education A/Prof Ann Farrell Prof Collette Tayler</p> <p>Faculty of Health A/Prof Carla Patterson</p> <p>Faculty of Law A/ Prof. Lindy Willmot Dr Ben White Assoc Prof Lyn Simpson,</p> <p>Creative Industries</p> <p>Faculty of IT Prof Binh Pham Dr. Tim Dunn</p>	<p>Qld Health, Education Qld, Commonwealth Families & Communities, Qld Dept Communities, Commission for Children and Young People</p>

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<p>Health Promotion and Prevention</p> <p>Studying the effectiveness of visual stimulus.</p> <p>Adding creativity to information.</p> <p>Expertise in addressing needs of child victims of physical, emotional and sexual abuse.</p> <p>Research and practice in health promoting settings</p>	<ol style="list-style-type: none"> 1. Illness and Injury prevention 2. Mental Health care (ACROSSnet and Sons and Daughters of Vietnam Veterans website) 3. Health behaviour modification. 4. Alternative computer interface for visually impaired persons 5. Electronic provision of medico-legal information and preventative health care for children, especially at risk children. 6. Child health lines and risk 7. Resilient Children and Communities, and Culturally and Linguistically Diverse communities 	<p>Faculty of Law Dr Ben Mathews, A/ Prof. Lindy Willmott, Dr Ben White Assoc Prof Lyn Simpson,</p> <p>Faculty of Business Ms Danielle Penn, Ms Susan Leggett, Mr Gavin Edie (Faculty of Business, Service Leadership and Innovation Research Program),</p> <p>Faculty of Education Dr Susan Danby A/Prof Karen Thorpe</p> <p>Faculty of Health A/Prof Don Stewart</p> <p>Creative Industries</p>	<p>UQ (Centre for Online Health) and Griffith University (Australian Institute for Suicide Research and Prevention), Lifeline, Parentline, Kids Helpline, Queensland Government, Womens Justice Network, Department of Veterans Affairs Royal Children's Hospital Foundation</p> <p>Health Promotion Queensland, Brisbane City Council, QH Transcultural Mental Health Research Centre.</p>
<p>Health Communication - Systems, Processes, and Tools</p> <p>QUT has experience in the implementation and analysis of communication processes and systems and tools used between:</p> <ul style="list-style-type: none"> - Patient and Clinician - Clinician and Clinician - Enterprise and Clinician <p>It includes expertise in monitoring and signal processing – particularly in diagnostics and decision support systems</p> <p>QUT also has experience in the legal issues associated with health communication including consent and its documentation, privacy, freedom of information and confidentiality as well as legal liability for negligence.</p>	<ol style="list-style-type: none"> 1. Usability of health information systems and clinician acceptance using a case study approach. 2. Risk Management of False Medical Claims 3. Handling of investigations and discipline for health insurance fraud 4. Business Process Alignment in Health Care Industry 5. Assessing the legal implications for electronic communication systems used in the delivery of Child health services. Relevant issues include: <ul style="list-style-type: none"> - Consent documentation in the context of electronic communication processes - Issues of privacy, freedom of information lines and confidentiality associated with those processes risk - Potential legal liability for management of those processes. In particular, two important issues are the duty to disclose material risks in treatment and the ability to manage/minimise legal claims through effective communication (eg whether apologies amount to an admission of liability) 6. Interactive Communication System featuring graphical tools for web counselling. 	<p>Faculty of Health Ms. Sue Walker</p> <p>Faculty of Law A/ Prof. Lindy Willmott, Dr Ben White, Prof. Des Butler, Prof. Bill Lane, Simon Young</p> <p>Faculty of Education Dr Susan Danby A/Prof Karen Thorpe</p> <p>Creative Industries Prof. Stuart Cunningham</p> <p>Faculty of IT Prof. Peter Croll Prof. Michael Rosemann Prof. Ed Dawson Mr. Craig Huxley</p> <p>Faculty of BEE</p>	<p>Royal Children's Hospital Foundation</p> <p>Women's Info Link, Centrecare Western Australia, and other international bodies such as UNESCO</p> <p>QLD Health, SAP, Fujitsu</p>
<p>Risk Management of Resources Within Healthcare</p> <p>QUT works in area of project management and creating evaluation models and business benefit models. QUT also has experience in the legal issues arising from complaints and investigation processes, and minimising associated legal risk.</p>	<ol style="list-style-type: none"> 1. Assess and assist in the revision of complaints handling, investigation and disciplinary procedures within health care agencies to ensure that they comply with relevant administrative law requirements. 2. Q.U.i.P.S. - a Quality Model for Investigating Risk Exposure in e-Health Systems. 3. Risk Management of False Medical Claims 4. Authentication of Medical Personnel and Patients 	<p>Faculty of Law Prof. Bill Lane Mr. Simon Young</p> <p>Faculty of IT Prof Peter Croll Prof Ed Dawson A/Prof Mark Looi</p> <p>Faculty of Business</p> <p>Faculty of Health</p>	
<p>Intelligent Pattern Recognition in Health Industry</p> <p>Fraud Detection Image Processing Data Mining and Data Warehousing. Machine Learning and AI. Image Acquisition and Analysis.</p>	<ol style="list-style-type: none"> 1. Predicting Productive Ageing using Data Mining Techniques 2. Topic oriented mining and reasoning 3. Bioinformatics - analysis of genomic data applying modern kernel-based machine learning methods. 	<p>Faculty of IT Prof. Binh Pham Dr. Jim Hogan Dr. Shlomo Geva Dr. Astor Wardhini Dr. Richi Nayak Prof. Binh Pham & Dr. Yang Cai (Carnegie-Mellon University, USA)</p>	

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	<p><i>Eg the use of novel kernels for the analysis of Chlamydia and Bacillus anthracis.</i></p> <p>4. Data mining and image analysis for genetic damages due to illicit drugs</p> <p>5. Semi-automated tongue analysis for traditional Chinese medicine</p>	<p>/Prof Joaquin Sitte</p> <p>Faculty of BEE</p> <p>Faculty of Science</p> <p>Faculty of Health</p>	
<p>Management of Health Privacy, Freedom of Information, Confidentiality, Consent and other legal issues</p> <p>QUT has extensive expertise in health law, public law and liability for personal injuries.</p>	<p>1. Role Based Access Control for e-Consent in Coordinated Care</p> <p>2. Secure Access to Medical Records Assessing the legal implications for electronic storage of medical records, particularly in relation to: - Confidentiality, privacy and freedom of information - Patient access to records - Periods to store documents to meet legal obligations</p> <p>3. Secure Communications for Remote Video Procedures</p> <p>4. Authentication of Medical Personnel and Patients</p> <p>5. Topic oriented mining and reasoning for e-Consent in Coordinated Care</p> <p>6. Patient e-Consent - Privacy and Accessibility in Disparate and Legacy Systems:</p>	<p>Faculty of IT Prof. Peter Croll Prof. Ed Dawson A.Prof Mark Looi</p> <p>Faculty of Law A/ Prof. Lindy Willmott, Dr Ben White, Prof. Bill Lane, Simon Young, Dr Ben Mathews</p> <p>Faculty BEE Prof Sridha Sridharan, Professor</p>	<p>Commonwealth Department of Health and Aged Care (now called the Department of Health and Ageing)</p>
<p>Acute Clinical Care</p> <p>QUT has expert knowledge and perspective in Acute Clinical Care particularly in the areas of Trauma and Surgical planning</p> <p>QUT also has the ability to transfer this expert knowledge to the community via highly interactive communication processes. (Also note: Point of Care Diagnostics)</p>		<p>Faculty of BEE Faculty of Health</p>	

What e-Health means at QUT

From the perspective of public health and improving clinical health, traditional methods and strategies to support the self- and co-management of health have most often used individual/group education or counselling, printed educational and behavioural-skills-based materials, and mass-media communications. However, recent technological developments have made available many new strategies with significant potential for improving healthcare service delivery. Telecommunication networks have facilitated a variety of tele-health and e-health systems that can offer remote medical consultations, behavioural instructions and advice, and emotional support. Increasingly intelligent interactive computer programs have facilitated the tailoring of health education and promotion to include personalisation of messages, as well as adaptation to the individuals diagnostic, behavioural, and motivational characteristics. These technological innovations make it possible to reach populations in order to assess, prompt and monitor health-related functioning, provide caregiver support, and reduce associated healthcare costs. Automated programs using telecommunications systems offer considerable promise in facilitating health education and health-related behaviour change, because of their proven ability to enhance active, self-paced learning, increase motivation, and provide individualized feedback. **Brian Oldenburg, Ph.D. Professor, School of Public Health & Regional Director, Asia Pacific Academic Consortium for Public Health (APACPH)**