The Patient–Therapist Relationship: Reliable and Authentic Mental Health Records in a Shared Electronic Environment

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There are currently a number of initiatives in Australia and internationally that are aimed at sharing patient data among healthcare providers, as well as other third parties. This article analyses the impact of one of these projects — Health*Connect* — on the reliability and authenticity of mental health records by assessing the adequacy of evolving electronic health records standards, as well as mental health records standards. Although the analysis found that mental health services could benefit from the sharing of information between healthcare providers, the Health*Connect* proposals and standards activity highlight the paucity of specific measures in place to differentiate mental health information from other health information. Research also indicates that current proposals do not meet record-keeping benchmarks of authenticity, which require the ability to reconstruct all elements of a record's identity and integrity over time — essential to protecting the rights and obligations of the patient, therapist and other third parties. Finally, the article proposes a technology-neutral conceptual model for identifying the trustworthiness of mental health records in a shared electronic environment.

At the Health Information Management Association of Australia's national conference, held in Sydney in August, 2003, Professor Marie Bashir, the Governor of New South Wales, and herself a psychiatrist, recounted the story of one of her former patients who contacted her to ask for documentary evidence of a diagnosis she had made of his mental illness, 10 years ago. She was able to provide him with the information he was seeking from her patient notes in order for him to demonstrate an intellectual disability of long duration. Her records of the patient in question were in paper form, they were readable, they were her intellectual property, they had not been divulged to any third party and they had not been tampered with. Because she was both the author and owner of the records, their reliability was assured by her professional accreditation and the fact that it was her normal practice to keep all related papers of each patient together in one file. Will this be the case in the following 10 to 20 years when the record will have been created and

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stored in electronic form, and the identity elements of the record, (i.e., who created it, when and where) are not stored with the data or held by the author, and its integrity cannot be guaranteed because the software that is needed to read it no longer exists or its migration to a new system has not retained all the essential data?

In the mental health context, without proper clinical documentation the patient is denied rights to a full and accurate record of diagnosis and treatment, and the therapist has no evidence of the diagnosis and treatment given for both immediate and future uses. Individual clinical documentation also illustrates how mental health policy has been implemented at a given point in time that goes beyond the individual's treatment by providing professional and collective accountability for particular kinds of treatment methods. The clinical mental health record is a record of patient care in the context of a mental health service, shared within the boundaries of medical confidentiality between the health service provider, patient, family, carers and advocates. It is essential to establishing the rights and obligations of the parties in the action recorded. As mental health issues are episodic, the treatment record needs to be preserved for the lifetime of the patient.

Electronic health records, and in particular those that are shared outside their creation boundary, need to be retained for the lifetime, and possibly beyond the life of the patient to provide healthcare continuity and accountability. In fact, current electronic health record models refer to the "longitudinal" record that can be either a single encounter or any length of time (ISO Standards Group, 2003). In the case of Health*Connect* "the EHR data shall be preserved for the life of the consumer" (Health*Connect,* 2003, Architecture Overview Draft, v0.9, p. 16). Any loss of accessibility to, and intelligibility of, the records and the loss of the original functionality of the data during transfer to a new technology or accidental loss due to media failure affects the integrity of the records and must be minimised.

Mental Health Information and the Electronically Integrated Health Record

The threat to record integrity has arisen from current trends in health informatics aimed at integrating electronically all health information, including mental health related to a patient, without ensuring that record-keeping requirements established by records management standards and best practice have been met. It is not only technologically driven but is also the outcome of changes in health delivery methods which have shifted away from the reasonably exclusive patient–doctor/therapist relationship into the environment of clinics and area health networks where the relationship between individuals is often replaced by an arrangement with an individual and a clinic and a range of health service providers.

There are a number of initiatives in Australia and internationally that are aimed at sharing patient data between health service providers, as well as other third parties including researchers and health administrators (Cornwall, 2002). Federal health initiatives such as Health*Connect* share patient clinical data via summaries (if not the actual records of clinicians) from the health service providers' source records on the basis of "demographics" such as names, addresses and other personal details of the patient, medical practitioner and health facility. The shared record is created from a point of care source system to which patients must consent and which is accessed by authorised persons.

The Australian Health*Connect* proposals are health record-sharing arrangements at the national level, which raise complex legal and record-keeping risks. Even without large projects such as Health*Connect,* diverse healthcare information systems can now interface with each other, using communication protocols for data interchange that allow for the integration of data, regardless of time and place. The focus of health information technology development is not only on clinical systems, but also includes linking or merging them with administrative health systems such as billing and government reporting. These technological developments will continue whether or not Health*Connect* proceeds, and in fact are being encouraged by the federal government, which is increasingly looking to build its own shared electronic health record systems on top of state and private sector developments (Health*Connect,* 2003, Interim Research Report).

Privacy issues are of particular concern when mental health information is shared by those other than the mental health service provider, patient, family, carers and advocates. Increasingly interna-

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tionally there is a move to place higher protection on more sensitive personal data, including health, which when aggregated or linked with other personal information becomes highly intrusive (e.g., *Privacy Act 1988* (Cth), s 6 "sensitive information", (b) includes health information about an individual). At the same time, government policies world-wide are encouraging the re-use of personal data in shared networked environments by using personal or entity identifiers coupled with authentication techniques to link personal data across jurisdictions and institutions for online delivery of services (Department of Communications, Information Technology and the Arts, 2000, Government Online and National Health Information Management Advisory Council, Health Online, 2001).

Whether it is beneficial from a legal, clinical or records viewpoint to discriminate between mental health information and other health information is an issue that must be resolved in the shared health records environment. In the Health*Connect* context, minimal attention has been given to discriminating mental health information in the overall context of the health record, a view partly endorsed by the Information Strategy Committee of the Australian Health Ministers' Advisory Council, National Mental Health Working Group. This Group has provided a series of discussion papers on health online initiatives that recognise that mental health policy has to take account of these wider health developments. In one of the discussion papers, E-Mental Health in Australia: Implications of the Internet and Related Technologies for Policy, which was followed up by a questionnaire sent to mental health practitioners, the overall result indicated that e-mental health needed to be incorporated into future mental health policy with some concern over the substitution of human to human interaction. As mental health disorders are often chronic, and lifetime care is needed, the responses reflected a concern that the patient's mental health record should also be available to general practitioners (Griffiths et al., 2003).

From a record-keeping perspective, national health record summaries from different organisational sources may jeopardise rather than enhance the quality of mental health records. In this scenario mental health information simply becomes part of the patient's integrated health record, able to be extracted from any record of a mental or healthcare provider who has treated the patient for mental health purposes if the patient has consented to its collection and use.

As a record-keeping principle a health record needs to be differentiated from the health information it contains as there may be identical health information about the same patient in records of different health facilities; however, the record will *not* be the same, because the activity to which it pertains differs (e.g., the purpose of a pathology test for a particular illness may need to be read differently by a pathologist than by a psychiatrist). The organisational context may be lost in the shared environment, thus affecting the record's reliability and integrity, and its usefulness as legal evidence.

Accountable Clinical Mental Health Records

In Australia the states and territories are responsible for the provision of mental health services and each one has a principal Act which regulates the care, treatment and control of mentally-ill persons through administrative provisions for the operation, regulation and control of mental health services. These are *Mental Health Act 1986* (Vic), *Mental Health Act 1990* (NSW), *Mental Health Act 2000* (Qld), *Mental Health Act 1993* (SA), *Mental Health Act 1996* (Tas), *Mental Health Act 1996* (WA), *Mental Health and Related Services Act* (NT), and *Mental Health (Treatment and Care) Act 1994* (ACT).

Until changes in mental health legislation and delivery of mental health services in the 1970s and 1980s, public mental health records in Australia mirrored the prevailing method of institutionalisation of the mental health patient. The mental health record consisted of prescribed legal forms which served as legal controls over the patient rather than a clinical record of care (Ross, 1993). Mental health legislative consistency across Australia has now been set by government benchmarks in terms of compliance with international and national norms and standards (Department of Health and Ageing, Mental Health Branch, Application of Rights Analysis Instrument, 2000).

While the legislation has become less prescriptive in terms of the form and content of the records, the accountability requirements have not diminished. For example, the Victorian *Mental Health Act 1986* includes procedural and policy requirements,

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such as informed consent for particular procedures and review mechanisms which have established more scrutiny of the providers and imply a reliance on the clinical record. Accountability mechanisms that are currently in place and rely on the clinical record of care include the Mental Health Review Board, the Community Visitor Program and professional legal duties. For example, subject to the *Mental Health Act 1986* (Vic) s24 (3), (4) and (7) the clinical file is part of the evidence submitted to the Mental Health Review Board, which conducts hearings to determine whether it is necessary for a person to be treated as an involuntary patient. The Community Visitor's program, which is found in all Australian states, also depends on the clinical file. The *Mental Health Act 1986* (Vic) s112 (1)(d) entitles a Community Visitor, when visiting a mental health service, to "inspect any document or medical record relating to any person receiving treatment or care for a mental disorder if he or she has given consent in writing and any records required to be kept by or under this Act". Professional legal compliance also contributes to the record's reliability. In the Victorian legislation registered medical practitioners risk serious professional misconduct if they falsely state or certify anything in a recommendation or certificate in connection with the admission of any person to an approved mental health service (*Mental Health Act 1986* Vic s126).

Therefore, in Australia until the last decades of the 20th century, due to the methods of diagnosis and treatment of mental illness, patient mental health records were not subject to mainstream health records standards. Hospital medical records led the way in the creation of formalised patient-unit records, although clinicians' "notes" existed as stand-alone records that were rarely incorporated into formal record-keeping systems. The reliability of the mental health record improved from the 1980s with professional medical records staff working in mental health services, finally bringing mental health records within mainstream health records standards (Ross, 1993).

In 1992 the Commonwealth's National Mental Health Policy was the basis of reform in mental healthcare, which included the National Standards for Mental Health Services issued in 1996, based on human rights, dignity and empowerment (Department of Health and Family Services, National Standards for Mental Health Services, 1996). The framework for the standards included the United Nations Principles on the Protection of People with a Mental Illness and Improvement in Mental Healthcare, mental health, equal employment opportunity, anti-discrimination, health and safety, registration and disability service legislation, as well as professional and departmental codes of conduct, all establishing the regulatory mandates for mental health records.

The National Standards for Mental Health Services 1996 includes specific sections dealing with documentation that cover an electronic networked health record. Although the standard recognises that mental health services require special standards and legislation, it recommended integrated mental healthcare plans for the patient ("consumer"), with shared care between general practitioners, private psychiatrists, non-government organisations and overall integration with the health system (8.2 Integration within the Health System). References to documenting every clinical procedure are made throughout the standard. The carer's role is given particular emphasis in the mental health process. The standard includes detailed requirements of the content and context of the clinical mental health record; for example in section 9, Service Development, the information system collects and aggregates data which promote effective care for consumers and their family/carer, assist with the management and evaluation of the mental health service (MHS), and promote staff training and research (9.22); data are collected in a manner which ensures reliability, validity and timeliness of reporting (9.23); information is made available to funders, staff and the defined community in an understandable format within the bounds of confidentiality requirements (9.25); data collection is consistent with statutory requirements and state/territory/national requirements for MHS (9.26); data collected are stored and reported in a manner which ensures confidentiality and complies with relevant legislation (9.27); and service evaluation includes documented accountability and responsibility for the evaluation of the MHS (9.28).

Section 10, Documentation, covers documenting clinical activities and service development activities for delivery of care in relation to relevant legislation, FOI and Australian Standards for medical records in much the same way as required by general records management standards. Treatment and support provided by the MHS are recorded in an individual clinical record, which is

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accessible throughout the components of MHS, and the consumer's current status under any relevant legislation is clearly identifiable within the record (10.1). Consumers are provided with opportunities to access their clinical records (10.2); documentation in the individual clinical record is dated, signed (with designation), to indicate the time of each intervention essential to record identity (10.3); a system exists by which the MHS uses the individual clinical record to promote continuity of care across settings, programs and time with a single clinical record for each consumer, and safe transport of the individual networked record (10.4); documentation is made comprehensive, factual and sequential on the consumer's condition and the treatment and support offered (10.5); each consumer has an individual care plan within their individual clinical record which documents the consumer's relevant history, assessment, investigations, diagnosis, treatment and support services required, and other service providers, progress, follow-up details and outcomes (10.6); the MHS ensures that only authorised persons have access to information about the consumer (10.7) as per Australian standards for medical records; and there are passwords for computer files and for file audits (10.9).

Section 11.3 Assessment and Review covers the assessment process, which includes gathering information from a number of sources with the consumer's consent, from the general practitioner, private psychiatrist, family and other people nominated by the consumer (11.3.5) which is included in the clinical record (11.3.8). The MHS ensures that the individual clinical record for the consumer is available for use in any potential future contact with the MHS (11.6.6).

These standards recognise that a number of healthcare sources are required in assessing the progress of the patient, which may benefit from shared models of the Health*Connect* type, but the healthcare provider would have to depend on summaries that may not themselves be a complete clinical record (Iacovino, 2003a).

Reliable and Authentic Shared Electronic Mental Health Records: The Role of Electronic Health Records Standards

In order to facilitate the international development of standards in health informatics, the electronic health record (EHR) has been defined very broadly as "a health record in computer processable form" (ISO Standards Group, 2003). Like Health*Connect,* current EHR standards activity does not differentiate between mental health and other health information. Despite the recognition of differences between national and regional health systems and of different healthcare contexts and disciplines (e.g., that a psychiatrist may want less structured information than a general practitioner) the International Standards Organisation (ISO) recommends a generic electronic health record reference model for all healthcare disciplines. An electronic mental health record is therefore not specifically defined.

However, the taxonomy of EHRs adopted by the standards developers is useful for defining an electronic health as well as an electronic mental health record, as it includes a *local, shared* and *virtual* EHR (ISO Standards Group, 2003). The local record of care may include externally sourced data, but is restricted to and owned by the health service provider (LEHR). This is the familiar patient record created by a private practitioner. The shared electronic record (SEHR) may be a summary record extracted from the "local" record (Australian Health*Connect* and Canadian models) or it may be summarised information incorporated into a primary carer's record (the United Kingdom model). The virtual record (VEHR) is of particular record-keeping significance as it contains the pointers to where the information is found across all the EHR typologies.

Drawing from Australian mental health records standards and the ISO taxonomy of electronic health records, a local health record in electronic form is one that has been created, maintained and owned by a health service provider at the point of care. By extension the local electronic mental health record (LEHR) is a person's health record within a mental health service in electronic form created, maintained and owned by a health service provider at the point of care. It may be shared within the boundaries of medical confidentiality with other health service providers, the patient, family, carers and advocates.

Can a patient's shared electronic health record (SEHR) created from point of care source systems for use by authorised persons be as trustworthy as a local electronic mental health record (LEHR), created, received, maintained and owned by a health service provider at the point of care? Do

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electronic health record standards ensure a reliable and authentic shared electronic health record?

A record has always been "shared" between the parties to the action recorded, but its incorporation into the record-keeping system of each participant in the action has ensured that its ownership and confidentiality was the responsibility of the record creators and owners. For example, a letter sent to a therapist regarding a patient is part of the therapists' records (ownership is generally split between intellectual and other forms of private property, which may include legal obligations such as access rights) but a copy kept by the sender belongs to the senders' records. The capture of the communication is at the minimum a two-way process, and if letters, emails or other forms of data exchange occur and are sent to a number of parties then all the versions are "originals" within each of the respective record-keeping systems in which they form a part. Within this framework the record creator (the juridical person responsible for the record's creation) must retain and preserve sufficient evidence of the record's identity and integrity to ensure that the record is reliable and authentic as deemed necessary for legal, business and social needs (Iacovino, 2003b).

The reliability of the contents or data accuracy of a record depends on the degree of control over its creation processes, which includes how much is captured about the identity of the persons involved in the record's creation, their credibility, their authority as sanctioned by legal, social or professional conventions. Reliability is never an absolute, but rather there are degrees of reliability due to the dependence of accurate information on individual "truthfulness". Authenticity depends on ensuring that tampering or other intervention has not compromised the record's reliability during or after its transmission to the recipient of the record, and ultimately by the preserver of the record who may not be the original owner. It is therefore linked to a record's mode, status, and form of transmission, and the manner of its preservation and custody. A presumption of authenticity depends on the extent to which the elements of record identity (who wrote it, who received it and when), and integrity (completeness) have not been compromised by migration, tampering, or a system's inability to preserve the elements of identity due to technological obsolescence (InterPARES Project, 2001).

Record-keeping authenticity involves the ability to reconstruct the record and includes preservation of the record's contextual and structural data, controls on record creation and transmission to ensure reliability and integrity, and digital preservation technologies that require both managerial and technological solutions. Benchmarks for reliable and authentic records are available in the Australian Record-keeping Metadata Schema (RKMS), the authenticity requirements and the preservation model of the International Research on Permanent Authentic Records in Electronic Systems (InterPARES 1), and the standards for archiving electronic records in the Victorian Electronic Records Strategy (VERS). On the general level there is also the International Standard ISO 15489-1, Information and Documentation, Records Management, Part 1: General; ISO 15489-2, Information and Documentation, Records Management, Part 2: Guidelines. Research in progress into Health*Connect*'s business case architecture in terms of record-keeping requirements indicates that it is likely to be inadequate to meet these benchmarks (Reed, 2003).

SEHRs depend on interoperability which either requires independence from application software or systems that can interface with other systems using communication protocols for health-specific electronic data interchange such as Health Level Seven (HL7). Other standards important to interoperability include data structure, record storage, document standards, security, privacy, terminologies and identifiers (patient, health provider or facility), all of which also contribute to the record's reliability. However, even without standardised data formats non-standard systems are able to transfer data using electronic data interchange (EDI) standards, for example hospital discharge summaries and pathology reports are now sent to healthcare facilities using health EDI standards.

In addition to interfacing between clinical proprietary systems, complying with a standard data format at the point of care improves long-term record preservation because the larger constituency of users requires the developers to provide continuing accessibility. Therefore, health records standards are relevant to the record's reliability, but if adhered to will not necessarily suffice for record authenticity without cyclical managerial and preservation interventions.

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The need for a reliable and authentic record of mental health encounters requires the same level of reliability as other medical records but the heightened sensitivity requires particular care in relation to identification of the provider and patient, therefore the identification and security standards are of particular significance in the mental health context (Standards Australia, AS 5017-2002, AS 4400-1995, AS 4700.1- 2003 and HB 174-2003). Security, identification and authentication standards in the health context for exchanging data between healthcare providers and facilities are key components of record reliability and authenticity as they can prevent alterations to the record at the time the transaction takes place and for as long as the trusted third party or parties continue to authenticate the sender and recipient. However, authentication technologies only ensure that a person or entity is who he/she claims to be *at the time of the transaction* and that only those persons may read an encrypted record. Authentication processes do not in themselves ensure that the record remains authentic over time, as they rely on preserving the continuity of the chain of trust guaranteed by certification authorities that may have a short life span (Iacovino, 2003a).

Security or privacy standards also cover patient consent mechanisms to shared records once the patient has actually consented to being a participant in the system. For example, there are several consent models being trialled by Health*Connect*. In one model the patient may allow a category type such as mental health information to be viewed by a specified provider or by one type of healthcare provider, for example, a psychiatrist but not another doctor, by masking access to sensitive information. This would allow for a mental health provider to be the only health provider to access the mental health data (Health*Connect*, Business architecture v1.0. 2003).

Health*Connect* consent trials identified various electronic consent mechanisms for initial consent to participating in the system. Essentially the trials were in primary care settings. Neither mental health nor other specialisations have been tested (Department of Health and Ageing, 2002). In Health*Connect's* Consent and Electronic Health Records, A Discussion Paper it is recognised that there may be special consent needs for specific communities and health groups, including people with a mental illness. The fact that the mental health patient may not have the capacity to make an informed consent, and the carer's role in decision-making, are specifically mentioned as issues to be resolved. Consent preferences within security standards do not sufficiently address the patient's decision to limit access to information, or their capacity to consent in a mental health context.

Doctor–patient trust relationships are assumed in some Health*Connect* consent models where the provider remains responsible for the creation and management of consent agreements on behalf of the patient-consumer, and the health provider or facility also remains responsible for a patient identifier rather than relying on a national system of health identifiers. The Interim Health*Connect* Report, however, is favouring a national identifier. In terms of record reliability the emphasis on "Role Based Access Control Technologies" which are used to deny or allow access on the basis of registered clinical competencies, for example, a psychiatrist or psychologist, meet record reliability requirements for a legal record creator (Consumer Consent in Electronic Health Data Exchange, 2002). HL7 also adopts roles which are relevant to a trustworthy record in a networked context as roles define access rights on the basis of professional competencies. Although authentication pre-empts access by controlling who has the right of access, and while audit trails or event histories act as post-active systems that trace who has had access and when, they both give rise to the retention of further personal data for authenticity purposes. Therefore, from a record-keeping view the patient's consent preferences are part of the record, as important as its content.

If a patient limits a clinician's access to clinical information how does this affect his/her liability and risks? Should the patient shoulder the risk or the doctor? Russell G. Smith provides a number of legal principles for health networks which extend the existing protection mechanisms of the medical profession to the online context. These include applicable rules of conduct and jurisdiction of medical disciplinary bodies; registration of healthcare providers to be recognised in the jurisdiction in which the patient is physically located at the time the procedure or test takes place; and the healthcare provider to abide by codes of conduct and rules in the jurisdiction where the patient resides (Smith, 1998). However, as the Draft National Standard for the Identification of Healthcare Providers defines a healthcare provider

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as "any person or organisation who is involved in the direct delivery of healthcare to a client" (Williams, 2003), the regulatory framework afforded by professional medical practice is unlikely to be sufficient when other health providers may not be as highly regulated. The confidential patient–therapist communication moved beyond its organisational context can no longer be assured of the same professional legal protection afforded by its current legal framework.

Patient–therapist Relationship: A Model for Legal Record-keeping Obligations

A conceptual model for identifying elements of trust required for record reliability and authenticity can also provide a useful tool for identifying the reciprocal ethical and legal rights-duties of the patient and therapist as well as third parties. The model proposed identifies the record-keeping parties (see Figure 1) and their responsibilities regardless of technology, and the capture and preservation of their roles as essential to a trustworthy mental health record (Iacovino, 2003b). The patient–therapist relationship model can also be applied to the Health*Connect* context.

Conclusion

Accountable records of the mental health patient–therapist relationship in a shared environment highlight the vulnerability of a particular cohort of patients and the paucity of specific measures in place to address their rights and the

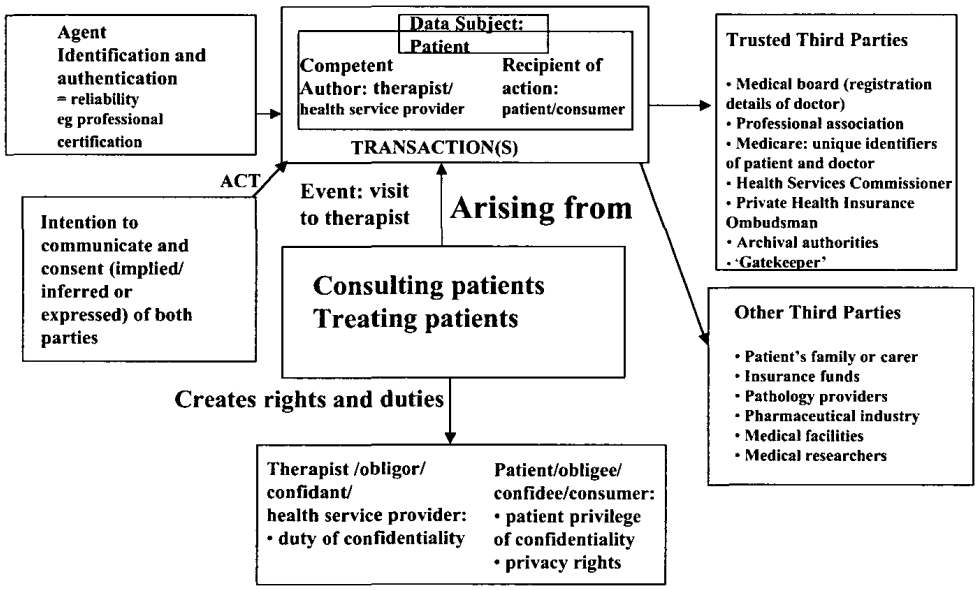

Figure 1

Patient–therapist relationship: legal and record-keeping obligations.

Figure Notes

A distinction between trusted third parties and other third parties needs to be made.

Competent author: doctor/hospital/health facility. The identity of the doctor, health facility, or health service provider from where the information has originated, the legal author of the record. The facility identifier or the health provider identifier is needed for record reliability.

Recipient/addressee: receiving doctor, health service provider or health facility (of communication) and the patient (of action). Patient identifier and health provider identifier or facility identifier needed for record reliability.

Data subject: the patient (content of the communication).

Third party: medical insurance body; patient's family or carer; pathology provider; drug prescription provider; other medical facilities; medical researcher (de-identified records) and individual researchers (identified records).

Trusted third parties: authentication authorities such as professional medical bodies, the Commonwealth Government's "gatekeeper" and a medical archive.

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obligations. Of particular concern is differentiating health information that has a mental health implication from other health information when it is extracted from its organisational context where the trustworthiness and meaning of the record has depended on the credibility and confidentiality of specialised medical practitioners and professional medical records staff.

Electronic health records standards have ignored health specialisations and their needs. In order to minimise the risks to the mental health patients' welfare and to protect the doctors' professional integrity there will be a continued dependence on ethical and professional regulatory frameworks within evolving electronic health records standards as well as mental health specific standards.

Although current EHR standards on client and health provider identification are addressing issues of reliability, together with interface standards, security systems and legislative measures, it is too early to be confident that they will replicate the trust that the therapist has established with the patient on a face-to-face basis. It is uncertain whether in the future a Professor Bashir (the psychiatrist in the opening of this article) would be able to provide a record that is not only reliable but also authentic.

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