Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

Recommendations for Health Identifiers for Healthcare Practitioners and Organisations

July 2011

Safer Better Care

About the Health Information and Quality Authority

The Health Information and Quality Authority is the independent Authority established to drive continuous improvement in Ireland's health and social care services.

The Authority's mandate extends across the quality and safety of the public, private (within its social care function) and voluntary sectors. Reporting directly to the Minister for Health, the Health Information and Quality Authority has statutory responsibility for:

Setting Standards for Health and Social Services — Developing person-centred standards, based on evidence and best international practice, for health and social care services in Ireland (except mental health services)

Social Services Inspectorate — Registration and inspection of residential homes for children, older people and people with disabilities. Inspecting children detention schools and foster care services.

Monitoring Healthcare Quality — Monitoring standards of quality and safety in our health services and investigating as necessary serious concerns about the health and welfare of service users

Health Technology Assessment — Ensuring the best outcome for the service user by evaluating the clinical and economic effectiveness of drugs, equipment, diagnostic techniques and health promotion activities

Health Information — Advising on the collection and sharing of information across the services, evaluating information and publishing information about the delivery and performance of Ireland's health and social care services

Overview of Health Information Function

Health is information-intensive, generating huge volumes of data every day. It is estimated that up to 30% of the total health budget may be spent one way or another on handling information, collecting it, looking for it, storing it. It is therefore imperative that information is managed in the most effective way possible in order to ensure a high quality, safe service.

Safe, reliable, healthcare depends on access to, and the use of, information that is accurate, valid, reliable, timely, relevant, legible and complete. For example, when giving a patient a drug, a nurse needs to be sure that they are administering the appropriate dose of the correct drug to the right patient and that the patient is not allergic to it. Similarly, lack of up-to-date information can lead to the unnecessary duplication of tests – if critical diagnostic results are missing or overlooked, tests have to be repeated unnecessarily and, at best, appropriate treatment is delayed or at worst not given.

In addition, health information has a key role to play in healthcare planning decisions – where to locate a new service, whether or not to introduce a new national screening programme and decisions on best value for money in health and social care provision.

Under section (8) (1) (k) of the Health Act 2007, the Authority has responsibility for setting standards for all aspects of health information and monitoring compliance with those standards. In addition, under section 8 (1) (j), the Authority is charged with evaluating the quality of the information available on health and social care and making recommendations in relation to improving the quality and filling in gaps where information is needed but is not currently available.

Information and Communications Technology (ICT) has a critical role to play in ensuring that information to drive quality and safety in health and social care settings is available when and where it is required. For example, it can generate alerts in the event that a patient is prescribed medication to which they are allergic. It can support a much faster, more reliable and safer referral system between GPs and hospitals.

Although there are a number of examples of good practice, the current ICT infrastructure in Ireland's health and social care sector is highly fragmented with major gaps and silos of information. The result is that patients are asked to provide the same information on multiple occasions.

Information can be lost, documentation is poor, and there is over reliance on memory. Equally those responsible for planning our services experience great difficulty in bringing together information in order to make informed decisions. Variability in practice leads to variability in outcomes and cost of care.

Furthermore, we are all being encouraged to take more responsibility for our own health and wellbeing, yet it can be very difficult to find consistent, understandable and trustworthy information on which to base our decisions.

As a result of these deficiencies, there is a clear and pressing need to develop a coherent and integrated approach to health information, based on standards and international best practice. A robust health information environment will allow all stakeholders – patients, health professionals, policy makers and the general public to make choices or decisions based on the best available information. This is a fundamental requirement for a highly reliable healthcare system.

Through its health information function, the Authority is addressing these issues and working to ensure that high quality health and social care information is available to support the delivery, planning and monitoring of services.

One of the areas currently being addressed through this work programme is the need to introduce unique identification for healthcare practitioners and organisations in Ireland. This will ensure that all healthcare practitioners are uniquely identified, and that there is an accurate complete listing of all healthcare organisations. Also, it will allow Ireland to maximize the benefits from, and take greater advantage of, eHealth initiatives. This work programme involved looking at what is in place nationally, internationally and the standards that guide best practice. The outcome provides the basis for recommending introducing identifiers for healthcare practitioners and organisations, identifying the groups of healthcare practitioners and organisations that should receive a unique identifier and recommending the order that the unique identifiers should be phased in.

Acknowledgements

The Authority would like to thank all those who participated in our consultation to establish the data elements collected in Ireland for healthcare practitioners and organisations compared with the International Organisation Standard.

We would also like to sincerely thank all of the members of the advisory group for their input and time.

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Executive Summary

1 Introduction

Safe, reliable, healthcare depends on access to, and the use of, information that is accurate, valid, reliable, timely, relevant, legible and complete. In this electronic age where different personnel contribute information at different stages and across a range of organisations, it is vital that the identity of individuals involved in delivering care, the identity of the organisations they work for and specifically, the identity of the patient to whom this information relates, is clear. The Authority has previously recommended the introduction of a unique health identifier for individuals in Ireland.

In accordance with the Health Act 2007, section 8 (1) (j) and having regard to section 8 (2) (d), one of the Health Information and Quality Authority's key functions is to provide advice to the Minister and the Health Service Executive (HSE) about deficiencies identified regarding health information.

The absence of a national system of uniquely identifying healthcare practitioners and organisations represents a substantial deficiency in the health information infrastructure in Ireland. Together with identifiers for individuals[(1)] using the health and social care services, such identifiers are fundamental building blocks for eHealth applications generally, and electronic health records in particular.

It is anticipated that the Health Information Bill will make provision for the introduction of all identifiers - for individuals, organisations and practitioners.

Key terms used in this report:

Healthcare practitioner identifier (HPI)
A healthcare practitioner identifier is a unique, non-transferable lifetime number assigned to a healthcare practitioner. Its purpose is to identify the individual as one and the same person and to allow the "attaching" of other information (such as name, address, contact details) to them.

Healthcare organisation identifier (HOI)
A healthcare organisation identifier is a unique, non-transferable number assigned to healthcare organisations in Ireland. It will allow the attaching of a dataset to identify its location, contact details and operational sites.

Central Directory
A database to be populated with up to date and accurate information relating to healthcare practitioners and organisations. This information may be sourced from existing data repositories, that is professional regulatory authorities or existing information and communication technology systems. The directory should be governed, managed and maintained by a designated authority.

This report introduces the concepts of the Healthcare Practitioner Identifier (HPI) and Healthcare Organisation Identifier (HOI). It details the Authority's recommendations that a central directory is established to act as a trusted source of information relating to healthcare practitioners and organisations. It identifies existing sources of information which may be used to populate and maintain the information contained in the directory and recommends a phased introduction to implementing the directory. It outlines the benefits of implementing this central directory.

2. Benefits

There are a range of stakeholders who will benefit from having the HPI and HOI in place including all those who use health and social care services, healthcare practitioners, service planners, professional regulatory authorities and healthcare organisations. The over-riding impetus for the introduction of the HPI and HOI in Ireland is, however, the ultimate benefit to all those who use health and social care in terms of better quality and safer care.

Patients will benefit from improved communication of their health information and increased accountability of practitioners within the healthcare system. Healthcare practitioners will also benefit from improved communication, timely access to information and the reduction in administrative effort brought by improved electronic communication of patient information between healthcare practitioners and organisations.

Similarly, healthcare organisations and planners will benefit from reduction in the administrative effort in identifying individuals, in the maintenance of their own identity management system and from improved data and information regarding our health sector.

And finally, at a system level, the healthcare sector will benefit from concise and improved information regarding healthcare practitioners and organisations. Healthcare organisations will be facilitated in sharing information with other healthcare practitioners and the professional regulatory authorities will benefit from having one trusted source of data regarding all practitioners.

3. Conclusion

Unique identifiers for healthcare practitioners and organisations can produce significant wide ranging benefits for service users, the healthcare sector, healthcare practitioners, healthcare organisations, professional regulatory authorities and service planners. Having examined current practices in Ireland and the systems in place internationally, the Authority recommends that the Health Information Bill legislates for the introduction of unique health identifiers for healthcare practitioners and organisations in Ireland.

4. Recommendations

Improving the quality of data and access to patient information is fundamental to improving the quality of care delivered to patients in health and social care sectors. The Authority has previously made recommendations on the implementation of a unique identification system for individuals accessing the health and social care sector. The following recommendations relate to unique identifiers for healthcare practitioners and organisations.

1. Unique identifiers for healthcare practitioners and organisations should be introduced in Ireland.

2. A central directory should be established that contains unique identifiers for healthcare practitioners and organisations and should be established as the primary trusted source of core identity information in relation to healthcare practitioners and organisations.

3. The Health Information Bill will assign a designated agency with the task of governance, implementation and maintenance of a central directory

4. The HPI should be phased in as follows:
   i. The groups of healthcare practitioners that are currently registered with their professional regulatory authorities
   ii. The groups of healthcare practitioners that are currently under statutory obligation to register with their professional regulatory authority but will be subsumed by the Health and Social Care Professionals Council (CORU)
   iii. The groups of healthcare practitioners that will be statutorily obliged to register once CORUs' registers become active, they should be introduced in the same order that CORU determine is appropriate
   iv. The person who is deemed ultimately responsible and accountable for patient safety and quality in each healthcare organisation
   v. The groups of healthcare practitioners that are involved with patient care who will be obliged to register at some point in the future.

5. The HOI should be phased in as follows:
   i. The groups of healthcare organisations that are currently registered
   ii. The units that will be obliged to attain licensing
   iii. All remaining healthcare organisations

6. The dataset to be associated with the identifiers for practitioners and organisations should be based on the international standard ISO/TS 27527, adapted for use in Ireland.

7. Each professional regulatory authority should upload the standard dataset at set intervals to the central directory.

1. Introduction

At all stages in a patient's journey through health and social care settings, quality information is required to provide good clinical decision making and person-centred care. The reliable sharing and use of clinical information allows service providers to deliver better safer care to people. ICT initiatives can facilitate the timely sharing of clinical information between service providers and, in the longer term, these initiatives will facilitate and promote the introduction of electronic health records.

In this electronic world, it is essential that the identity of the person who has created, modified, and/or viewed a piece of information, the identity of the organisation where the information originated and the identity of the person to whom the information pertains is clear.

Existing national registries and other national collections of health information have a requirement for a single authoritative source of information on healthcare practitioners and organisations. Alongside these, a number of national information and communication technology (ICT) projects are either already underway or planned. Examples include the National Integrated Medical Imaging System and the National laboratory information system. Each of these systems has a requirement for an authoritative trusted source of information regarding healthcare practitioners and organisations. With this single trusted source in place, there will be a reduction in the effort required to compile and maintain lists of practitioners and organisations for these systems.

The Programme for Government 2011 outlines the Government's intention to introduce Universal Health Insurance (UHI). As stated in the Programme for Government 2011, it is the Government's intention to introduce UHI to enable equal access to care for all in the State. By reforming our model of delivering healthcare, so that more care is delivered in the community, and by reforming how we pay for healthcare through UHI we can reduce the cost of achieving the best health outcomes for our citizens. The Government's stated intention is for a UHI system to be introduced by 2016, with the legislative and organisational groundwork for the system complete within the Government's current term of office[(2)]. If the Government is to succeed with this programme, HPIs and HOIs will be valuable tools to accurately identify the healthcare practitioners and organisations for payment purposes.

Importantly, other stakeholders also require healthcare practitioner and organisation data for commercial, research or publication reasons. An example of the problems caused by the lack of one central authoritative resource with healthcare practitioner and organisation data was highlighted in a research study that was conducted by the Health Research Board (HRB). An element of the research was to forecast the number of general practitioners (GPs) in Ireland to 2021. In order to do this it was necessary to determine the number of GPs currently practicing. The report, *Projecting the impact of demographic change on the demand for and delivery of health care in Ireland* outlined that not all GPs are members of the ICGP and also not all members of the ICGP agree to their names being advertised on the ICGP website. As a result, it was necessary to check ICGP data by faculty (geographic area) against the listing of GPs by county in the Irish Medical Directory. This report outlines the difficulties that a lack of a single authoritative resource presents for strategic planners, policy makers and researchers.

The Commission on Patient Safety and Quality Assurance (the Commission) has identified a number of patient safety benefits, and among them is the importance of the more effective, efficient and reliable use of health information. For example, recommendation 7.52 states that the health system must commit itself to the full implementation of an appropriate standards based electronic health record, so that critical information about the care of patients is available at the point of care[(3)].

International research states that implementation of electronic health records is likely to be more successful if an incremental approach is adopted. The key enablers in support of this approach need to be identified and introduced on a phased basis, according to agreed priorities and nationally agreed standards, increasing the likelihood of success and providing better value for money[4]. One of the central building blocks is the systematic introduction and use of identifiers for healthcare practitioners, organisations and individuals.

While Ireland remains behind many other countries in the widespread adoption of information and communications technology (ICT) in healthcare, we are beginning to see the benefits ICT can offer in terms of faster, more reliable and accurate transfer of data which improves communication between patients, healthcare practitioners and organisations.

In Ireland, electronic messaging of patient information is supported by numerous message brokers. Message brokers act as an intermediary between hospitals and general practices ensuring the secure transmission of electronic messages between the two. Healthlink, the online health messaging broker is one of these services and, as of January 2011, it provides a range of messaging services to more than 2000 general practitioners (GPs) in over 900 practices nationally. Messaging services between hospitals and GP in the south and south east of Ireland are provided by local message brokers. In order to expand local eHealth initiatives to national robust systems and to expand the service provided by Healthlink it is absolutely imperative to have the HPI and HOI in place, alongside the individual health identifier.

In accordance with the Health Act 2007, section 8 (1) (j) having regard to section 8 (2) (d), one of the Authority's key functions is to provide advice to the Minister for Health and the Health Service Executive (HSE) about deficiencies identified in the area of health information. The Authority has identified that the absence of a national system of uniquely identifying healthcare practitioners and organisations is an important deficiency in the health information infrastructure in Ireland.

This report details the Authority's recommendations that a central directory be established to act as a trusted source of information relating to healthcare practitioners and organisations; that International Standards Organization Technical Standards 27527 (ISO/27527) - the international standard which details the attributes required to accurately identify healthcare practitioners and organisations – be adapted as required for use in Ireland; that a phased implementation of the central directory takes place and; that the groups of healthcare practitioners and organisations which should be included in the directory are identified along with the most appropriate phasing for their inclusion in the directory.

In light of the Government's stated plans for health insurance and the proposal to introduce a statutory licensing system for both publicly and privately funded healthcare the publication of this report is timely. Another important element in this context is the establishment of the Health and Social Care Professionals Council (CORU) to register 12 health and social professional groups. In May 2011, CORU opened their register for Social Workers and, in time the intention is for CORU to subsume the Pre-Hospital Emergency Care Council (PHECC), which regulates Emergency Medical Technicians, Paramedics and Advanced Paramedics, and the Opticians Board, which registers Optometrists and Dispensing Opticians.

1.2 Benefits

A wide range of stakeholders will benefit from having the HPI and HOI in place including people who use health and social care services, healthcare practitioners, service planners, professional and regulatory authorities and healthcare organisations. The over-riding impetus for the introduction of the HPI and HOI in Ireland however, remains the ultimate benefit to all those who use health and social care in terms of better quality and safer care.

Figure 1 below illustrates the groups of stakeholders who will benefit from the implementation of the HPI and HOI and lists the benefits each can expect. They benefits for each group of stakeholders is discussed below.

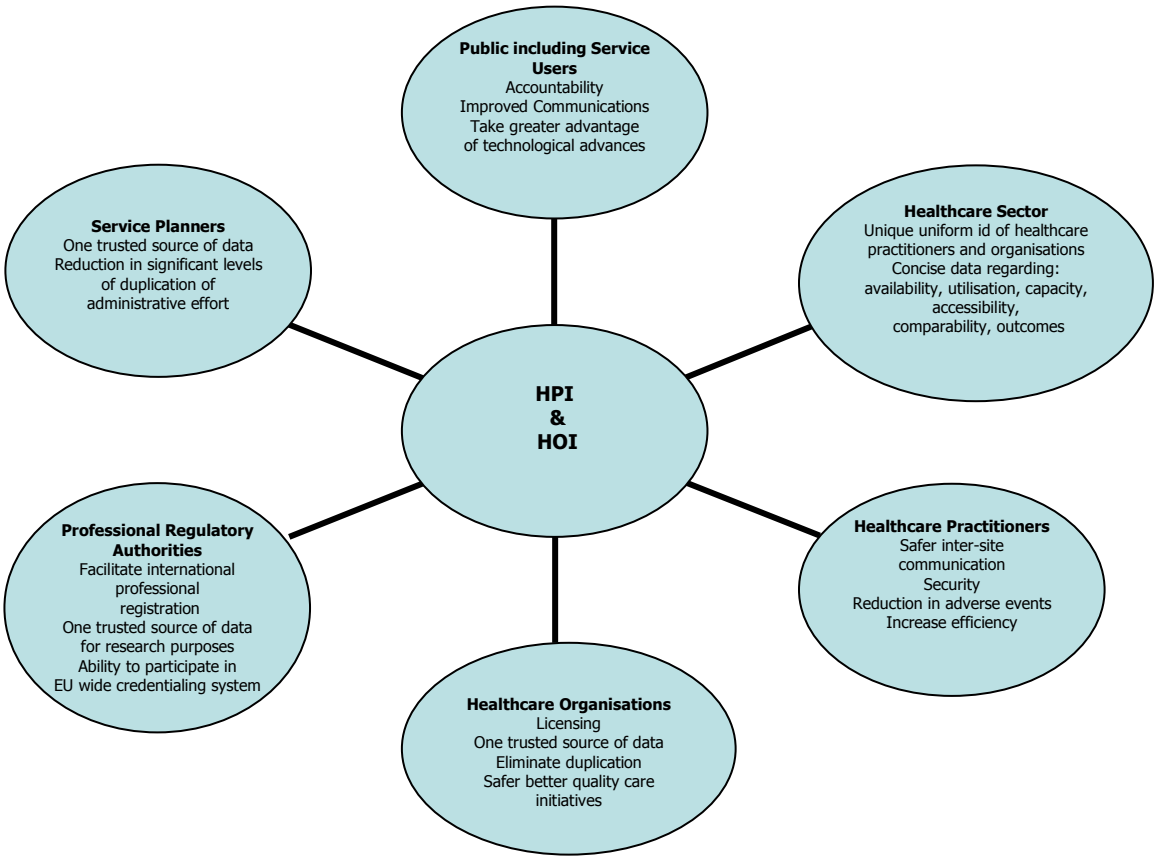

Figure 1: Benefits of HPI and HOI

Benefits for the people who use health and social care services

Initiatives related to the shared care of patients, such as referrals, discharge summaries and laboratory results require the secure exchange of health information. The HPI and HOI offer significant future benefits in terms of improved privacy and security of health information for people who use health and social care services. HPI and HOI will also assist administrators of health information systems to manage access security, and to manage the secure transfer of information between health practitioners.

Information Governance and accountability are especially important in the context of shared and integrated care, where care is delivered by a multi-disciplinary team operating in different locations and care settings and where information is shared electronically. The HPI and HOI will allow the healthcare sector to take greater advantage of technological advances which will benefit patients. In addition, these identifiers are one of the fundamental requirements for large scale national eHealth initiatives including for example, ePrescribing systems which have been shown to reduce prescribing and medication errors. The HPI will also underpin audit trails in eHealth solutions.

One specific example of the benefits to people using services comes from England, where the outpatient appointment booking system known as "Choose and Book" is supported by identifiers for professionals and organisations. This system has the facility for patients to book and alter appointments themselves in outpatient clinics, giving greater freedom and personal control over the individual's health. This system would not have been possible to implement without the prior implementation of unique identifiers for practitioners and organisations.

Benefits for Healthcare Practitioners

The HPI and HOI will facilitate the secure electronic transmission of patient information between healthcare organisations and practitioners including for example, laboratory results and discharge letters. Electronic communication of patient information reduces some of the administrative tasks of general practice. Looking at the potential practical benefits of the introduction of unique identifiers, research found that Danish GPs save more than 30 minutes each day as a result of receiving laboratory results and discharge letters and sending prescriptions electronically[5].

While the healthcare system is safe, for the most part, it is nonetheless not without risk. Claims Ireland - a leading provider of information relating to claims in Ireland - found that 4,000 adverse incidents occurred in Irish hospitals each month in 2009. Among the adverse events reported were 1,569 cases where an incorrect dose of medication being given to a patient and 1,136 cases where wrong medical records were applied to a patient[6]. Identifiers for healthcare practitioners and organisations will support eHealth initiatives such as e-prescribing. International evidence has shown that electronic prescribing reduces the number of medication related adverse events. In order to implement ePrescribing solutions a robust system of identification in required.

Benefits for Service Planners

The main benefit for service planners includes a reduction in the administrative effort in maintaining information regarding organisations, services and practitioners and through the use of the unique identifiers an improved ability to measure and analyse resources going towards the provision of health services by providers, and for workforce planning and development. Furthermore, a unique identifier for practitioners and organisations will significantly enhance the ability of health agencies to plan services.

Benefits for the Healthcare Sector

Currently, if strategic or policy planners need the total number of healthcare practitioners by location or specialty, multiple sources must be researched. The central directory recommended by the Authority will be a single source containing the HPIs and HOIs for all healthcare practitioners and organisations, providing a complete, comprehensive, timely source of data allowing strategy planners to conduct national workforce planning.

The quality care initiatives that have been recommended by the Commission, including a national audit system and a national adverse event system[3], will benefit greatly from having a HPI and HOI in place. The systems will not have to develop their own means of uniquely identifying healthcare practitioners and organisations, which will remove a great deal of administration, time and cost as it will allow the systems to concentrate on their remit to audit and track adverse events, improving the quality and care provided in the health and social care systems.

Benefits for Healthcare Organisations

Following on from the recommendations of the Commission, the Government has proposed the introduction of a statutory licensing system that applies to both publicly and privately funded healthcare services[3]. The HOI will be of enormous benefit towards assisting the realisation of this recommendation as it will identify every healthcare organisation in Ireland.

A single authoritative source of health practitioners and organisations will remove the need for multiple organisations or ICT systems to maintain their own copy of data, saving on time, resources and administration effort across organisations and may allow the decommissioning of some systems that are currently maintained.

Benefits for Professional Regulatory Authorities

Having a HPI in place will improve tracking of healthcare practitioners across regulatory authorities and internationally. At European level there is a drive to enable the more efficient sharing of healthcare practitioner data across borders, as many more healthcare practitioners work in different countries. The general constitutive assembly of the association of European health professional competent authorities has been established to coordinate the work of European countries around healthcare practitioners. They also plan on implementing a platform in order to exchange all useful information between competent authorities representing health professionals. Ireland will benefit from having a HPI to participate in this initiative.

2. Methodology

In order to inform the Authority's recommendations and assess the most suitable, effective model for the introduction of health identifiers in an Irish setting, comprehensive research on both national and international practice was conducted.

A literature review focussing on identifying the benefits and the potential costs involved in the introduction of identifiers for healthcare practitioners and organisations was undertaken. This was further supported by an international review which provided further insights into identifying the approach to identification being taken in a range of different countries, namely Australia, Canada, England, the Netherlands, Finland, New Zealand, Norway, Sweden and the United States. These countries were chosen as they were most relevant in providing insight into the range of initiatives that could contribute to the introduction of unique identifiers for healthcare practitioners and organisations in Ireland. Additional factors contributing to the selection of these countries for this international review include the availability of information in the English language and access to personnel in each jurisdiction and geographic spread. For details of these international review findings, see Chapter 3.

The Authority is fully committed to actively engaging and consulting with key stakeholders in support of its ongoing work. In order to get expert input and feedback on this project, the Authority consulted with relevant stakeholders (see Appendix 1) and conducted a consultation workshop with external experts, which focused on gathering feedback on the scope and strategy to introduce the HPI and HOI into the Irish healthcare system.

An advisory group of experts in this field was established (see Appendix 2). The advisory group provided feedback and input into the benefits, economic implications and the most advisable order to phase in HPIs and HOIs.

The Authority's research in this area led to the identification of the International Organization for Standardization technical standard 27527 (ISO/TS 27527) as appropriate for use in Ireland. This international standard details the information required to adequately identify healthcare practitioners and Organisations and has been implemented in Australia, New Zealand, Canada and Brazil.

The Authority undertook a survey of the existing regulatory authorities to assess their current systems compliance with ISO 27527, the impact on their systems and business processes of adopting ISO/TS 27527 as a national standard and any potential adaptations which should be made to the international standard. The survey identified the level of difference between the data that is currently collected by professional regulatory authorities and the data items that ISO/TS 27527 recommend should be collected. With input from the advisory group, a series of adaptations to this standard to make it appropriate for the Irish context was agreed. Consultation with the regulatory authorities indicated the level of modifications that would be necessary for the registration systems of the relevant professional regulatory authorities and gave an indication of the likely costs involved. The organisations surveyed are listed in Appendices 3 and 4.

Chapter 4 outlines the recommended solutions – a central database of health care practitioners and organisations which is based on an international standard, the adaptations which should be made to the standard and the recommended phases of implementation the HPI and HOI.

3. Findings

In this chapter we detail the experiences from a selected number of countries, consider the economic costs of implementing unique identifiers in Ireland, introduce some of the associated risks and explain the need for legislation in this area.

3.1 International evidence

The Authority's research found that significant efforts are being made towards implementing national healthcare practitioners and organisations identification systems in other countries. Indeed, practitioner and organisational identifiers have been in place in many countries including Sweden, Norway and the Netherlands for several years. Advantage should be taken of the experience and the lessons learned from these jurisdictions.

Australia

Australia has implemented the health provider identifier for individuals (HPI-I) and the health provider identifier for organisations (HPI-O). The Australian Healthcare Practitioner Registration Authority partnering with National Boards (there are ten National Boards, each one represents their health profession, they include physiotherapy, pharmacy and nursing) allocate the HPI-I to 10 groups of health professionals. The HPI-O is a 16 digit number allocated to organisations that deliver healthcare, such as hospitals and medical practices. The HPI-O is issued by the Australian Government via Medicare Australia. Each HPI-O record contains information such as the organisation name, type of health service provided and contact details. Sole practitioners can also apply for a HPI-O[7].

Canada

While Canada does not have a unique identifier for healthcare providers in place, the Canadian Institute for Health Information (CIHI) has conducted a feasibility assessment on the introduction of a National Unique Identifier (NUI) for all Canadian healthcare providers at a national level. CIHI anticipates that the NUI would be issued to healthcare practitioners either upon entry into a relevant education programme or upon applying for their first licensure.

At a regional level, the Western Health Information Collaborative (WHIC) is a collaboration of western Canadian provinces and territories. They address common opportunities for information needs and initiatives for health infrastructure for the western provinces and territories of Canada. They have assigned every healthcare organisation an identifier. Service Delivery Locations are also defined to identify locations where patient care is delivered which are not primarily healthcare focused, such as a school hall. Each province or territory within the WHIC is responsible for licensing and regulation of healthcare practitioners in their area; this is often outsourced to professional colleges whose primary duty is to set standards, license practitioners and deal with complaints.

England

The National Health System (NHS) National Programme for IT (NPfIT), is an initiative by the Department of Health in England to move the NHS towards a single, centrally-mandated electronic care record for patients and to connect 30,000 GPs to 300 hospitals, providing secure and audited access to these records by authorised health practitioners[8].

England has the Spine Directory Service (SDS) which consists of two parts: a National Register of Healthcare Professionals and a Register of Healthcare Organisations.

Healthcare identifiers are used to identify the range of professionals including general practitioners, hospital consultants, hospital staff and pharmacists. The register of healthcare organisations contains a unique identifier for each healthcare organisation, sub-organisation specialty and for each sub-organisation site. Examples include identifiers of practices, clinics, acute trusts and diagnostic imaging departments. The SDS underpins the implementation of various national ICT systems in England, including a national summary care record, an online appointment booking service and a national ePrescribing system.

The Netherlands

The Dutch Government recognised that in order to develop a nationwide system for secure and reliable electronic exchange of medical data it was essential to have a unique, secure means of identifying healthcare providers, (which includes organisations and healthcare practitioners) and health insurers. The Unieke Zorgverlener Identificatie Register (UZI-register) provides unique identification of healthcare providers in the Netherlands with the UZI-card. The UZI-register is part of the Central Agency for Information on Healthcare Professions, an agency of the Dutch Ministry of Health, Welfare and Sports[9]. The healthcare practitioners included in the UZI-register are Doctors, Dentists, Pharmacists, Health Care Psychologists, Psychotherapists, Physiotherapists, Midwives and Nurses. Health insurers are identified with the Unique Health Insurer identification (UZOVI).

New Zealand

The New Zealand Ministry of Health manages the repository of Healthcare Providers which is called the Health Practitioners Index (HPI). The repository is in three independent parts, the repository for registered healthcare practitioners which issues the HPI-CPN, the repository for registered health facilities issues the HPI-FAC and the repository for organisations issues the HPI-ORG. The principal purpose of the HPI is to uniquely identify healthcare providers and to hold that information in a central, national system. The New Zealand Ministry of Health defines a healthcare organisation as an entity that provides services of interest to, or is involved in, the business of health care service provision. There may be a hierarchical relationship between organisations. Facility is defined as a single physical location from which health goods and/or services are provided[10]. Each of the regulatory authority provides information to the HPI. When processing a new registration, or when renewing an existing registration, the HPI is queried by the regulatory authority and a subset of information contained in the central index may be updated as required. Practitioners are issued a unique lifetime number from the HPI in addition to the regulatory authority's unique identifier.

The New Zealand Ministry of Health commenced development of a new national system that will replace the National Health Index, Health Provider Index and the Facilities databases, it is anticipated that the system will be full operational by 2012. This system will improve reliability and data quality of the national health index and will link clinicians, organisations and facilities

Norway

In Norway, Health Professionals are assigned a Health Personnel Number by the Registration Authority for Health Personnel (SAFH). Norway's register of companies and business enterprises issue a unique number to all enterprises, including health entities in the public and private sector. The rules are, independent of whether an entity is public or private, that a legal entity shall notify, and be registered in, the central coordinating register.

A national health directory is currently being designed which will connect the registered practitioners and health workers registers with the persons registers, facilities registers and organisation registers.

Sweden

Sweden has unique identification for healthcare practitioners and organisations. The unique identifier for healthcare practitioners is called *förskrivarkod*. The National Board of Healthcare Practitioners issues 21 different groups of healthcare practitioners with an individual identification number. The healthcare practitioners' details are retained in the healthcare practitioner's directory. The Centre of Epidemiology within the National Board of Health and Welfare has the responsibility for issuing organisation numbers, they have a directory in place for hospitals and healthcare units, the identification numbers for hospitals and healthcare units is called the *registreringsnummer*. They do not link the healthcare practitioners with healthcare organisations.

United States

In 1996 the Department of Health and Human Services in the United States issued the Health Insurance Portability and Accountability Act (HIPAA) which requires the adoption of a standard unique identifier for health care providers throughout the United States. The unique identifier is called the National Provider Identifier (NPI). Healthcare providers are defined as individuals or organisations that provide healthcare. The NPI is a 10 digit number and is a permanent identifier, assigned for life. Each state is at various stages of advancement in their effort to identify their healthcare practitioners, groups and organisations.

The above research indicates that the majority of the international jurisdictions reviewed including Australia, New Zealand, England, The Netherlands, Sweden and Finland have introduced unique identifiers for healthcare practitioners and organisations. The states within the United States are at different stages of implementing the NPI. Canada is the only jurisdiction reviewed that does not have unique identifiers in place at a national level across but some provincial initiatives are in place.

3.2 Benefits identified in international jurisdictions

Several countries including New Zealand, Finland, Sweden, Norway, England and Australia have conducted studies on the effect of identifiers for healthcare practitioners and organisations. The benefits put forward in these studies are broadly similar and suggest that they are important tools that can be fully taken advantage of to enhance the quality and safety of service user care.

Some conclusions of this research show that the implementation of healthcare practitioner and organisation identifiers can [11-16]:

- improve the efficiency of the delivery of care which will lead to a better experience for all those who use the health and social care service and staff
- facilitate reduction in errors such as inaccurate name, address, date of birth
- increase efficiency in handling health information by enabling electronic communications to be associated with the right healthcare practitioner and organisation
- enable administrative efficiencies by reducing the need to capture the same information numerous times
- take full advantage of the uniformity of the data in the central directory to leverage and integrate the information systems that are currently in place
- enable the development and implementation of processes to support use of information for statistical and reporting purposes. The comprehensive, timely data will result in better informed decision making at executive and local levels
- enable efficient, reliable and secure exchange of health information to maintain continuity of care
- support the development and operation of healthcare practitioner and organisation directory services allowing the public including the service user to quickly identify the healthcare practitioner or organisation by location or specialty as required
- enhancing service-user safety and quality of care, as every healthcare practitioner and organisation on the central trusted directory will be authorised and certified to practice
- support search and retrieval of healthcare practitioner and organisation data
- a key enabler to realise the benefits that eHealth can offer which includes more accurate, safer and efficient healthcare[17]
- act as essential building blocks for Electronic Health Records (EHR).

Ireland can expect similar benefits if healthcare practitioners and organisations identifiers are introduced.

3.3 Economic considerations

The Authority recommends the implementation of a central directory of healthcare practitioners and organisations. The responsibility of the central directory will include maintaining the information on practitioners and organisations, issuing the unique identifiers for both, managing information governance issues and developing relationships with all stakeholders. The Authority proposes that the professional regulatory authorities will upload the set dataset to this central directory. This section takes a look at the economic implications for all stakeholders of implementing the Authorities recommendations.

Commercial sensitivity prevents international jurisdictions releasing the costs involved with the introduction and implementation of identifiers for healthcare practitioners and organisations. As a result, it is not possible to quantify the exact costs involved, but clearly costs must be considered.

The start-up costs for the introduction and implementation of the HPI and HOI may include:

- organisational start-up or an added business function to an existing organisation includes costs such as administration, resourcing, training, financial/legal input
- data management services for example issuing identification numbers, validation, quality control, maintenance, reporting, privacy/sharing
- capital for site/facility, hardware, software, furniture and fixtures
- data providers process change including upgrade to registries
- governance for example meetings, documentation, reporting.

Other costs that should be considered are those that the professional regulatory authorities will incur as there may be a requirement to upgrade or modify their registration systems or change their business processes in order to comply with the proposed national standard. As part of this project the Authority consulted with six professional regulatory authorities[1] to assess the cost implications of collecting a standardised dataset, maintaining this data in their registries and uploading to a central directory.

The professional registration authorities estimated that the costs required to upgrade or modify their systems ranged from €10,000-€40,000. One of the professional regulatory authorities anticipated that a 0.5 whole time equivalent (WTE) would be needed to accommodate the additional administrative requirements and business processes. Additional findings from the survey can be found in section 4.1.1

A single authoritative source of healthcare practitioner and organisation data can save significantly on time and resources as the duplication of effort collecting the same data both within and across organisations will be removed.

3.4 Risks and Challenges

It is essential to define the term healthcare organisation. A legal definition will provide a universal understanding for what makes up a healthcare organisation, ensuring that only those organisations that meet the legal definition will be assigned a HOI.

Similarly, it is imperative to have a legal definition for a healthcare practitioner. This will remove any misunderstandings and ensure that all those who are defined under the legal definition are issued a HPI.

Legislation and policies have to create the right climate and incentives for healthcare practitioners and organisations to engage and invest in these unique identifiers, such as outlining the many benefits that can be gained from the HPI and HOI. (a number of the benefits are outlined in section 1.2 of this report).

[1] Medical Council of Ireland, Pharmaceutical Society, Nursing Board/An Bord Altranais), Dental Council of Ireland, Health and Social Care Professional Council, Social Services Inspectorate Directorate in the Authority

A political commitment is imperative in order to establish the necessary legislation and set policies to drive the introduction and acceptance of the HPI and HOI. The recommendations in this report are based on the assumption that the upcoming Health Information Bill will legislate for the implementation of unique identifiers for practitioners and organisations. They include the need for a sound legislative basis for the following:

- the identification of the body for the purpose of establishing and maintaining the healthcare practitioner and organisation directory
- the information to be supplied by the professional regulatory authorities
- regulation of the collection, use and disclosure of healthcare practitioner and organisation data, as personal information is involved.

3.5 Summary

Our literature review and international review indicates that unique identifiers for healthcare practitioners and organisations are being implemented in other jurisdictions. All of the countries reviewed with the exception of Canada have or are in the process of implementing identifiers. In order to undertake the implementation of the HPI and HOI legislation is required in Ireland. It is anticipated that the Health Information Bill to be published by the Department of Health will deal with this issue.

The qualitative benefits identified both nationally and internationally suggest that identifiers for healthcare practitioners and organisations will enhance the quality and safety of patient care, reducing the possibility for administrative and clinical errors, reducing duplication, enhancing communication between healthcare practitioners and organisations, accelerating the care pathway for the patients and ultimately improving the patients confidence in the healthcare system.

Unique identification of healthcare practitioners and organisations is currently in place in many countries including New Zealand, Australia, Sweden, Norway, Finland, Denmark, England and the Netherlands, the benefits are many and ultimately improves the care each patient receives.

The recommendations put forward in this report can only be effective with the full support and cooperation of all stakeholders

4. Recommendations

The Authority envisions a single centralised authoritative directory containing information on healthcare practitioners and organisations, populated from existing data sources, governed and maintained by an authority with the phasing in of identifiers over time.

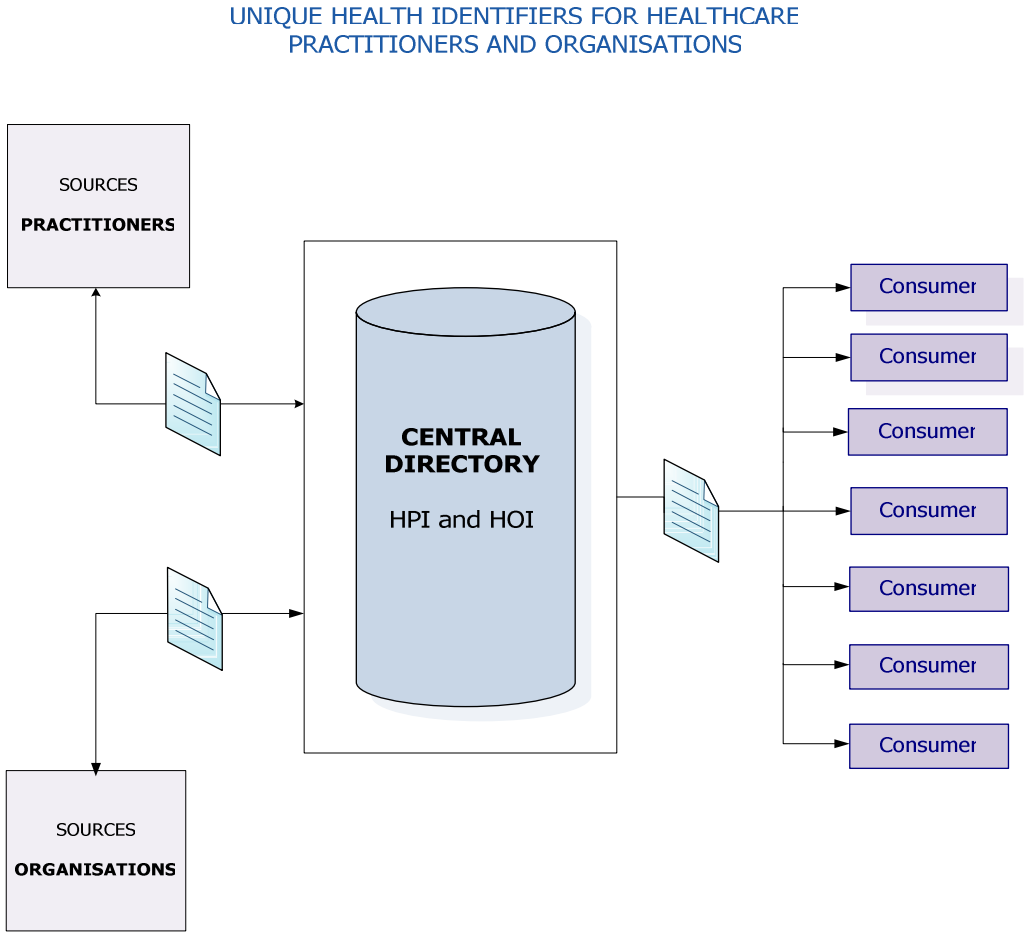

Figure 2: Proposed Central Directory

The proposed central directory will require appropriate governance structures to be in place in order to preserve the integrity and security of the data and ensure appropriate information governance. It is anticipated that the Health Information Bill will assign a designated agency the task of governance, implementation and maintainance of the central directory. The designated agency tasks will include the:

- management of issuing and assigning HPIs and HOIs
- management of access to and use/disclosure of HPIs and HOIs and the related datasets
- management of relationships with the professional regulatory authorities and other relevant stakeholders
- provision of all necessary training and education for the healthcare community to ensure that the directory and identifiers are appropriately used.

The directory will be populated from existing sources. The sources for healthcare practitioner's and organisation data will be the professional regulatory authorities (such as Medical Council of Ireland, An Bord Altranais (Nursing Board), Dental Council of Ireland, Pharmaceutical Society of Ireland, the Health and Social Care Professionals Council (CORU) and Social Services Directorate in the Authority). The users of the central directory include those who require data on healthcare practitioners or organisations data for identification, publication, research or other such purposes. It may also include the public, as the designated authority may develop a directory, enabling the public to search for healthcare organisations or practitioners by location or specialty.

4.1 International Standards Organization Technical Standard 27527

The International Standards Organization Technical Standard 27527 (ISO/TS 27527) was developed to address a recognised need within the health sector for a common, best practice approach to the way data is captured, stored and managed for the purpose of identifying healthcare practitioners and organisations. It has been selected by the Authority as the most appropriate standard to adapt for use in the Irish context.

4.1.1 Healthcare Practitioners Dataset

Figure 5 outlines the proposed dataset for healthcare practitioners[17].

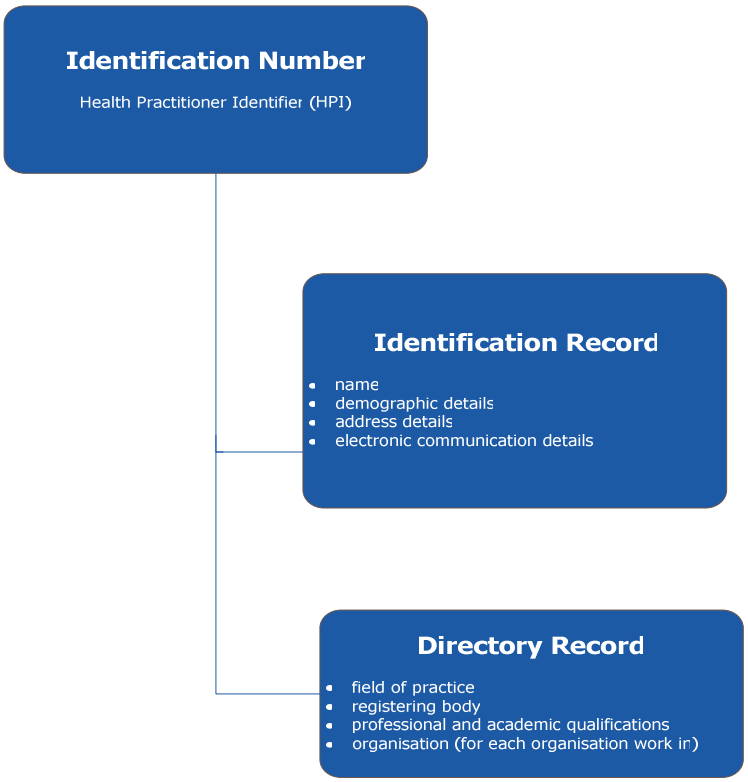

Figure 5: Proposed data structure for healthcare practitioners

The healthcare practitioner dataset is broken into three groups:

- Identification Number
- Identification Record
- Directory Record.

The identification number will be unique and the format will be the same for all healthcare practitioners. The identification record will be made up of the healthcare practitioner's name, address and communication details. Finally the directory record will identify the healthcare practitioner's registration body and qualification details and place of employment.

A detailed breakdown of ISO/TS 27527, which identifies the recommended data fields to capture for healthcare practitioners, can be found in Appendix 5.

4.1.2 Healthcare Organisations dataset

Figure 6 outlines the proposed dataset for healthcare organisations.

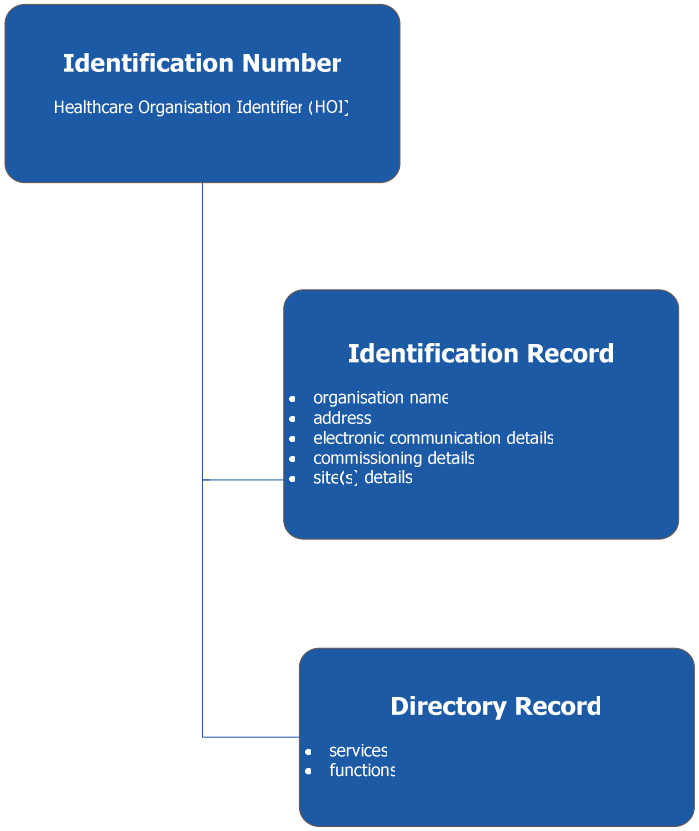

Figure 6: Proposed data structure for healthcare organisations

The healthcare organisation dataset is broken into three groups:

- Identification Number
- Identification Record
- Directory Record

The identification number will hold attributes associated with the HOI. The Identification record contains the organisation name, address information, communication and site details. The directory record identifies the services and functions for the organisation.

Appendix 6 provides a detailed breakdown of ISO/TS 27527 for healthcare organisations.

4.1.3 Adaptations to the ISO/TS 27527

As part of this project the Authority, undertook a survey to assess the compliance of regulatory authorities current IT systems with the ISO/TS 27527 dataset and to identify the necessary adaptations to ISO/TS 27527.

Our survey found that the professional regulatory authorities' registers are, in the main, already compliant with ISO/TS 27527. The survey found that all of the professional regulatory authorities assign unique identification numbers to all their registrants, they record their name and in many cases also record name changes. They record an address where their registrants are contactable, demographic details including date of birth, gender and qualifications. In addition, many professional regulation authorities record their registrants' communication details including mobile phone, fax and email address. CORU had no data collected at the time of publication, but intend to fully comply with ISO/TS 27527.

The survey identified that one section of ISO/TS 27527 that causes difficulty in terms of compliance with ISO/TS 27527 is the Field of Practice section. Figure 7 outlines the attributes included in the field of practice section. ISO/TS 27527 specifies the start date within the Field of Practice section as the date on which an individual provider commenced practicing in a field of practice. However the professional regulatory authorities currently record the date that a registrant is registered to practice in a specialty or division, not the date on which they began to practice in a given field. There are similar issues with the "field of practice end date". It should also be noted that the professional regulatory authorities are not required to collect or maintain this data.

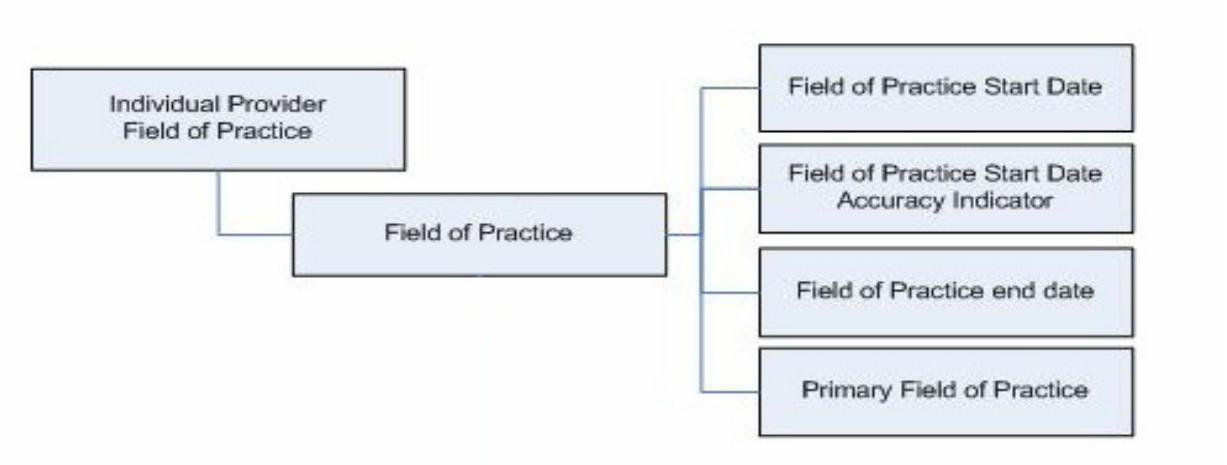

Figure 7: Field of Practice

ISO/TS 27527 includes Biometric Identification (fingerprint, voice recognition) as a detail that is required, while it is not widespread in Ireland it is anticipated that it will become more prevalent in the future. For this reason it was decided to adapt ISO/TS 27527 for Ireland's needs and change Biometric Identification from required to optional in the national dataset.

In the case of healthcare organisations, the services and functions that an organisation provides are included in the ISO/TS 27527 standard but are not currently detailed within the standard. It was decided that in the Irish context that the services and functions would be essential elements of the dataset and therefore should be included in the directory record, this is outlined in Figure 6. The services and functions will outline the services and activities that the organisation provides for example physiotherapy, radiology or gynaecology.

As a result of our survey, consultation with the regulatory authorities and discussion with the advisory group it was decided that three adaptations to the ISO/TS 27527 are required:

- in the case of healthcare practitioners the field of practice section as mentioned above, the regulatory bodies do not collect this information. The Authority suggests adapting the standard and instead track the data that is currently collected which is the date on which the healthcare practitioner registers with their professional regulatory authority not the date on which they began to practice in a certain field.

- individual biometric identifiers are 'required' for the ISO/TS 27527. Biometric identification is only in its infancy in Ireland, the standard will be adapted to by changing the biometric identification data field as optional.

- looking at healthcare organisations, the Irish adaptation will include an additional directory record, which will include the functions and services that an organisation provide.

4.2 Phased introduction

The research undertaken indicated that other countries have adopted a phased approach to the introduction of healthcare practitioners and organisations identifiers, starting with those healthcare practitioners who are obliged to register with their professional regulatory authorities and then extending to include other groups that are not under mandate to register, but are responsible for the care of service users.

4.2.1 Implementing the HPI

There is a wide cohort of healthcare practitioners responsible for the care of service users. They can be separated into three groups, the healthcare practitioners that are currently registered, those that are mandated to be registered by the Health and Social Care Professional Council (CORU) in the future and those who will not be registered by an authority in the foreseeable future.

The healthcare practitioners who are currently registered include the registrants of the Medical Council of Ireland, the Pharmaceutical Society, the Nursing Board (An Bord Altranais), Dental Council of Ireland, Opticians Board and Pre Hospital Emergency Care Council.

It is the remit of the Health and Social Care Professional Council (CORU) to register the group of allied health professionals outlined in Table 1, in addition to subsuming the Opticians and Pre-Hospital Emergency Carers who already have a statutory obligation to register.

Clinical Biochemists	Physiotherapists
Dieticians	Psychologists
Medical Scientists	Radiographers
Occupational Therapists	Social Care Workers
Orthoptists	Social Workers
Podiatrists	Speech and Language Therapists

Table 1: Health and Social Care Practitioners CORU mandated to register

The many groups of people that are responsible for patients and are currently outside of the regulatory system make up the third group.

Recommendation 5.7 from the Commission states that the Chief Executive within each defined healthcare organisation must ultimately be responsible and accountable for patient safety and quality within that organisation[3]. This suggests that when licensing of organisations is introduced it will encourage responsibility and accountability, which will require a designated responsible person. That person may receive a HPI, as they will be responsible for service user care in their organisation even if they are not required to register through a professional body, that is if they come from a non-healthcare professional background.

Taking the above into account, Figure 3 outlines the order that Authority recommends for the introduction of the HPI.

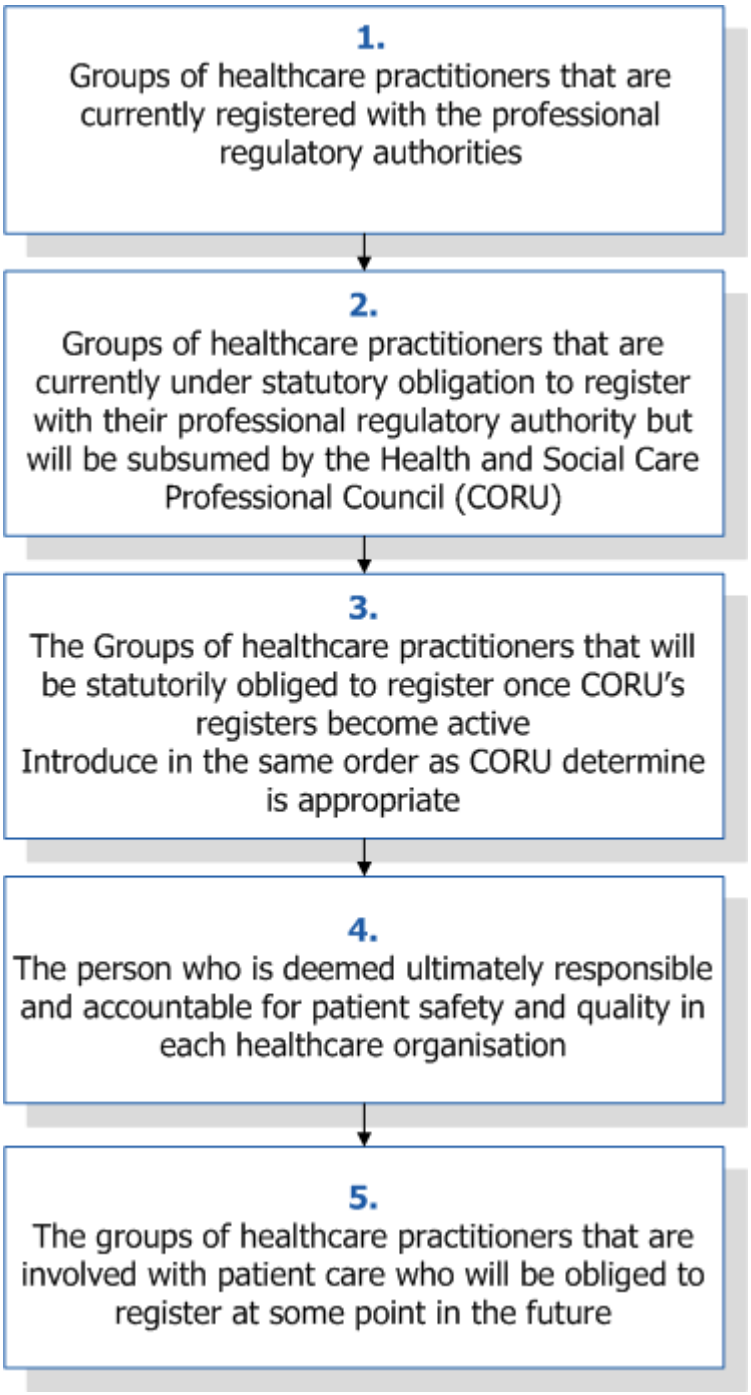

Figure 3: Recommended order to phase in HPI

4.2.2 Implementing the HOI

Healthcare services in Ireland include the many organisations that fall under the remit of the Health Service Executive (HSE) and the full range of private and self-employed practitioners such as general practitioners (GPs), physiotherapy practices, dieticians, and other allied healthcare specialist practices.

Currently, two groups of organisations are registered; pharmacies including those in hospitals are registered by the Pharmaceutical Society of Ireland, and Residential Services for Older People are registered and inspected by the Authority's Social Services Inspectorate.

The consultation suggested that all organisations and facilities responsible for health and social care should receive a HOI.

Figure 4 outlines the order that Authority recommends for the introduction of the HOI.

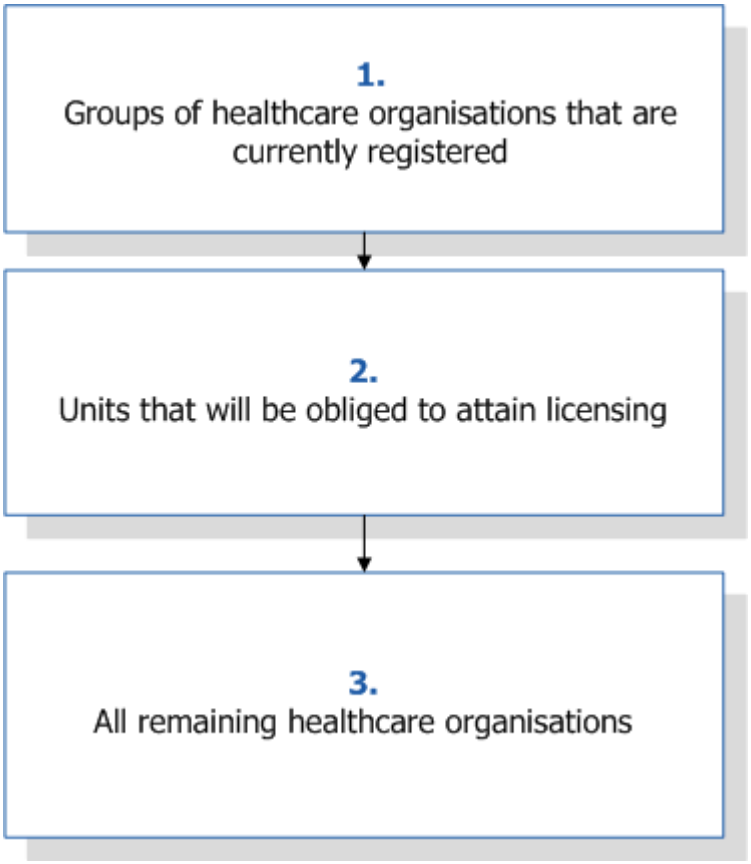

Figure 4: Recommended order to phase in the HOI

5. Conclusion

The aim of this report was to recommend unique health identifiers for healthcare practitioners and organisations. The research conducted for this report identified the following:

- unique health identifiers for healthcare practitioners and organisations are in place in many countries including Australia, New Zealand, England, Sweden, Norway, the Netherlands and many more
- the qualitative benefits identified both nationally and internationally are wide ranging and numerous, benefiting all stakeholders in the healthcare system but the greatest benefit is attributed to all those who use the health and social care services as they receive better quality and safer care
- currently in Ireland healthcare practitioner and organisation information is stored across multiple sites, with data stored at each of local, public and private level
- each registration system that holds healthcare practitioner and organisation information is governed by differing legislative and contractual obligations and in most instances the information is not shared outside its immediate context
- the Irish healthcare system has a requirement to uniquely and accurately identify healthcare practitioners and organisations in order to streamline and coordinate the patients care pathway
- there are many healthcare initiatives both from the Government and recommendations from the Commission that will find the HPI and HOI of enormous benefit

The risks and challenges include lack of legislation to support the implementation and maintenance of the HPI and HOI. In order for the HPI and HOI to achieve their full potential they must be widely embraced by the healthcare sector. As stated previously, it is anticipated the Health Information Bill will address these issues.

The Authority recommends that:

1. Unique identifiers for healthcare practitioners and organisations should be introduced in Ireland.

2. A central directory should be established that contains unique identifiers for healthcare practitioners and organisations and should be established as the primary trusted source of core identity information in relation to healthcare practitioners and organisations.

3. The Health Information Bill should assign a designated agency with the task of governance, implementation and maintenance of a central directory.

4. The HPI should be phased in as follows:
   i. The groups of healthcare practitioners that are currently registered with their professional regulatory authorities
   ii. The groups of healthcare practitioners that are currently under statutory obligation to register with their professional regulatory authority but will be subsumed by the Health and Social Care Professionals Council (CORU)
   iii. The groups of healthcare practitioners that will be statutorily obliged to register once CORUs' registers become active, they should be introduced in the same order that CORU determine is appropriate
   iv. The person who is deemed ultimately responsible and accountable for patient safety and quality in each healthcare organisation
   v. The groups of healthcare practitioners that are involved with patient care who will be obliged to register at some point in the future.

5. The HOI should be phased in as follows:
   i. The groups of healthcare organisations that are currently registered
   ii. The units that will be obliged to attain licensing
   iii. All remaining healthcare organisations

6. The dataset to be associated with the identifiers for practitioners and organisations should be based on the international standard ISO/TS 27527, adapted for use in Ireland.

7. Each professional regulatory authority should upload the standard dataset at set intervals to the central directory.

6. Next Steps

In order to maximise their benefit and achieve their full potential of the proposed for healthcare practitioners and organisations identifiers, supporting legislation is required. The success of the HPI and HOI is reliant on wide adoption across all stakeholder groups as only then will they be fully effective and deliver their full potential benefits. It is anticipated that the forthcoming Health Information Bill will address these challenges.

This report has been submitted to the Minister for Health for his approval. Once, the necessary legislation is in place, it is intended that the recommendations contained in this report will become national standards for healthcare practitioner and organisation identifiers and, subject to approval, will be mandated by the Minister in due course.

7. References

(1) Health Information and Quality Authority. *Recommendations for a Unique Health Identifier for Ireland*. Dublin: 2009. Available online from: http://www.hiqa.ie.

(2) The Government. *Programme for Government 2011*. 2011. Available online from: http://www.taoiseach.gov.ie/eng/Publications/Publications_2011/Programme_for_Government_2011.html. Accessed on: 22 June 2011.

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(15) National Health Workforce Taskforce. *National Registration and Accreditation Scheme for the Health Professions* [Online]. Available from: http://www.nhwt.gov.au/natreg.asp.

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(19) Healthcare Information and Management Systems Society. *Healthcare Information and Management Systems Society* [Online]. Available from: http://www.himss.org/.

(20) Medical Practitioners Act 2007.2007. Available online from: http://www.dohc.ie/publications/medical_practitioners_act07.html. Accessed on: 1 February 2010.

8. Glossary of Terms

For the purposes of this document the definitions below will be used. In some instances these definitions have been adopted from international work and are fully referenced.

Accountability: a complex concept in healthcare that is recognised as a key driver for safety and quality of care. One of the key principles of good governance is that there are clear lines of accountability at individual, team and system levels, with accountability to employers, professional bodies, patients and the public[(3)].

Adverse Event: an incident which results in harm to a patient. Harm includes disease, injury, suffering, disability and death and may be physical or psychological[(18)].

Dataset: A dataset comprises of a collection of data items, such as date of birth, street address, or qualifications.

eHealth: The provision of healthcare supported by electronic processes.

Electronic Health Record: Electronic Health Record (EHR) is a longitudinal electronic record of patient health information generated by one or more encounters in any care delivery setting. Included in this information are patient demographics, progress notes, problems, medications and vital signs. The EHR has the ability to generate a complete record of a clinical patient encounter - as well as supporting other care-related activities directly or indirectly via interface - including evidence-based decision support, and quality management[(19)].

Facility: A physical location from which health services is provided.

Health body: the councils, boards and associations that collect or publish data regarding healthcare practitioners or organisations.

Healthcare practitioner: all who provide health and social care services.

Identifier: a number that uniquely identifies a healthcare practitioner or organisation. An identifier can be numbers, letters or both, but is not limited to the letters or numbers.

Licensure: the granting of legal permits to practise to those who can demonstrate appropriate levels of knowledge, skills and competence[(3)].

Medical practitioner: a person who holds a basic medical qualification[(20)].

National directory: a nationwide secure database, in this case maintaining data on healthcare practitioners.

Regulation: sustained and focused control exercised by a public agency over activities that are valued by a community, and in healthcare specifically as any set of influences or rules exterior to the practice or administration of medical care that imposes rules of behaviour[(3)]. Regulation is designed to: improve performance and quality, provide assurance that core standards are achieved, provide accountability both for levels of performance and, value for money[(20)].

Service User: users of health and social care services, this includes patients, clients and residents.

Appendices

Appendix 1: Stakeholders consulted

Aviva Health Insurance Ireland Limited
Bupa Ireland
California Regional Health Information Organisations (CalRHIO)
Economic and Social Research Institute
Health and Social Care Professional Forum
Health and Social Care Professionals Council
Health Information and Quality Authority – Social Services Inspectorate (SSI)
Health Research Board
Health Services Executive
Authors of ISO/TS 27527
HSC Business Services Organisation (Northern Ireland)
Medical Council of Ireland
Ministry of Health, New Zealand
National Health Service UK
Pharmaceutical Society of Ireland
PriceWaterhouse Coopers
Primary Care Reimbursement Service (PCRS)
The Nursing Board (An Bord Altranais)
Voluntary Health Insurance

Appendix 2: Members of the Advisory Group

Ms. Ann Curran, Medical Council of Ireland
Dr. Brian O'Mahony, Irish College of General Practitioners
Dr. Cheryl Stokes, Pharmaceutical Society of Ireland
Ms. Chrissie Keane, National Standards Authority of Ireland
Ms. Cliona O'Donovan, Economic and Social Research Institute
Mr. Damon Berry, Representing National Standards Authority of Ireland
Mr. Dougie Beaton, Health Services Executive
Ms. Emer Brady, Department of Health and Children
Dr. Joe Devlin, Health Service Executive
Ms. Maria Neary,The Nursing Board (An Bord Altranais)
Ms. Mary Griffin, Health and Social Care Professionals Council
Ms. Una O'Rourke, Medical Council of Ireland

HIQA Members
Dr. Kevin O'Carroll, Health Information and Quality Authority
Ms. Tracy O'Carroll, Health Information and Quality Authority
Dr. Deidre Mulholland, Health Information and Quality Authority
Mr. Tom O'Regan, Health Information and Quality Authority

Appendix 3: Distribution list for healthcare practitioners' survey

An Bord Altranais, Nursing Board
Association of Optometrists Ireland
Dental Council of Ireland
Department of Health and Children
Department of Social and Family Affairs
Department of Finance
Economic and Social Research Institute
Health and Social Care Professionals Council
Health Research Board
Health Service Executive x10
Irish Hospitals Consultants Association
Irish Society of Chartered Physiotherapists
Medical Council of Ireland
National Cancer Registry of Ireland
Opticians Board
Pharmaceutical Society of Ireland
State Claims Agency

Appendix 4: Distribution list for healthcare organisations survey

Department of Finance
Economic and Social Research Institute
Health Information and Quality Authority – SSI Directorate
Health Research Board x5
Health Service Executive x10
National Cancer Registry of Ireland
Pharmaceutical Society of Ireland
State Claims Agency

Appendix 5: Dataset

Table 2 provides a detailed outline of the dataset recommended by the Authority to attach to the HPI. It is an adaptation of ISO/TS 27527 for healthcare practitioners. This dataset was sent to all those organisations outlined in appendix 3, they indicated whether or not they collected the data items allowing the Authority to determine the most appropriate adaptation of ISO/TS 27527 for Ireland.

O: Optional
R: Required

Section of document	Data Item/ Organisation	Description	ISO Standard 27527
5	**Provider (Individual)**		**R**
5.2	Provider identifier designation	A number or code assigned to uniquely identify that provider within the system	R
5.3	Provider Identifier Geographic Area	A code representing the geographic area within which the identifier is used	O
5.4	Individual or organisational provider flag	Indicates whether this is an identifier for an individual healthcare provider or for a healthcare organisation	R
5.5	Provider Identifier Issuer	Provider identifier assigning authority	R
5.6	Provider Identifier Usage	The specific context of use for which this identifier is used within the organisation e.g. unique national identifier, billing identifier, business or individual taxation or social security identifier, obsolete identifier	R
5.7	Duplicate Resolution	This identifies if there are/not duplicates (multiple registrations)	O
5.7.2	Not a duplicate of	The identifier which has been determined to not be a duplicate of this identifier	O
5.7.3	Duplicate of	The identifier which has been determined to be a duplicate of this identifier	O
5.7.4	Confirmed by organisation	The organisation that has confirmed the duplicate or not duplicate status of this identifier	R

Section of document	Data Item/ Organisation	Description	ISO Standard 27527
5.7.5	Date confirmed	The date upon which this identifier was determined as a duplicate or not a duplicate	R
5.7.6	Retired identifier	For a duplicate identifier set this field indicates if this number is the one retired or not	R
6	**Individual**		**R**
6.2	**Individual provider name**		**R**
6.2.2	Family name group		R
6.2.2.2	Family name	Surname / Last name	R
6.2.2.3	Family name sequence number	An indicator of the order of use of family names	R
6.2.3	Preferred Name		R
6.2.4	IP Name title group	This group holds details of each title relevant to a specific family name for this individual provider	O
6.2.4.2	IP Name title	Title of Provider	R
6.2.4.3	IP Name title sequence number	An indicator of the order of use for name titles	R
6.2.6	Name suffix group	This group indicates a specific name suffix used with a defined name group	O
6.2.7	Name suffix	Additional term used following a person's name	R
6.2.7.2	Name suffix sequence number	An indicator of the order of use for name suffix	R
6.2.8	Name usage Group	Enables differentiation between recorded names for an individual provider	O
6.2.8.2	Name usage	Whether the name is used for papering, professional or business name, maiden name, registered name, other name	R

Section of document	Data Item/ Organisation	Description	ISO Standard 27527
6.2.8.3	Name usage start date	The date at which this date usage for the name to which the usage is associated starts	R
6.2.8.4	Name usage end date	The date at which this name usage for the name to which the usage is associated ceased to be used	O
6.2.8.5	Usage identifier	The combination of identifier type, identifier issuer and identifier name that specify the link between this name and papering ,or other unique identifier usage	O
6.2.9	Alternative name representation		O
6.2.9.2	Representation Usage	Indicate the representation of a name when the alphabetic representation is not the one used within a community e.g. Russian and Chinese	R
6.2.9.3	Alternative representation	Alternative representation of this individual provider name using alternative styles of representation such as characters or language character set variations for local display	R
6.2.10	Restricted name usage	A name may be used for a limited period of time or special purpose within an organisation	O
6.2.10.2	Type of restriction	An indicator of special conditions or rules that shall be applied to an individual provider name	R
6.2.10.3	Restriction start date	The date at which this restricted name usage starts	R
6.2.10.4	Restriction end date	The date at which this restricted name usage ceased to apply	O
6.2.10.5	Available Provider	This field indicates those providers who should be able to see this name and the details associated with it	O

Section of document	Data Item/ Organisation	Description	ISO Standard 27527
6.3	**Individual Provider Demographic Details**		**R**
6.3.2	Date of birth data group		R
6.3.2.2	Date of birth	Birthdate	R
6.3.2.3	Date of birth accuracy indicator	Indication of the accuracy of a papered date e.g. accurate date, estimated date, unknown date, accurate day and month estimated year, unknown day accurate month and year etc	O
6.3.3	Death		O
6.3.3.2	Date of death	Death date	R
6.3.3.3	Date of death accuracy indicator	Indication of whether any component of a papered date was estimated	O
6.3.3.4	Source of death notification	Registry, Healthcare Provider, Relative, Other	O
6.3.4	Sex	The sex of the Provider Individual	R
6.3.5	Mothers original family name	Mothers maiden name, family name or surname	O
6.4	**Field of Practice**		**R**
6.4.2.2	Field of practice start date	The date on which an individual provider commenced practising in a field of practice	R
6.4.2.3	Field of practice start date accuracy indicator	Field of practice start date accuracy indicator	R
6.4.2.4	Field of practice end date	The date on which an individual provider ceased practicing in a field of practice	O
6.4.2.5	Primary field of practice	Main area of practice	R

Section of document	Data Item/ Organisation	Description	ISO Standard 27527
6.4.2.6	Registration Details		R
6.4.2.6.2	Registering Body	Registration board/Certification body	R
6.4.2.6.3	Registration Status	Registration/Certification level e.g. Active, Limited, Student	R
6.4.2.6.4	Registration number (unique identifier)	Unique provider identifier/certification number	R
6.4.2.6.5	Registration start date	The date on which an individual providers formal registration commenced	R
6.4.2.6.6	Registration end date	The date on which an individual providers formal registration ceases	O
6.4.2.7	Qualifications (for each qualification)		O
6.4.2.7.2	Qualification name	The full and formal name given to the qualification	R
6.4.2.7.3	Qualification level	Level of qualification	O
6.4.2.7.4	Issuing institution	Name of educational organisation who issued the qualification	R
6.4.2.7.5	Issuing institution country	The international code for the country within which the education institution is registered	R
6.4.2.7.6	Qualification year	The year the provider obtained this qualification	O
6.4.2.8	Restriction to field of practice	An individual may be restricted in their practice authorisation	O
7	**Individual provider biometric identification**	**Voice recognition, Iris, Retinal, Hand geometry, signature dynamics, keystroke dynamics, Lip movement, thermal face image, thermal hand image, gait, blood type or DNA**	**O**

Section of document	Data Item/ Organisation	Description	ISO Standard 27527
9	**Provider address details**		**R**
9.2	Address line	Low level description of geographical/physical description of a location	O
9.2.2	Building/complex sub-unit type - abbreviation	Specification of the type of a separately identifiable portion within a building	O
9.2.3	Building/complex sub-unit number	Specification of the number of identifier of a building/complex	O
9.2.4	Address site name	Full name used to identify the physical building or property as part of its location	O
9.2.5	Floor/level number	Descriptor used to identify the floor or level of a multi-storey building / complex	O
9.2.6	Floor/level type	Descriptor used to classify the type of floor or level of a multi-storey building / complex	O
9.2.7	Street number	Numeric or string reference number of a house or property	O
9.2.8	Lot number	Section, allotment number	O
9.2.9	Street name	The name that identifies a public thoroughfare and differentiates it from others in the same suburb/town/locality	O
9.2.10	Street type code	A code that identifies the type of public thoroughfare	O
9.2.11	Street suffix code	Term used to qualify street name used for directional references	O
9.3	Suburb/Town/Locality	The full name of the general locality	O
9.4	State/territory/province	An identifier of the province, state or territory in which an individual provider resides	O
9.5	Postal code (zip code)	Zip Code / Postal Code	O

Section of document	Data Item/ Organisation	Description	ISO Standard 27527
9.6	Delivery Point Indicator	A unique number assigned to a postal address as designated by the postal service	O
9.7	Country Identifier	A code representing the country component of an individual provider's address	O
9.8	Address type	A code representing a type of address e.g. residential, business	O
9.9	Address type start date	The date on which the address type is first applicable to the individual provider	R
9.1	Address type start date accuracy indicator	An indication of the accuracy of the address type start date at the component level for the date	O
9.11	Address type end date	The date on which the address or address type is no longer applicable	O
9.12	Address type end date accuracy indicator	The date accuracy indicator for the address type end date	O
9.13	Address security	When an address is not to be openly displayed, except to specific organisations, this flag will be set	O
9.14	Address available to provider	When an address has security set to Y, then only those provider's identified in this field may access this address	R
10	**Provider Electronic Communication (phone, fax, email, URL)**		**O**
10.2	Electronic communication medium	A code representing a type of communication mechanism used by a provider, phone, fax, email, URL	R
10.3	Electronic communication usage code	A code representing the manner of use that a person applies to an electronic communication medium	O
10.4	Electronic communication details	A unique combination of characters used as input to electronic telecomm equipment for the purpose of contacting a provider	R
10.5	Communication privacy	When a communication mechanism is not to be openly displayed, except to specific organisations this flag will be set	O

Section of document	Data Item/ Organisation	Description	ISO Standard 27527
10.6	Communication available to provider	When an address has security set to Y, then only those provider's identified in this field may access this communication mechanism data	R

Table 2: International Standards Organisation technical standard 27527 for healthcare practitioners

Appendix 6: Survey for Healthcare Organisations

Table 3 provides a detailed outline of the dataset recommended by the Authority to attach to the HOI. It is an adaptation of ISO/TS 27527 for healthcare organisations. This dataset was sent to all those organisations outlined in appendix 4, they indicated whether or not they collected the data items allowing the Authority to determine the most appropriate adaptation of ISO/TS 27527 for Ireland.

O: Optional
R: Required

Section	Data Item/ Organisation	Description	ISO CD/TS 27527
5	**Provider Identifier**	**Unique identification number assigned to the healthcare organisation**	**R**
5.2	Provider identifier designation	Healthcare provider organisation number	**R**
5.3	Provider identifier geographic area	A code representing the geographic area within which the identifier is used	O
5.4	Organisational identifier flag	Indicates whether this is an identifier for an individual healthcare provider or for a healthcare organisation	R
5.5	Provider identifier issuer	The organisation, agency or provider that allocates a provider identifier designation	R
5.6	Provider identifier usage	The specific context of use for which this identifier is used within the organisation	R
5.7	Duplicate resolution	This group of data allow the user to establish the relationship between potential or actual duplicate entries	O
5.7.2	Not a duplicate of	The identifier which has been determined to not be a duplicate of this identifier	O
5.7.3	Duplicate of	The identifier which has been determined to be a duplicate of this identifier	O
5.7.4	Confirmed by organisation	The organisation that has confirmed the duplicate or not duplicate status of this identifier	R

Section	Data Item/ Organisation	Description	ISO CD/TS 27527
5.7.5	Date Confirmed	The date upon which this identifier was determined as a duplicate or not a duplicate	R
5.7.6	Retired identifier	For a duplicate identifier set this field indicates if this number is the one retired or not	R
8	**Healthcare Provider (Organisation)**		**R**
8.1.2	Organisation start date	The date on which a provider organisation was formally commissioned or created as a legal entity	**R**
8.1.3	Organisation start date accuracy indicator	An indication of the accuracy of the start date recorded for this organisation e.g. accurate date, estimated date, unknown date, accurate day and month estimated year, unknown day accurate month and year etc.	**R**
8.1.4	Organisation end date	The date on which a provider organisation is formally closed or ceases to operate	**R**
8.1.5	**Organisation owner provider identifier**	**Identification of the Organisation Owner**	**O**
8.1.6	**Organisation name details**	**Formal name used for business purposes, abbreviated or shortened names for marketing**	**R**
8.1.6.2	Organisation name number	The unique identifier of this name for this organisational provider	**R**
8.1.6.3	Organisation name type	A code that enables differentiation between an organisation or service location indicative of purpose for communication	**R**
8.1.6.4	Organisation name	The name by which an organisation is known or called	**R**

Section	Data Item/ Organisation	Description	ISO CD/TS 27527
8.1.7	**Organisation Site**	**A physical location at which health services are provided**	**O**
8.1.7.2	Site identifier	A unique identifier of each individual site of the organisation	**R**
8.1.7.3	Site name details	Each site has a name by which it is generally known. This could be a campus name or acronym	**R**
8.1.7.3.2	Site name	A unique identifier of each individual site, campus or location	**R**
8.1.7.3.3	Site name type	A code that enables differentiation between a service location indicative of purpose for communication e.g. service location name, business name, locally used name, short or abbreviated name for the site	**R**
8.1.7.4	Site establishment date	The date on which a provider organisation established this site for service provision	**R**
8.1.7.5	Site establishment date accuracy indicator	An indication of the accuracy of the provider organisation site establishment date	**R**
8.1.7.6	Site decommission date	The date on which this site was decommissioned for service provision	**O**
9	**Provider Address**		**R**
9.2	Address line	Low level description of geographical/physical description of a location	**O**
9.2.2	Building/complex sub-unit type - abbreviation	The type of a separately identifiable portion within a building/complex to clearly distinguish it from another	**O**

Section	Data Item/ Organisation	Description	ISO CD/TS 27527
9.2.3	Building/complex sub-unit number	Specification of the number of identifier of a building/complex to clearly distinguish it from another	**O**
9.2.4	Address site name	The full name used to identify the physical building or property as part of its location	**O**
9.2.5	Floor / Level Number	Descriptor used to identify the floor or level of a multi-storey building/complex	**O**
9.2.6	Floor / Level Type	Descriptor used to classify the type of floor or level of a multi-storey building/complex	**O**
9.2.7	Street number	The numeric or string reference number of a house or property that is unique within a street name, suburb	**O**
9.2.8	Lot number	Section, allotment number	**O**
9.2.9	Street name	The name that identifies a public thoroughfare and differentiates it from others in the same suburb/town/locality	**O**
9.2.10	Street type code	A code that identifies the type of public thoroughfare	**O**
9.2.11	Street suffix code	Term used to qualify street name used for directional references	**O**
9.3	Suburb/Town/Locality	The full name of the general locality	**O**
9.4	State/territory/province	An identifier of the province, state or territory in which an individual provider resides	**O**
9.5	Postal Code (Zip code)	The code for the postal delivery area	**O**

Section	Data Item/ Organisation	Description	ISO CD/TS 27527
9.6	Delivery point identifier	A unique number assigned to a postal address as designated by the postal service	**O**
9.7	Country Identifier	A code representing the country component of an individual provider's address	**O**
9.8	Address type	A code representing a type of address e.g. Business, Residential	**O**
9.9	Address type start date	Date of which address type is first applicable to the individual provider	**R**
9.10	Address type start date accuracy indicator	An indication of the accuracy of the start date	**O**
9.11	Address type end date	The date on which the address type is no longer applicable to the individual provider	**O**
9.12	Address end date accuracy indicator	The date accuracy indicator for the address type end date	**O**
9.13	Address security	When an address is not to be openly displayed, except to specific orgs	**O**
9.14	Address available to provider	When an address has security set to Y - then only those provider's identified in this field may access this address	**R**
10	**Provider Electronic Communication**		**O**
10.2	Electronic Communication Medium	A code representing the type of communication mechanism used by a provider, phone, fax, email, URL etc.	**R**
10.3	Electronic Communication usage code	A code representing the manner of use that a person applies to an electronic communication medium	**O**

Section	Data Item/ Organisation	Description	ISO CD/TS 27527
10.4	Electronic communication details	The actual number or electronic address to be used for communication	**R**
10.5	Communication privacy	When communication mechanism is not to be openly displayed, except to specific organisations, this flag will be set	**O**
10.6	Communication available to provider	When an address has security set to Y - then only those provider's identified in this field may access this communication mechanism	**R**

Table 3: International Standards Organisation technical standard 27527 for healthcare organisations

Appendix 7: Recommended adaptations of ISO/TS 27527

Section	Description	Optionality R:Required O: Optional
1	Provider identifier	R
2	Individual provider	R
3	Individual provider name	R
4	Individual provider demographic details	R
5	Individual provider biometric identification	O
6	Provider address	R
7	Provider electronic communication	O
8	Organisation (for each organisation healthcare practitioner works in)	O

Table 4: Recommended adaptation of ISO/TS 27527 for healthcare practitioners

Section	Description	Optionality R:Required O: Optional
1	Healthcare Provider - Organisation	R
2	Provider identifier	R
3	Organisation provider identification	R
4	Site provider address	R
5	Site provider electronic communication	R
6	Services	O
7	Function	O

Table 5: Recommended adaptation of ISO/TS 27527 for healthcare organisations

Appendix 8: Registered Healthcare Practitioners and Organisations

Designated professions	Number of Registrants (approximate)
Medical Council of Ireland	19,083 (July 2010)
Irish Nursing Board (An Bord Altranais)	89,504 (incl. active and inactive: 2009)
Pharmaceutical Society of Ireland	approx. 4,500 (2010)
Dental Council of Ireland	2,741 Dentists (2010)
Health and Social Care Professional Council	26,088 (currently registers are not live, this is an approximate anticipated number)
Total	**141,916**

Table 4: Registered Healthcare Practitioners

Healthcare Organisations	Number Registered (approximate) 2010
Pharmacies	1700
Residential Services for Older People	600
Total	**2300**

Table 5: Registered Healthcare Organisations

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