2011

Guidelines and Standards for Healthcare Buildings

A European Health Property Network Survey

Responses of selected members and associates of the European Health Property Network (EuHPN), in relation to the use of centralised guidelines and standards for the design and construction of healthcare buildings

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Introduction

In November 2010, the Department of Health's Gateway Reviews, Estates & Facilities Division asked EuHPN to conduct a rapid survey of the network's members and associates to obtain answers to a series of questions about the origin, maintenance, and effect of guidelines and standards concerned with the design and construction of healthcare buildings. Arrangements in Scotland and Wales are well known to the Estates & Facilities Division in England, so these parts of the UK were not included in the survey. Northern Ireland, however, was included, since the structure of healthcare administration there differs significantly from other parts of the UK.

The survey questions are reproduced in Appendix A, but the central issue is expressed in the following preamble:

> *Those who design and build health facilities in England have, for 50 years, made used of guidelines and best practice standards that are centrally developed by the Department of Health. While the material is mostly not mandatory, it is recognised in Hansard as best practice and is used during official inspections of health facilities, and by the Health and Safety Executive. Most capital building schemes require adherence to the guidance contained in Health Building Notes and Health Technical Memorandum standards or a cogent argument for deviation from it.*
>
> *The use and direction of centralised guidelines and standards in England is now under review in recognition of the pluarilty of provision in a regulated and market driven economy, where commissioning of services is being transferred to GP consortia. In some countries, healthcare provider organisations are only subject to a limited range of obligatory standards concerned with health facility construction and refurbishment – usually linked to essential issues of patient and public safety. Having met these minimum standards, they are free to design their buildings using examples of best practice or innovation from other healthcare organisations or from outside the health sector. They may seek advice from a wide range of organisations, including healthcare architecture practices, consultancy companies, fellow professionals, and the supply chain. This arrangement appears to be attractive, superficially at least, for a number of reasons: choice and flexibility for healthcare providers, less bureaucracy, more innovation, etc. However, there is anecdotal evidence that some of the countries that impose only a limited range of centrally determined guidelines are now moving towards a broader range of common standards. While design guidelines are under review in England, it is useful to obtain a more accurate picture of the situation in as many countries in Europe (and beyond) as possible.*

The survey took place over 6 weeks. Ten countries provided responses by the deadline of mid-December: Australia; Finland (x2 responses); Germany; Ireland; Netherlands; Northern Ireland; Norway; Italy; Poland; Romania. In most cases the 12 survey questions were answered fully, with a few exceptions where it was not possible to provide an answer, or where the appropriate answer was already covered by another response. Please note that in Appendix A, the response from Australia's CHAA includes some embedded documents.

EuHPN and the Department of Health (England) would like to thank all those who took time to complete the survey.

Survey analysis

The following analysis of the responses to the survey is not exhaustive, and is necessarily a subjective view of the answers provided. However, it does attempt to draw out the main issues raised by the respondents, and to identify some emerging themes. The appendices at the end of this document contain the original responses, organised by country: readers may wish to consult these in more detail. The analysis below is organised by question category.

Question 1:
Are your guidelines and standards for healthcare building design and construction:

- ***Mandatory?***
- ***Best practice?***
- ***Based on performance requirements?***
- ***Written as 'codes of practice?***

The emerging picture here is that the distinction between 'mandatory' requirements and the other categories is blurred in practice. True, the answers reveal a spectrum of obligation, ranging from highly prescriptive governmental decrees (Poland, Romania) through to near absence of any mandatory rules (Germany), but a number of respondents indicated that guidelines are often taken to be mandatory, in the sense that any healthcare administration that ignores them has to have very watertight, clear reasons for doing so.

In general, where mandatory elements are expressly identified, they are concerned with fire safety, security, lighting, environmental protection, and other areas that would naturally apply to any building accessible to the public. Some countries have regulatory authorities that licence healthcare buildings on the basis of their adherence to standards concerning safety and quality of care (e.g. Republic of Ireland's Health Information and Quality Authority, HIQA). These standards may have a direct link to physical infrastructure, particularly in relation to space requirements and configuration of premises.

The Netherlands provide a particularly interesting case study, since, until 2009, healthcare buildings were designed and constructed according to two distinct sets of rules. The first derived from government regulations, known as the Buildings Decree, that applied to all buildings and covered issues such as public safety and environmental performance. The second set of rules was laid down by the Netherlands Board for Healthcare Institutions, and was only applicable to healthcare buildings. These rules, or desired standards, were comprehensive, in that they covered questions of performance, cost, and functionality, as well as safety. However, since 2009, and to some extent mirroring the liberalisation of the Dutch healthcare market, the quality of healthcare buildings has been overseen by the Health Care Inspectorate, with a focus mainly on patient safety. The administrative bodies that are responsible for healthcare buildings have been asked to develop guidelines for use by the Inspectorate, but have not as yet made much progress in doing so.

In Northern Ireland, some features of healthcare buildings do follow a mandatory code: e.g. 100% single patient room provision in new buildings, provision of staff changing facilities, and compliance with the BRE Environmental Assessment Method (BREEAM). However, such requirements are combined with an expectation that new projects should be assessed against recognised best practice before approval is granted. The mix of intelligent use of mandatory guidance and best practice is made possible by the integrated structure of the province's Department of Health, Social Security

and Public Safety, the relationship between the Health Estates Investment Group and the five Northern Ireland Health Trusts, and the regional-level scale of healthcare provision.

Question 2:
Are your guidelines and standards determined by a central agency (national government), devolved to regional decision-making bodies, or decided by individual healthcare organisations?

Responses to this question generally followed the political organisation of each country. Where countries have a strong element of regional government (Germany and Australia, for example) there is clear evidence that development of guidelines is devolved at least to regional level. In some cases, such as the Netherlands, there has been a move to provide only core, safety standards from a central source, with other decisions about design and construction being left to individual healthcare organisations.

In Finland, it appears that the regional level government is not involved at all – central government sets mandatory standards that apply to all buildings, with the management of individual health facilities having to decide on everything outside this remit. However, note that Finland is well served by R&D centres that can supply high quality data and analysis to healthcare provider organisations.

In countries which have a long history of centralised decision making (e.g. Romania, Poland), standards tend to be set by national government agencies.

Question 3:
Has there been a change in recent years? In other words, have healthcare organisations moved from centralised to decentralised guidelines, or have they been able to exercise more or less freedom in how health facilities are designed and built?

This question received a wide range of responses.

Finland has seen a move toward more individual and independent decisions since 1990, and in recent years Germany has undergone a similar trend that has increased the design freedom of healthcare providers – even where public authorities are providing the finance. The Netherlands' response is largely covered by the commentary on question 2; i.e. increasing freedom for individual healthcare provider organisations, beginning from 2009. Australia has run a project entitled 'Australian Health Facility Guidelines' (AusHFG) since 2004, which has brought together the best available evidence on appropriate standards for health building design and construction, drawing on experience and research around the world. The project finished at the end of 2010 with no arrangements in place to carry it forward. Although the States and Territories claim to be committed to continuing with centralised guidelines, the Centre for Health Assets Australasia (CHAA) reports that they have not acted to ensure the continuation of a central agency for guidelines and standards. Northern Ireland uses standards and guidance based on UK Health Building Notes and Health Technical Memorandums, with updates and alterations as appropriate for the Northern Ireland context. The Republic of Ireland's Health Service Executive, established in 2005, has moved health service provision from central government to a separate agency. Poland has seen no significant change in recent years – their standards and guidelines continue to be developed centrally.

Question 4:
If there has been a change – what has been the effect? Have building standards improved? Are designs more innovative? Are patients and staff better served?

CHAA (Australia) raises an interesting point in relation to this question; namely, how would we judge if a move towards or away from centralised guidelines has had an effect – positive or negative – in the absence of the common use of standardised methods for assessing the effectiveness of health building design? Such methodologies are available, of course, in the form of post occupancy evaluation, but their use is not universal and even when they are employed, healthcare organisations do not have a good record of using the results to inform future design and construction. This would suggest that one important element of any change – more or less centralisation of guidelines and standards – should be accompanied by a suite of tools that allow healthcare providers to make informed judgements about the quality of their buildings. Furthermore, in an ideal world, the outcomes should be publicly available, or at least shared between healthcare organisations that have a common purpose and common funding. Northern Ireland is a case in point: while the approach to health building design and construction differs from that adopted in other parts of the UK, a well-established, in-house design team has worked closely with the local Trusts for a number of years. The result has been the development of a suite of standardised room layouts, a simplified design process available to all, and elimination of many elements of poor design. The response from Northern Ireland cited success in winning national and international design awards as evidence of this improvement.

The recent changes in the Netherlands mean that it is too early to tell if decentralised, more independent design decisions will have an effect on the quality of care and/or levels of innovation. Experience in Finland suggests that a move to more independent decision-making has made healthcare buildings more responsive to patients' needs, but on the other hand there may be a growing gap between the best and the worst in the quality of design solutions.

Question 5:
What are the main areas covered by your guidelines and standards? Which are most important, and why?

As one might expect, fire safety, patient safety and staff working conditions were generally cited as key areas for guidelines and standards (e.g. Germany).

In general, in those countries that take a more centralised approach, guidelines and standards encompass quite detailed specifications. For example, Poland's Ministry of Health issues requirements for healthcare buildings that include minimum door widths, the configuration of reception areas, provision of hand-washing facilities, materials to be used for floors and walls, and the linkages between different areas of hospital operation. Where there is a less centralised approach to standards (e.g. the Netherlands) healthcare organisations are obliged to look at a wider range of information sources - R&D organisations, healthcare architecture and construction companies, professional associations, and, indeed, the example of other healthcare providers. Anecdotal evidence (correspondence connected with this survey) suggests that, while there is a greater opportunity for innovation associated with a less centralised approach, the corollary is that individual healthcare organisations have to be more actively engaged in seeking out the means to assure themselves that facility design and construction will be carried out to a high standard – often looking to international comparators. In the Republic of Ireland, for example, publicly funded hospitals draw on close observation of the UK's HBNs and HTMs, but also make use of the expertise of professional design teams under the direction of public sector building professionals.

The response from Australia was explicit in mentioning that health facility guidelines concentrate on the acute hospital sector. In part this is due to the public funding of hospitals, but this comment also reflects the relatively low profile accorded to design of health buildings associated with primary and community care. There are exceptions: where healthcare administrations have strongly linked service model development to health estate development (e.g. Northern Ireland), more attention is paid to other, non-hospital levels of the service, and this is reflected in the development of standards and guidelines for a wider range of buildings.

Question 6:
Do you anticipate any future changes in this area? Are there any plans for a review of the nature and origin of design guidelines?

Italy's response to this question was particularly interesting, since it mentions one aspect of design that is not addressed (explicitly, at least) in other responses. Italy foresees changes that will concern "awareness about energy saving and use of renewable resources". Such issues are considered as a matter of course in most developed countries, and health facility projects commonly have to demonstrate that they have incorporated a carbon reduction strategy. However, not all countries and health ministries regard this – especially in relation to the procurement process – as a high priority.

Most countries reported that there is little anticipated change to the nature and origin of guidelines, either because external circumstances have not changed (Germany, Finland, Poland, Romania) or because a new system has been recently introduced (Netherlands) and it is too early to know if it will need to be reviewed. Australia is an exception: the agency that has been a central source of advice, guidance, and research on health facility design and construction is not being funded from 2011, and it is not yet clear what system will replace it.

Question 7:
Who are the stakeholders/intended audience and what is the purpose/perceived benefit of the material?

These questions received a very mixed response. In relation to the intended audience, some replies identified planners, designers, healthcare architects and construction professionals, while others pointed to municipal agencies, national and regional health ministries, investors, and health facility managers. The only respondent explicitly to mention clinicians as stakeholders was Australia, although Ireland and Romania included 'staff'.

Australia's response concerning the perceived benefit of their recent, more centralised approach to developing and maintaining guidelines highlighted some perceived benefits, namely: ensuring a more consistent approach to design; increasing the effectiveness of user groups; improving the reliability of project estimates; decreasing the need to repeat research in different settings. Northern Ireland, which also has a centralised approach, also mentioned "avoidance of redundant thinking, and design and construction costs, (i.e. re-inventing the wheel and perhaps not getting it round)".

Question 8:
In very broad terms, how much freedom do healthcare organisations currently have in their choice of standards for healthcare facility design?

Responses to this question broadly fall into two categories. The first, typified by Germany and the Netherlands, is that, as long as the design and construction teams have satisfied the minimum legal conditions that cover fire, safety and hygiene standards, they are free to build as they wish – *as long as the financing institution is satisfied that the design will not hinder return on investment*. The second response – for example, from Ireland and Italy – is that a standard set of design principles applies, which can be adapted if sufficient evidence is produced to justify this decision.

Question 9:
What influence does research have on the development of the content of design guidelines, and what types of organisation contribute to production of that content?

Research clearly has an important role to play in keeping healthcare planners in touch with the latest thinking on design for safety, the life-cycle economy of health buildings, matching design and construction to present and future clinical need, the therapeutic possibilities of architecture, and many other issues. It provides evidence to inform and justify decisions made.

Some respondents identified gaps in the evidence base, or in their ability to access the appropriate research materials. For example, Finland mentioned a lack of local research on the standardisation of hospital layouts, and the respondent from Italy would like to see more work on the life-cycle concept for health facilities. Norway and Italy both identified energy reduction strategies and low carbon construction as areas of growing interest for research.

A number of countries make extensive use of R&D organisations to initiate research and to collate peer reviewed evidence. In the Netherlands, the Dutch Centre for Healthcare Assets (DuCHA) fulfils this role; in Norway the relevant organisation is SINTEF Health Research; in Australia, the Regional Governments have supported (until now) CHAA, the Centre for Health Assets Australasia. Germany healthcare organisations look to academic centres in universities – sometimes in partnership with them – to keep up-to-date with the latest research outputs.

Question 10:
In regard to design freedom, is there any difference between different areas of healthcare facilities?

Most respondents indicated that for reasons of cost, technical complexity and patient safety, the 'hot floor' areas of health facilities (operating theatres, laboratories, etc) are naturally subject to much more prescriptive guidelines and standards. However, some countries (e.g. Netherlands) reported that some areas, such as outpatient departments, have little attention paid to them in terms of design requirements.

Question 11:
How are your guidelines and standards distributed or made available? Do you rely on paper materials, electronic distribution, or do you have a web-platform?

In general, information on healthcare building design and construction is available electronically, either through dedicated websites or through subscription to professional and academic journals. Some respondents (e.g. Netherlands) have archived 'old' material on websites. Note that Finland has a Building Information File available in English (see Appendix 1).

Question 12:
Who endorses your guidelines and standards?

Here, responses closely follow the administrative arrangements, and the degree of centralisation, outlined in the earlier questions. In other words, if information on how to design and build health facilities largely originates from a health ministry, then healthcare organisations are expected to comply; if guidelines and standards are prepared by a third party organisation, there is generally a more iterative process of approval that may involve professional associations, health insurance companies, or local/regional healthcare administrations.

Some conclusions

Healthcare facilities are public buildings, and therefore have to meet national minimum standards in relation to fire safety, staff and patient safety, and – often – areas such as light levels, accessibility for disabled visitors, air quality, and a number of other basic measures. These standards are normally enshrined in legislation, and may therefore be embodied in the guidance offered by professional bodies, consultancy companies, and other relevant agencies.

But healthcare buildings are not designed just to meet minimum standards; they also have to reflect issues of clinical need, comfort, privacy, dignity, environmental requirements, and efficiency. For many years, English hospitals, mental health, primary care and community health facilities and (to some extent) social care buildings have been able to address these factors by looking to the guidance provided by the Department of Health in the form of Health Building Notes and Health Technical Memoranda. This guidance has provided an invaluable resource for healthcare architects, construction and engineering companies, as well as health planners, clinicians and administrators, has ensured some consistency in design and has provided a benchmark for best practice. However, the healthcare landscape is now changing. In future, commissioning bodies are likely to be run by consortia of primary care clinicians (or their proxies) and hospitals are to be given more market freedoms to invest, to challenge competitors, and perhaps even to fail. The other elements of the health service will be opened up to private contractors, social enterprises and charitable or voluntary organisations. At the same time, the English NHS is facing unprecedented financial pressures and major structural reform, as well as an expectation that there will be better use of building assets.

Beyond what is absolutely necessary, therefore, healthcare organisations increasingly have to look at how their buildings support their core business. There is little value in designing a health estate that meets all the relevant building codes if it fails to contribute effectively to the current and future service models that will mean the difference between survival and failure.

Taken as a whole, the survey responses revealed the following:

- If the rules for design and construction of healthcare buildings are determined by a central, national-level government agency (health ministry) – which also approves the plans for the healthcare estate – there is a tendency to be over-prescriptive (e.g. Poland, Romania), and to stifle innovation.

- Smaller units, such as regional health estates departments (e.g. Northern Ireland, individual Australian states, some Italian regions) have the potential to develop distinctive, high quality estates strategies, if they have the advantage of strong leadership, in-house expertise, acceptance of a link between service model and health facility design, and organisational stability over at least the medium-term.

- An alternative model to reliance on regional health estates development is to ensure that there is at least one leading third party R&D organisation with specific expertise in planning, designing and financing health facilities (e.g. Finland, Norway, Ireland). The Netherlands had such an organisation in the form of the Netherlands Board for Healthcare Institutions (NBHI). With its demise, it seems that that the agency now charged with ensuring quality in the healthcare sector is looking to the independent hospital organisations to provide a lead, which is thus far not forthcoming.

- In a more market-oriented healthcare system, organisations have to be willing to make difficult decisions for themselves, and to accept the consequences of their mistakes. They will, however, look to external agencies to provide support, guidance and assurance beyond the minimum statutory requirements. Australia's Centre for Health Assets Australasia (CHAA) provided just this function until recently; the Netherlands' NBHI occupied a similar role. In Norway, healthcare organisations look to SINTEF Health Research, and in Finland they rely on the National Institute for Health and Welfare (THL). German healthcare organisations, especially hospitals, are strongly linked to university academic centres.

- To some extent, other health departments in the UK (Scotland, Wales, Northern Ireland) have relied on the knowledge generated by the English Department of Health's Estates and Facilities Division. However, it is clear that in recent years they have been willing to look beyond the UK for high quality research and for insights into how best to plan their health estate. This is the model adopted by a number of countries in Europe, regardless of the nature of the healthcare system.

Healthcare organisations need a reference point for their estates strategy. For clinical matters they can rely on professional associations and a vast hinterland of research material. Any number of agencies will supply them with financial and managerial expertise. But to align their facilities with their business plan and their service model, and to keep ahead of the game, they may struggle individually to keep up to date with the latest thinking on how best to design, refurbish and construct health buildings unless they have access to independent, expert advice.

Appendix A
Survey Responses

The following survey responses are organised alphabetically by country. Note that Finland has two responses. The response from Australia has a number of embedded documents.

Australia

Source: Centre for Health Assets Australasia (CHAA)
Additional material: examples of Australian Health Facility Guidelines User Surveys (click on icon to open):

1.	Are your guidelines and standards for healthcare building design and construction: • Mandatory? • Best practice? • Based on performance requirements? • Written as 'codes of practice'?	The Australian Health Facility Guidelines (AusHFG) are not mandatory in any of the nine health jurisdictions that they cover (NSW, Vic, SA, WA, NT, ACT, Tas, Qld, NZ). In theory, they are regarded as a 'guideline'. In practice, many of the consultants who use them on projects believe that builders (on PPP/PFIs), and often the clinician type project directors/managers use the AusHFG as if they are mandatory – and sometimes require contractual compliance. This is very difficult to do with a generic guideline that is written to be modified on a project specific basis.
2.	Are your guidelines and standards determined by a central agency (national government), devolved to regional decision-making bodies, or decided by individual healthcare organisations?	Technically speaking, devolved to each State/Territory health dept to agree and use on their projects in the way that they endorse. Practically, the larger or more interested States eg NSW, Qld (until recently), SA have much more control over the decisions made re guideline content. NSW in particular has the most say. The guidelines are funded on a population basis and as the largest State, NSW contributes the most money and so tries to have the most say. The use of the guidelines on a project is supposed to be determined by individual healthcare organisations (Area Health Services, etc) but as their funding is allocated by central funding bodies such as NSW Health, the reality is that the central agencies have much more say in how the guidelines are used in practice.

3.	Has there been a change in recent years? In other words, have healthcare organisations moved from centralised to decentralised guidelines, or have they been able to exercise more or less freedom in how health facilities are designed and built?	The current AusHFG project has run for 6 years as centralised guidelines. The project ceases at the end of 2010 with no arrangements in place for the AusHFG to be carried forward or even the work in progress to be completed, although all the States/territories (members of the Australasian Health Infrastructure Alliance) do keep saying that there is a commitment to a centralised model. Their actions tend to suggest otherwise!
4.	If there has been a change – what has been the effect? Have building standards improved? Are designs more innovative? Are patients and staff better served?	Hard to tell as there has been little interest in evaluation of the use of the AusHFG in practice. UNSW surveyed users in 3 jurisdictions this year – the survey reports (which I can send you) show mixed opinions about this issue although the overall response has been positive.
5.	What are the main areas covered by your guidelines and standards? Which are most important, and why?	The AusHFG focus mainly on the acute hospital sector as this is publicly funded by the State/territory health depts. The AusHFG are structured to cover key areas that apply across all health facilities eg Infection Control, briefing and planning, OHS Safety and Security, etc. They then cover Health Planning Units (ie hospital depts.) in depth one-by-one.
6.	Do you anticipate any future changes in this area? Are there any plans for a review of the nature and origin of design guidelines?	See comment above re current cessation of the project. There is a significant backlog of work in progress and 6 years worth of intellectual capital being lost as a result. There are many issues that have arisen in the 6 year project – currently being reviewed by an external consultant with little input from the AusHFG development team at UNSW.
7.	Who are the stakeholders/intended audience and what is the purpose/perceived benefit of the material?	Designers, project teams, clinicians involved in the planning process, other consultants. Benefits anticipated included: Streamlining project briefing and increasing the reliability of project estimates, increasing the effectiveness of user groups, ensure a

		consistent process and standard of facility provision across all publicly funded health facilities, dissemination of knowledge and reducing the need for oft-repeated research across projects See the user surveys for a broader explanation of these perceived benefits.
8.	In very broad terms, how much freedom do healthcare organisations currently have in their choice of standards for healthcare facility design?	The AusHFG are **guidelines** not a standard – however if departures from their provisions are suggested, this usually needs to be justified on a project by project basis. It is very rare that this departure is not approved If a **standard** exists that is relevant to health facility design, then by definition, if it is referenced in building codes, etc, it must apply by law. Much as the Building Code of Australia (and similar NZ version) or the Discrimination Disability Act (DDA) has to apply to every project. That is why it is so important to distinguish between a guideline, a code and a standard – at least in our system.
9.	What influence does research have on the development of the content of design guidelines, and what types of organisation contribute to production of that content?	Not as much as it should have. The guidelines are largely produced using a peer-reviewed process that draws on research done by others. The timeframes for research to underpin guideline development do not usually match the program (ie it takes much longer to get research done than it does to produce a guideline). Also there is resistance to paying for research in our system and a lack of understanding as to 'research' actually means esp by bureaucrats and designers.
10.	In regard to design freedom, is there any difference between different areas of healthcare facilities? For example, there may be very tightly controlled standards and guidelines for theatres and laboratories, but much less prescription around outpatient departments or administrative areas.	No – very similar degree across them all. However much more work goes into developing the guidelines for theatres, and even inpatient units – due to either the higher initial cost of building these (theatres) or the sheer number that will be constructed over time (inpatient units). Admin offices, etc are generally also required to comply with state govt office policies (eg unless you are really important everybody gets a certain sized

		office – no exceptions.)
11.	How are your guidelines and standards distributed or made available? Do you rely on paper materials, electronic distribution, or do you have a web-platform	Website – www.healthfacilityguidelines.com.au
12.	Who endorses your guidelines and standards?	Standards are written and endorsed by committees associated with Standards Australia – a separate process. The AusHFG are endorsed for publication by all the jurisdictions funding them – in reality unless NSW says something can be published (and is signed off by the NSW DDG Health) nothing gets put on the website. This leads to much frustration for the other jurisdictions and complaints of NSW bias (which in my view are quite reasonable)!

Finland

Source: National Institute for Health and Welfare

1.	Are your guidelines and standards for healthcare building design and construction: • Mandatory? • Best practice? • Based on performance requirements? • Written as 'codes of practice'?	Mandatory, best practice, and codes of practice. Mandatory guidelines and standards do not concern only health care buildings (i.e. exit routes, fire safety, safety and security, accessibility, lighting, air conditioning, structures, radiation protection, environmental hazards, etc.)
2.	Are your guidelines and standards determined by a central agency (national government), devolved to regional decision-making bodies, or decided by individual healthcare organisations?	Laws and statutes (concern mostly all buildings) are determined by government, design brief (guidelines for a certain individual health facility) is determined by the health care organisation (service producer)
3.	Has there been a change in recent years? In other words, have healthcare organisations moved from centralised to decentralised guidelines, or have they been able to exercise more or less freedom in how health facilities are designed and built?	It has been a process toward more individual and independent decisions since 1990. Since the central approval process was abandoned.
4.	If there has been a change – what has been the effect? Have building standards improved? Are designs more innovative? Are patients and staff better served?	I would say that designs are more innovative and patients are better served. Patients are today more demanding as well or will be in the near future. On the other hand the gap between good designs and not so good ones might be growing.
5.	What are the main areas covered by your guidelines and standards? Which are most important, and why?	See question 1.
6.	Do you anticipate any future changes in this area? Are there any plans for a review of the nature and origin of design guidelines?	They are reviewed constantly (Ministeries)

7.	Who are the stakeholders/intended audience and what is the purpose/perceived benefit of the material?	Service producers (municipalities, hospital district, private), planners, designers, consultancies, users, construction companies etc
8.	In very broad terms, how much freedom do healthcare organisations currently have in their choice of standards for healthcare facility design?	Laws and statutes are mandatory, some guidelines / good practices are nearly mandatory (will be reviewed by local authority before the permission to start the construction work)
9.	What influence does research have on the development of the content of design guidelines, and what types of organisation contribute to production of that content?	Research has a role, a growing role probably. Ministries as customer and research institutes and universities, also private research organisations (rather small) and expert groups as producers.
10.	In regard to design freedom, is there any difference between different areas of healthcare facilities? For example, there may be very tightly controlled standards and guidelines for theatres and laboratories, but much less prescription around outpatient departments or administrative areas.	See question 1.
11.	How are your guidelines and standards distributed or made available? Do you rely on paper materials, electronic distribution, or do you have a web-platform	RT Building information File is available both electronicly, on paper, in web. http://www.rakennustieto.fi/index/english/productsandservices/informationfiles.html
12.	Who endorses your guidelines and standards?	Building Information Group (RTS) is the leading provider of construction information in Finland. The Group consists of the Building Information Foundation RTS, which is the parent company and acts as the R&D unit for the whole group, and Building Information Ltd, which is the publishing house owned by the Foundation.

Finland (second response)

Source: Aalto University, Finland

1.	Are your guidelines and standards for healthcare building design and construction: • Mandatory? • Best practice? • Based on performance requirements? • Written as 'codes of practice'?	General building code is mandatory; some Guidelines for health care exist.
2.	Are your guidelines and standards determined by a central agency (national government), devolved to regional decision-making bodies, or decided by individual healthcare organisations?	There is association Rakennustieto (Knowledge Centre for Building design and Construction
3.	Has there been a change in recent years? In other words, have healthcare organisations moved from centralised to decentralised guidelines, or have they been able to exercise more or less freedom in how health facilities are designed and built?	They have a fully freedom to do what they want
4.	If there has been a change – what has been the effect? Have building standards improved? Are designs more innovative? Are patients and staff better served?	No innovation seen until yet but some promising attempts can be seen.
5.	What are the main areas covered by your guidelines and standards? Which are most important, and why?	European level standard for elderly care facility is needed soonest
6.	Do you anticipate any future changes in this area? Are there any plans for a review of the nature and origin of design guidelines?	Efforts are limited at one nation level
7.	Who are the stakeholders/intended audience and what is the	Municipalities

	purpose/perceived benefit of the material?	
8.	In very broad terms, how much freedom do healthcare organisations currently have in their choice of standards for healthcare facility design?	No limits can be seen.
9.	What influence does research have on the development of the content of design guidelines, and what types of organisation contribute to production of that content?	Finland would like to participate into a EU-level operation.
10.	In regard to design freedom, is there any difference between different areas of healthcare facilities? For example, there may be very tightly controlled standards and guidelines for theatres and laboratories, but much less prescription around outpatient departments or administrative areas.	General codes as for laboratory at general level are controlled tightly but there are no health care specific norms.
11.	How are your guidelines and standards distributed or made available? Do you rely on paper materials, electronic distribution, or do you have a web-platform	All material is available over web-platforms
12.	Who endorses your guidelines and standards?	1. In Principal government based organisation or bodies related to them.

Germany

Source: EuHPN Board Member from the European Investment Bank

1.	Are your guidelines and standards for healthcare building design and construction: • Mandatory? • Best practice? • Based on performance requirements? • Written as 'codes of practice'?	Best Practice. In general investment in hospital infrastructure is within the responsibility of the individual facility but usually co-financed through the relevant state who is funding these investments as a piece of necessary infrastructure while defining the capacity of the facility, but the participation is mostly restricted to a plausibility check and the evaluation of the adequate investment sum. With the exception of one rather slim and outdated paper (Krankenhausbaurichtline) which was originally published by on of the 16 states, no comprehensive guideline or standards exist explicitly for healthcare buildings. Nevertheless, the different DIN standards as well as well as several guidelines and consider and refer often explicitly to Healthcare buildings, especially when it comes to hygienic minimum standards, fires safety or the save operation of installations. However, all these norms are best practice and constantly under development and it is up to the planners/investors responsibility to differ from these guidelines if there are solid reasons. If doing so (or you may even obliged to do so when these norms do not reflect the actual best practice as this is currently the case with ventilation in Operation Theatres) the planner/investor should find an agreement with the approving authority usually in close consultation with an approved expert of the relevant field.
2.	Are your guidelines and standards determined by a central agency (national government), devolved to regional decision-making bodies, or decided by individual healthcare organisations?	As mentioned before, the DIN Norms are set up by an Association where all interested parties can join, not just healthcare organisations. However, the relevant authorities can always refer to these norms

		before providing funds or issuing approvals and than – in practice – these norms become mandatory.
3.	Has there been a change in recent years? In other words, have healthcare organisations moved from centralised to decentralised guidelines, or have they been able to exercise more or less freedom in how health facilities are designed and built?	There is a strong trend in the past to give the relevant healthcare providers more freedom to design the facilities in their best interest even when the public authorities are financing these facilities and this trend will most likely continue.
4.	If there has been a change – what has been the effect? Have building standards improved? Are designs more innovative? Are patients and staff better served?	Nowadays the hospitals are better adapted to the actual needs. Due to the introduction of DRGs it is crucial to enable the hospitals to adapt the facilities as efficient as possible for the foreseen service.
5.	What are the main areas covered by your guidelines and standards? Which are most important, and why?	Fire safety, acceptable hygienic minimal standards and the safe operation of the technical installations. An important part – but not restricted to hospitals – are the norms for working conditions (e.g. daylight in working areas whenever possible).
6.	Do you anticipate any future changes in this area? Are there any plans for a review of the nature and origin of design guidelines?	The process will most likely continue – the responsibility for the design remains within the individual health care facility which uses planners and experts to find the most economical and best technical solution. Design guidelines – as far as they exist - will become less and less important.
7.	Who are the stakeholders/intended audience and what is the purpose/perceived benefit of the material?	Not applicable.
8.	In very broad terms, how much freedom do healthcare organisations currently have in their choice of standards for healthcare facility design?	As long as they fulfil the fire safety, the minimal hygienic standards and the general working standards, healthcare facilities are free to find the most economic and technical solution. If it comes to the financing, the relevant authorities are free to decide whether the presented solution but they can influence the design by setting up conditions for such funding.
9.	What influence does research have on the development of the content of	Experienced planners or researchers at Universities are usually at the

	design guidelines, and what types of organisation contribute to production of that content?	same time approved experts and can give advice to planners and health care providers.
10.	In regard to design freedom, is there any difference between different areas of healthcare facilities? For example, there may be very tightly controlled standards and guidelines for theatres and laboratories, but much less prescription around outpatient departments or administrative areas.	Requirements in respect to hygienically safety, the safe operation of installations or fire safety are by their nature higher in theatres, examination and treatment areas or laboratories. As long as these safety standards are met or variations are accepted by an approved expert and the authorising authority, the facility can freely choose the design.
11.	How are your guidelines and standards distributed or made available? Do you rely on paper materials, electronic distribution, or do you have a web-platform	In practice the facilities either have an internal technical department with the relevant knowledge or rely on the expertise of the external planners and experts. These have all kinds of sources for information. A crucial part in this respect is the industry who is interested to distribute the relevant information to sell the corresponding products.
12.	Who endorses your guidelines and standards?	The relevant Authorising Bodies, the Regulatory Authorities and the Jurisdiction.

Ireland

Source: Health Service Executive, Estates

General comment

As a country with a relatively small population, Ireland does not have the resources to develop its own detailed standards for healthcare design. In the publicly-funded health sector, design work is normally carried out by professional design teams overseen by building professionals employed in the public health system. Every effort is made to follow best international practice which includes close observation of recommendations such as those contained in UK Department Of Health Health Technical Memorandums (HTMs) and Health Building Notes (HBNs).

More recently, a statutory independent authority, the Health Information and Quality Authority (HIQA) - www.hiqa.ie, was established to drive high quality and safe care for people using our health and social services. HIQA's functions include monitoring health quality, health technology assessment and setting standards. While the focus in HIQA's standards has been mainly on the operational side of patient care, the standards do have an impact on the physical infrastructure, particularly in relation to space standards and configuration. Compliance with HIQA standards is mandatory for registration which is in the process of being introduced for all residential healthcare premises.

Other guidelines and recommendations impacting on design have been published by the Health Protection Surveillance Centre (HPSC) – www.hpsc.ie. HPSC publications impacting on the health estate include Infection Prevention and Control Building Guidelines for Acute Hospitals (SARI Recommendations), as well as guidelines relating to subjects such as legionellosis prevention and aspergellosis protection measures during construction works at hospital sites.

1.	Are your guidelines and standards for healthcare building design and construction: • Mandatory? • Best practice? • Based on performance requirements? • Written as 'codes of practice'?	*Mandatory:* compliance with Building Regulations and associated Technical Guidance is necessary for all buildings as part of the planning consent process. Compliance with HIQA standards is also mandatory (see above). *Best practice:* Always aim for best practice. *Written as 'codes of practice'*: Generally, no.
2.	Are your guidelines and standards determined by a central agency (national government), devolved to regional decision-making bodies, or decided by individual healthcare organisations?	Some determined by the Health Service Executive (HSE) which is the statutory body charged with delivering the public health service. A significant sector of acute healthcare is provided by publicly-funded but

		autonomous “voluntary” hospitals through service level agreements.
3.	Has there been a change in recent years? In other words, have healthcare organisations moved from centralised to decentralised guidelines, or have they been able to exercise more or less freedom in how health facilities are designed and built?	The formation of the HSE in 2005 moved health service provision from central government to a separate agency. This has affected the model on which the service is provided and has also impacted on the procurement of health buildings. The use of design-build and public-private partnerships is now more common but this change was happening independent of the formation of the new structure.
4.	If there has been a change – what has been the effect? Have building standards improved? Are designs more innovative? Are patients and staff better served?	Building standards have improved considerably in recent years to the benefit of staff and patient. This is principally as a result of significant capital investment to make up for deficits in the existing infrastructure.
5.	What are the main areas covered by your guidelines and standards? Which are most important, and why?	See general comments above.
6.	Do you anticipate any future changes in this area? Are there any plans for a review of the nature and origin of design guidelines?	See general comments above. HIQA standards are at an early stage in development and will probably evolve further over the next few years.
7.	Who are the stakeholders/intended audience and what is the purpose/perceived benefit of the material?	Hospitals, staff and technical/design team professionals.
8.	In very broad terms, how much freedom do healthcare organisations currently have in their choice of standards for healthcare facility design?	Within that dialogue there is considerable freedom for negotiation on those aspects of “standards” that involve interpretation of what constitutes best practice.
9.	What influence does research have on the development of the content of design guidelines, and what types of organisation contribute to production of that content?	Research is a necessary part of the development planning process, particularly, where new or innovative treatment is proposed.
10.	In regard to design freedom, is there any difference between different areas of healthcare facilities? For example, there may be very tightly controlled standards and guidelines for theatres and laboratories, but much less prescription around outpatient departments or administrative	The situation described in the example would reflect practice in Ireland.

	areas.	
11.	How are your guidelines and standards distributed or made available? Do you rely on paper materials, electronic distribution, or do you have a web-platform	Generally, in electronic format through relevant websites.
12.	Who endorses your guidelines and standards?	See general comment above.

Italy

Source: EuHPN Board Member, Italy

1.	Are your guidelines and standards for healthcare building design and construction: • Mandatory? • Best practice? • Based on performance requirements? • Written as 'codes of practice'?	There is a mandatory national law, enacted in February 1997 through a Decree of the President of the Republic that sets down the minimum structural, technologic and organisational requirements for Hospitals public and private to comply in order of operating as health structures. Other national mandatory requirements specific for hospitals concern the fire prevention. The Hospitals have also to comply with the general "Unified Code of Public Safety". Other mandatory requirements/standards/guidelines concern specific sectors, such as organs transplantation, units of intensive care, burns unit, oncologic haematology and other specialties requiring particular standards. Italy has introduced the European norm UNI EN 737-3 concerning the use of medical gas. In more recent times rules for energy saving have been issued according to the European Directive (2002) for Energy Efficiency in Buildings.
2.	Are your guidelines and standards determined by a central agency (national government), devolved to regional decision-making bodies, or decided by individual healthcare organisations?	The above mandatory requirements are issued by the Ministry of Health in collaboration with the specialized Institutes concerned with the specific problems. The guidelines for organs transplantation were prepared by the National Transplantation Institute, but issued by the Health Ministry.
3.	Has there been a change in recent years? In other words, have healthcare organisations moved from centralised to decentralised guidelines, or have they been able to exercise more or less freedom in how health facilities are designed and built?	In October 2001 the Parliament has passed a change in the Constitution giving the responsibility of the Health sector to the Regions and keeping to the national level the role of issuing the National Health Plan, monitoring the compliance of the Regional Health services with basic performance service standards. Since then there are regional norms and requirements for the functionality of hospitals in terms of the quality of the delivered services.

4.	If there has been a change – what has been the effect? Have building standards improved? Are designs more innovative? Are patients and staff better served?	Benefits from the application of new laws, norms etc. were not specifically measured. As a general comment, the new and the restructured hospitals are obviously generally better that the old one. The innovative design, this is a personal judgment, was and is not related to the changes in the laws, norms etc. One could say that luckily they were not a "dramatic" obstacle to the innovative design.
5.	What are the main areas covered by your guidelines and standards? Which are most important, and why?	As sated above, in what concerns the physical structures of Hospitals guidelines and standards cover fire prevention, plumbing, electrical, heating systems, minimum structural and organizational standards. They are all important.
6.	Do you anticipate any future changes in this area? Are there any plans for a review of the nature and origin of design guidelines?	The major changes will concern the awareness about energy saving and use of renewable sources, because of the financial constraints, particularly heavy in the health sector and also because of the incentives, which make more affordable the new technologies, especially, in Italy, photovoltaic systems. Maybe we will reach the point of producing guidelines, encompassing all the aspects now fragmented in too many laws, norms, deliberations national as well as regional.
7.	Who are the stakeholders/intended audience and what is the purpose/perceived benefit of the material?	Technical responsible and administrative personal of the Health Local Agencies, Regional Policy makers, professional associations of architects and engineers.
8.	In very broad terms, how much freedom do healthcare organisations currently have in their choice of standards for healthcare facility design?	There is sufficient freedom. Even the local building codes, which frequently are very traditional and penalizing of innovation, at the end are "negotiable". The real limitation is financial.
9.	What influence does research have on the development of the content of design guidelines, and what types of organisation contribute to production of that content?	Generally the research is influential in producing new materials, but the use of them is more and more related to the money they can save directly or through energy saving etc. The concept of life cycle for health facilities is not yet very diffuse in Italy. As personal opinion, learning by the most successful examples and the attraction of new concepts "floating in the air" are the most effective factors for the designers to be innovative. I don't see that professional associations are able to get a role, universities are starting to be attracted by the health sector.

10.	In regard to design freedom, is there any difference between different areas of healthcare facilities? For example, there may be very tightly controlled standards and guidelines for theatres and laboratories, but much less prescription around outpatient departments or administrative areas.	Yes, is correct, as indicated before certain areas enjoy more freedom.
11.	How are your guidelines and standards distributed or made available? Do you rely on paper materials, electronic distribution, or do you have a web-platform	Generally they are acquired with the channels of national and regional legislation or signalled by professional journals, websites etc.
12.	Who endorses your guidelines and standards?	Ministry of Health, Regional Governments, some public entities, which get the mandate from them.

Netherlands

Source: Dutch Centre for Health Assets

1.	Are your guidelines and standards for healthcare building design and construction: • Mandatory? • Best practice? • Based on performance requirements? • Written as 'codes of practice'?	In the Netherlands healthcare buildings (like all other buildings) have to be constructed according the regulations of a governmental measure. This document, so called the Buildings Decree (Bouwbesluit), prescribes the performance requirements of buildings. This measure refers a lot to the standards of the Dutch normalisation institute (NEN). Performance requirements like safety, usability, health and saving energy. To give an example: Art. 2.8: A new building has to be constructed that strong that the building can be left and searched during a reasonable period of time, without the danger of collapse. The function of a building (living, meeting, healthcare, industry, and so on) is the base to determine which performance requirement has to be applied:

gebruiksfunctie	leden van toepassing																	
	belastingscombinaties bouwconstructies						belastingscombinaties hoofddraagconstructie		uiterste grenstoestand						verbouw			
artikel	2.2						2.3		2.4						2.4a			
lid	1	2	3	4	5	6	1	2	1	2	3	4	5		*			
1 woonfunctie																		
a woonfunctie gelegen in een woongebouw	1	2	3	-	-	-	1	-	1	2	3	-	5		-			
b woonfunctie van een woonwagen	1	-	3	4	-	-	-	-	1	2	3	-	5		-			
c andere woonfunctie	1	2	3	-	-	-	1	2	1	2	3	4	5		-			
2 bijeenkomstfunctie	1	2	3	-	-	-	1	-	1	2	3	-	5		-			
3 celfunctie	1	2	3	-	-	-	1	-	1	2	3	-	5		-			
4 gezondheidszorgfunctie	1	2	3	-	-	-	1	-	1	2	3	-	5		-			
5 industriefunctie																		
a lichte industriefunctie	1	2	3	-	5	-	-	-	1	2	3	-	5		-			
b andere	1	2	3	-	-	-	1	-	1	2	3	-	5		-			

		industriefunctie																								
		6 kantoorfunctie	1	2	3	-	-	-	1	-									1	2	3	-	5	-		
		7 logiesfunctie																								
		a logiesfunctie niet gelegen in een logiesgebouw	1	2	3	-	-	-	1	2									1	2	3	4	5	-		
		b logiesfunctie gelegen in een logiesgebouw	1	2	3	-	-	-	1	-									1	2	3	-	5	-		
		8 onderwijsfunctie	1	2	3	-	-	-	1	-									1	2	3	-	5	-		
		9 sportfunctie	1	2	3	-	-	-	1	-									1	2	3	-	5	-		
		10 winkelfunctie	1	2	3	-	-	-	1	-									1	2	3	-	5	-		
		11 overige gebruiksfunctie																								
		a overige gebruiksfunctie voor het personenvervoer	1	2	3	-	-	6	1	-									1	2	3	-	5	-		
		b overige gebruiksfunctie voor het stallen van motorvoertuigen	1	2	3	-	-	6	1	-									1	2	3	-	5	-		
		c andere overige gebruiksfunctie	1	2	3	-	-	6	-	-									1	2	3	-	5	-		
		12 bouwwerk geen gebouw zijnde	1	2	3	-	-	-	1	-									1	2	3	-	5	*		

In the Netherlands buildings also have to be safe according the Working Conditions Act.

Until 2009 healthcare buildings had to build according the guidelines of the Netherlands Board for Healthcare Institutions. These guidelines formed a specific adjustment to the Building Decree and were only applied to healthcare buildings. Definite plans for healthcare buildings were examined on the aspects of need, costs and functionality. These aspects were written down in the guidelines of the Board.

		Since 2009 the quality of healthcare buildings has to be looked after by the Health Care Inspectorate. They mainly focus on the aspect of patient safety. The Dutch organisations of healthcare institutions have been asked to develop building guidelines so the Inspectorate is able to examine the quality of the building. Until now these organisations are not very willing to develop these guidelines.
2.	Are your guidelines and standards determined by a central agency (national government), devolved to regional decision-making bodies, or decided by individual healthcare organisations?	See 1.
3.	Has there been a change in recent years? In other words, have healthcare organisations moved from centralised to decentralised guidelines, or have they been able to exercise more or less freedom in how health facilities are designed and built?	See 1.
4.	If there has been a change – what has been the effect? Have building standards improved? Are designs more innovative? Are patients and staff better served?	This is hard to say, the changes are too recent. We noticed that, also due to the financial and economic crisis and the liberalisation of the Dutch healthcare system, the banks are more hesitant or even reluctant to give a mortgage to healthcare institutions. They strictly consider the performance of the board of the healthcare institutions, the expected demand for healthcare products, the costs of the design plan, the local or regional competition.
5.	What are the main areas covered by your guidelines and standards? Which are most important, and why?	N/A
6.	Do you anticipate any future changes in this area? Are there any plans for a review of the nature and origin of design guidelines?	Our new (right wing) government doesn't want anymore regulations, so the answer for the coming years is no.
7.	Who are the stakeholders/intended audience and what is the purpose/perceived benefit of the material?	Question not understood.

8.	In very broad terms, how much freedom do healthcare organisations currently have in their choice of standards for healthcare facility design?	They are free to build the concept(s) they want. They have to deal with the banks in case they need a mortgage or loan and the healthcare inspectorate.
9.	What influence does research have on the development of the content of design guidelines, and what types of organisation contribute to production of that content?	Research may be helpful to scientifically build up an 'evidence base' of concepts/content/techniques which are useful to implement in healthcare in terms of patient safety. In the Netherlands this is Ducha, part of TNO (Organisation for Applied Scientific Research).
10.	In regard to design freedom, is there any difference between different areas of healthcare facilities? For example, there may be very tightly controlled standards and guidelines for theatres and laboratories, but much less prescription around outpatient departments or administrative areas.	No, at the moment there are no special prescriptions for high risk departments. However, the focus of the inspectorate and hospitals is focused around the 'hot floor'. There is harly any discussion about outpatient departments etc. There is a European Committee for Standardization (CEN) which is for instance developing a European standard on hospital ventilation. TNO participates in this committee.
11.	How are your guidelines and standards distributed or made available? Do you rely on paper materials, electronic distribution, or do you have a web-platform	The 'old' guidelines have been made available on a web portal. There is also a knowledge web portal re patient safety/built environment (unfortunately only in Dutch).
12.	Who endorses your guidelines and standards?	N/A.

Northern Ireland

Source: Health Estates Investment Group (HEIG), Department of Health, Social Security and Public Safety (DHSSPS)

1.	Are your guidelines and standards for healthcare building design and construction: • Mandatory? • Best practice? • Based on performance requirements? • Written as 'codes of practice'?	A combination of both mandatory and guidance. Mandatory would include issues like 100% single room requirement in new bldgs, provision of staff changing , compliance with BREEAM etc. All projects would be assessed against guidance / best practice documents and any significant variation would have to be justified before approval to the scheme would be granted.
2.	Are your guidelines and standards determined by a central agency (national government), devolved to regional decision-making bodies, or decided by individual healthcare organisations?	S and G (Standards and Guidance) in NI (Northern Ireland) are based largely on Health Building Notes (HBNs) and Health Technical Memorandums (HTMs) currently produced on a UK basis and endorsed or amended as necessary by HEIG within the DHSSPS to meet any specific NI policy or other reqs. In addition a number of S and G documents are produced and issued by Health Estates Investment Group to deal with specific NI policies that differ from UK. Performance management processes test compliance by Trusts (Provider organisations) with issued S and G
3.	Has there been a change in recent years? In other words, have healthcare organisations moved from centralised to decentralised guidelines, or have they been able to exercise more or less freedom in how health facilities are designed and built?	There has always been a pragmatism applied to the absolute conformation with S and G to reflect existing circumstances but if anything the use of central standardised practice has been reinforced on the basis of greater efficiency and consistency of good practice in the design and procurement of health buildings
4.	If there has been a change – what has been the effect? Have building standards improved? Are designs more innovative? Are patients and staff better served?	As an example the development of a suite of standardised room layouts for a range of clinical areas (eg consulting rooms etc) to be used by all Trusts has helped simplify the design process, eliminate elements of poor design and identify and enshrine elements of good design leading to better, more effective patient focussed buildings. This approach also allows design teams to focus on the areas where they can add real value.

		The success of Northern Ireland health buildings in national and international design awards may be one measure of assessing the quality of the end product. The clarity of brief facilitated by easily understood and well-researched standards plays an important part. Feedback and continuous improvement are essential elements of this process to ensure that positive innovation is captured.
5.	What are the main areas covered by your guidelines and standards? Which are most important, and why?	• Population based / Activity based planning assumptions to help determine the level of accommodation needed • Key inter-departmental relationships and clinical adjacencies • Standard operational policies • Room sizes / Room data /Room layouts • Business case guidance /Procurement guidance • Sustainability requirements • Technical requirements in relation to all life-critical and other support engineering / information systems • Firecode in health buildings
6.	Do you anticipate any future changes in this area? Are there any plans for a review of the nature and origin of design guidelines?	A U.K. wide review has just happened but the implementation of this may not be achievable due to structural and affordability problems. From a Northern Ireland perspective we will be constantly assessing what information in addition to U.K. health administration wide documentation is required to ensure that our infrastructure is fit to deliver our strategic and policy objectives for health and social services, so nothing will stand still.
7.	Who are the stakeholders/intended audience and what is the purpose/perceived benefit of the material?	The main stakeholder is the DHSSPS(NI). The Commissioning Body and the health and social services provider organisations and their staff are both stakeholders and audience. Design, construction and relevant supplier and manufacturing companies involved in health, and the Regional Quality Inspection Agency are audience and users

		The general public could be viewed as very important stakeholders as they are the ultimate users of these facilities. Benefits are capturing, dissemination and implementation of best practice together with avoidance of redundant thinking, and design and construction costs , (i.e. re-inventing the wheel and perhaps not getting it round)
8.	In very broad terms, how much freedom do healthcare organisations currently have in their choice of standards for healthcare facility design?	Limited freedom with normal tolerances, although any proposed significant variation from the standards by an organisation will be considered if a justifiable case is made. If this subsequently demonstrates proven benefits then the standards may be amended to adopt any such improvement.
9.	What influence does research have on the development of the content of design guidelines, and what types of organisation contribute to production of that content?	There is limited stand-alone pure research undertaken in Northern Ireland due to lack of critical mass and funding to support it. However available accredited research from around the world is accessed and considered as part of the production of new guidance / policies in this area. Our Health Facilities Planning Group (part of HEIG) has a proactive role in ensuring that we are well advised in relation to current thinking and research and are currently liaising with colleagues who are also members of the EUHPN on a number of fundamental health design issues. We are also undertaking some focussed post project evaluation exercises of NI health buildings which may also be done in partnership with EUHPN.
10.	In regard to design freedom, is there any difference between different areas of healthcare facilities? For example, there may be very tightly controlled standards and guidelines for theatres and laboratories, but much less prescription around outpatient departments or administrative areas.	Yes there are clearly more constraints on the more technical and clinical requirements of health buildings than would apply to less complex areas. However there is still a central focus on ensuring that appropriate but not excessive space is allocated to any area, no matter what the function, as this all comes from a constrained central capital budget.

11.	How are your guidelines and standards distributed or made available? Do you rely on paper materials, electronic distribution, or do you have a web-platform	All three methodologies are used although we are increasingly using web-based information.
12.	Who endorses your guidelines and standards?	Significant departures, such as the recent introduction of 100% SINGLE ROOM provision, require endorsement at Departmental Board Level / Ministerial level. Changes in technical standards or less significant changes to space standards etc are endorsed at Deputy Secretary level (John Cole).

Norway

Source: EuHPN Board Member, SINTEF Health Research

1.	Are your guidelines and standards for healthcare building design and construction: • Mandatory? • Best practice? • Based on performance requirements? • Written as 'codes of practice'?	There are no guidelines and fixed standards but the practical solutions are built on experienced based knowledge.
2.	Are your guidelines and standards determined by a central agency (national government), devolved to regional decision-making bodies, or decided by individual healthcare organisations?	No central body is involved, and the specifications of the solutions are decided by hospital administration based on recommendations from advisors and work groups.
3.	Has there been a change in recent years? In other words, have healthcare organisations moved from centralised to decentralised guidelines, or have they been able to exercise more or less freedom in how health facilities are designed and built?	In the 80-s we had recommendations/guidelines but not officially approved. Lately there has been quest for more standards to control cost of planning and building.
4.	If there has been a change – what has been the effect? Have building standards improved? Are designs more innovative? Are patients and staff better served?	No noticeable change so far.
5.	What are the main areas covered by your guidelines and standards? Which are most important, and why?	No standards, but the focus has been on ward rooms, offices, operational theatres, consultation rooms etc.
6.	Do you anticipate any future changes in this area? Are there any plans for a review of the nature and origin of design guidelines?	See 3 above.

7.	Who are the stakeholders/intended audience and what is the purpose/perceived benefit of the material?	N/A
8.	In very broad terms, how much freedom do healthcare organisations currently have in their choice of standards for healthcare facility design?	On the detailed level the freedom is quite big. The control on space utilisation and building cost impose some sort of control.
9.	What influence does research have on the development of the content of design guidelines, and what types of organisation contribute to production of that content?	There are regulations on different areas as fire prevention, infection control, work conditions etc. In these areas research are important. In standardization of space little has been done. Energy consumption is are growing issue for research.
10.	In regard to design freedom, is there any difference between different areas of healthcare facilities? For example, there may be very tightly controlled standards and guidelines for theatres and laboratories, but much less prescription around outpatient departments or administrative areas.	In operational theatres and other similar rooms there are regulations connected to infection control, patient safety etc.
11.	How are your guidelines and standards distributed or made available? Do you rely on paper materials, electronic distribution, or do you have a web-platform	On web sites.
12.	Who endorses your guidelines and standards?	No general guidelines are endorsed. Other regulations are endorsed by the competent authorities.

Poland

Source: Ministry for Health

1.	Are your guidelines and standards for healthcare building design and construction: • Mandatory? • Best practice? • Based on performance requirements? • Written as 'codes of practice'?	General requirements for building design and construction are regulated in Poland by the appropriate law. These are mainly: - the law on building construction, - the executive act issued by the Minister of Infrastructure on technical conditions for buildings and their location. There is also legal act exclusively for health sector - executive act issued by the Minister of Health on sanitary conditions for healthcare buildings and devices. The requirements included in above mentioned law is mandatory.
2.	Are your guidelines and standards determined by a central agency (national government), devolved to regional decision-making bodies, or decided by individual healthcare organisations?	The requirements included in law are determined by the Government. Each governmental draft law in Poland is widely consulted with different groups of interests.
3.	Has there been a change in recent years? In other words, have healthcare organisations moved from centralised to decentralised guidelines, or have they been able to exercise more or less freedom in how health facilities are designed and built?	There was no significant change last years. Healthcare organisations must respect the law.
4.	If there has been a change – what has been the effect? Have building standards improved? Are designs more innovative? Are patients and staff better served?	Building requirements are fixed in law. The designs are probably more innovative but there is no monitoring on central level in this field.
5.	What are the main areas covered by your guidelines and standards? Which are most important, and why?	The law specifies general conditions in the field of building construction. The executive act issued by the Minister of Health (mentioned in p. 1) adds some requirements for healthcare units. For example:

		- the minimal door's width enabling patients' beds traffic, - in main entry hall there should be cloak-room, information and registration desk (available also for disabled), - each ward should have at least 1 room with sanitary installation, - each hospital room with beds, examination or treatment rooms should have wash basin, - floor and walls should be of material that allows to make wash and disinfection, - anaesthesiology and intensive therapy ward should be well connected with operating suite, emergency ward, reception-hall, first-aid ward and other wards. I would say that these are standards used during building designing. The aim is to guarantee appropriate sanitary and safety conditions so as to assure good functioning of healthcare unit.
6.	Do you anticipate any future changes in this area? Are there any plans for a review of the nature and origin of design guidelines?	We work currently on the draft law amending the executive act of Minister of Health on sanitary conditions for healthcare buildings and devices. Our proposals will change some provisions into more liberal (for example the minimal area of patients' room will be excluded).
7.	Who are the stakeholders/intended audience and what is the purpose/perceived benefit of the material?	The stakeholders are design sector, investors, owners and managers of healthcare units, etc.
8.	In very broad terms, how much freedom do healthcare organisations currently have in their choice of standards for healthcare facility design?	The above mentioned law is mandatory.
9.	What influence does research have on the development of the content of design guidelines, and what types of organisation contribute to production of that content?	As in all other sectors the development of new technologies can influence the guidelines and standards.

10.	In regard to design freedom, is there any difference between different areas of healthcare facilities? For example, there may be very tightly controlled standards and guidelines for theatres and laboratories, but much less prescription around outpatient departments or administrative areas.	The executive act of Minister of Health on sanitary conditions for healthcare buildings and devices includes also appendixes with some additional conditions for: 1. Hospitals: - reception-hall and first-aid ward, - hospital beds' wards, - anaesthesiology and intensive therapy ward, - obstetric and neonatology ward, - delivery room, - children's ward, - infectious diseases ward, - lung diseases and tuberculosis ward, - psychiatric ward, - operating suite, - central sterilization room, - kitchen and laundry, - pathomorphology room, 2. Outpatient clinic 3. Day care and 1-day surgery unit 4. Centre for blood donation and therapy 5. Nursery 6. Laboratory of endoscopy research 7. Pathomorphology health unit 8. Rehabilitation unit.
11.	How are your guidelines and standards distributed or made available? Do you rely on paper materials, electronic distribution, or do you have a web-platform	The law is commonly available (for example in internet).
12.	Who endorses your guidelines and standards?	The law is voted in Parliament and at the final stage signed by the President. The executive acts are prepared and issued by the Ministers.

Romania

Source: Ministry of Health Project Management Unit-World Bank APL2

1.	Are your guidelines and standards for healthcare building design and construction: • Mandatory? • Best practice? • Based on performance requirements? • Written as 'codes of practice'?	Mandatory.
2.	Are your guidelines and standards determined by a central agency (national government), devolved to regional decision-making bodies, or decided by individual healthcare organisations?	The guidelines and standards are determined by a central agency - Ministry of Regional Development and Tourism.
3.	Has there been a change in recent years? In other words, have healthcare organisations moved from centralised to decentralised guidelines, or have they been able to exercise more or less freedom in how health facilities are designed and built?	Yes, there are changes but not enough.
4.	If there has been a change – what has been the effect? Have building standards improved? Are designs more innovative? Are patients and staff better served?	Yes, the patients and staff are better served.
5.	What are the main areas covered by your guidelines and standards? Which are most important, and why?	All areas are covered by guidelines and standards. Each of it is important for safety during the operation of the building.
6.	Do you anticipate any future changes in this area? Are there any plans for a review of the nature and origin of design guidelines?	Yes, the fire regulation.

7.	Who are the stakeholders/intended audience and what is the purpose/perceived benefit of the material?	Designers, national government, patients and staff.
8.	In very broad terms, how much freedom do healthcare organisations currently have in their choice of standards for healthcare facility design?	Yes, there is and it can be chosen according with the best practice.
9.	What influence does research have on the development of the content of design guidelines, and what types of organisation contribute to production of that content?	It's very important, but the deployment is slow – Ministry of Regional Development and Tourism
10.	In regard to design freedom, is there any difference between different areas of healthcare facilities? For example, there may be very tightly controlled standards and guidelines for theatres and laboratories, but much less prescription around outpatient departments or administrative areas.	.
11.	How are your guidelines and standards distributed or made available? Do you rely on paper materials, electronic distribution, or do you have a web-platform	On paper and electronic distribution.
12.	Who endorses your guidelines and standards?	Minister of Health and the Government.