Complex future and reflexive health professionals

On further development and improvement of the healthcare study programmes

Report on the education project of the Danish Health Confederation
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1. Background, objective and project

In April 2014, the member organisations of the Danish Health Confederation agreed to launch a project for the purpose of creating an extended basis for internal as well as external debate on the future education and competence requirements of the occupational groups represented by the Danish Health Confederation.

The aim of this decision and project was thus to secure a basis for debate and new efforts regarding education and competence requirements before 2020/2025.

The main objective of the project has been to secure a solid basis for future discussions of new legislation and programme regulations concerning the healthcare study programmes. The secondary objective has been to establish a basis for systematic continuing and further education that meets the requirements of the Danish health authorities and health professionals.¹

The healthcare system is changing at a rapid pace these years – in consequence of demands for adjustments following from i.a. demographical changes, shifting disease patterns, new forms of marginalisation and social health inequality, continued great expectations and somewhat reduced resource frames.

Social changes, new forms of management and incentive, new division of labour and cooperation between healthcare operators, implementation of welfare technology solutions etc. will all affect the demands faced by the occupational groups represented by the Danish Health Confederation – and contribute to changing the reality that newly qualified professionals should be able to handle and to which experienced employees should continuously be able to adapt.

At the same time, though, the occupational groups represented by the Danish Health Confederation take part in shaping this new reality through their training and vocation.

The education project of the Danish Health Confederation was conducted in the context of these market trends – running from the beginning of May to the end of October 2014.

The Danish Health Confederation encompasses 11 different member organisations and the professions and basic educations represent a very wide range of knowledge and competences.

The Danish Health Confederation member organizations are:

- Danish Nurses’ Organization
- Danish Association of Occupational Therapists
- Danish Association of Midwives
- Danish Association of Dental Hygienists
- Danish Association of Pharmaconomists
- National Association of Podiatrists in Denmark
- Association of Danish Physiotherapists
- Danish Council of Radiographers
- Danish Association of Biomedical Laboratory Scientists
- Danish Association of Psychomotricity
- Danish Diet & Nutrition Association

¹ The aim of the education project of the Danish Health Confederation is also described under ‘Project design’ in the Appendices.
The project has to a great extent focused on the professional bachelor programmes, but has also included programmes under the Danish Health Confederation that do not lead to a bachelor’s degree: pharmaconomists, podiatrists and various programmes within the area of diet and nutrition.

These occupational groups are employed both in the primary and secondary health services sectors and are represented in a number of contexts, including hospitals, municipalities, general practitioners and dentists as well as private practices. Add to this state institutions within education and research in particular, but also the national defence and Danish Prison and Probation Service as well as the Danish Working Environment Authority. Both the public and private healthcare systems are thus represented, and within a number of the groups – e.g. physiotherapists and dental hygienists – the majority are employed in private practices.

At the same time, these occupational groups occupy a wide range of roles which, in addition to everyday services, also include e.g. management and guidance, quality and documentation as well as education, research and development.

The occupational groups of the Danish Health Confederation very much represent the past growth – and expected continued growth – of tasks within the primary sector. E.g. recent years have seen a significant increase in the number of nurses and physiotherapists employed in the primary sector – and this tendency may very well continue.

The Appendices include a detailed directory of the different functions and roles fulfilled by the occupational groups of the Danish Health Confederation – including the breadth of occupations and distribution across sectors.

As a rule, the project process has focused on the generic tendencies and cross-professional challenges and opportunities of these groups with regard to future education and competence requirements.

The themes and problems central to the project process – and the subsequent reporting – may therefore also affect the member organisations and occupational groups differently.

In this context, it is important to remember that the history, development and age of the study programmes differ.

There are examples of ‘young’ study programmes and study programmes that are rich in tradition, just as there are different development trends as regards educational level and length. The study programmes also differ when it comes to their positioning and impact on everyday life within the health sector.

A significant chosen premise of the project is that no effort has been made to establish a precise definition or delimitation of concepts such as ‘knowledge’, ‘competence’, ‘skills’ and ‘insight’. The latter, however, has been applied as a collective term for a less detailed, more general form of learning.

The level of detail of the learning to which the undergraduate programmes as well as continuing and further training should lead may vary. In the context of more extensive development work within the individual study programmes it may be relevant to work with the precise definition of the
concepts concerned – and whether there is a need for e.g. ‘knowledge’, ‘competence’, ‘skills’ or ‘insight’ within the given learning areas.

1.1 The education project – design and process

The Danish Health Confederation education project was conducted by Implement Consulting Group (Implement), the supplier responsible for the project, in collaboration with Aalborg University, Department of Learning and Philosophy (AAU).

The project has been based on a series of established themes and issues and the connection between these themes and issues as well as future education and competence requirements of the occupational groups represented by the Danish Health Confederation.

The underlying themes and issues concerned include:

- The new balance between primary and secondary sector work, i.e. efforts to ensure that as large a part of the total health task as possible is solved within the primary sector.
- The application of welfare technology solutions.
- New super hospitals with reduced bed capacity – and with still shorter periods of hospitalisation.
- Citizen/patient knowledge and citizen/patient involvement.
- Forms of collaboration between the healthcare operators and between the occupational groups – as the further development of citizen and patient continuity of care across sectors and functions and new forms of services continuously change the division of tasks between e.g. general practitioners, hospitals and municipalities as well as the make-up of the efforts required.²
- New types of units and services (e.g. health centres and decentralised emergency places).
- Self-care and responsibility for one’s own health.
- Forms of management and incentive.
- The identity of the occupational groups in education and occupation.

Based on an initial workshop involving the member organisations and the outlined themes and issues the project was conducted within the framework of four interconnected tracks, cf. figure

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² 'The key to solving the challenges of the future Danish health services is constant innovation and development of the ways in which we collaborate and solve the tasks'. Danish Ministry of Business and Growth, the Market Development Fund, August 2014. Concerning new forms of services, including via public-private collaboration. Use of the concept ‘new services’ in this report refers to the following: Traditionally the Danish health ‘services’ have encompassed stationary and/or ambulant diagnosing and treatment as well as e.g. eldercare (in care homes). These years many new forms of services are being developed – e.g. outgoing teams, home monitoring, tracking, telemedicine, patient training, intermediary units, video- and web-based consultation etc. – and an increasing number of ‘services’ are being interconnected in still new ways.
below, and with the involvement of managers and staff from the occupational groups under the Danish Health Confederation, working on regional, municipal as well as private levels.

The four interconnected tracks have included the following:

- Reviews of reports and analyses etc. as well as interviews with experts and researchers on societal and institutional tendencies affecting the development in education and competence requirements.

- Desk research and interviews with relevant managers and resource persons from other countries on future education and competence requirements. Norway, Sweden, England and Scotland have been included, as these four countries are believed to share significant similarities with Denmark, and because these countries are also debating the future education requirements of health professionals.

- Questionnaire survey and workshops with the occupational groups under the Danish Health Confederation focusing on inputs regarding education and competence requirements in relation to demands in the everyday work day.

- Review of the challenge and tendency pictures of the healthcare system towards 2020/2025 – and the consequent education and competence requirements.

The compiled and processed data basis is evident from the extensive Appendices, in which many of the conclusions made in the report are elaborated and clarified – and in which the basis for these conclusions is described in more detail.
Approximately 700 employees and managers from the occupational groups represented by the Danish Health Confederation have contributed to the project, i.a. through questionnaire surveys and workshops with managers and employees from all groups.³

The patient perspective has been included in connection with both the questionnaire survey and workshops, just as it has been included in connection with desk research and interviews.⁴

Approximately 40 chosen researchers, experts and managers from both the education and healthcare systems, including approximately 20 from other countries, have contributed to the project. University environments and ‘think tanks’ as well as administrations are represented.

The Appendices include a list of participating authorities and researchers/experts/managers – as well as a list of the primary written sources (reports, analyses, research etc.) applied in the project process.

The details of the project design, including the management and project organisation and the resources from the Danish Health Confederation, Implement and AAU, which have been involved in the project, are equally evident from the Appendices.

Further, all completed activities, including the questionnaire survey and the workshops conducted in the project process, are listed and described in the Appendices.

1.2 Required educational changes

The education project has emphasised that deliberations on or the need for changes in healthcare study programmes may involve various types of interests, cf. ‘Project design’.

There may be various reasons for considering the future education and competence requirements within given occupational groups – here those represented by the Danish Health Confederation.

The challenge picture of the healthcare system, which to a large extent has functioned as a background for desk research and interviews with select resource persons conducted in connection with this project, is one reason for considering whether the healthcare study programmes are sufficiently adapted to expected future frameworks and the many conversion requirements of the healthcare system.

However, other factors also come into play. Tendencies and developments in the way in which the acquisition of knowledge and organisation of the study programmes are understood as well as the ways in which knowledge and competencies are acquired form an equally important basis for considering education and competence requirements in a perspective towards 2020/2025.

³ Both the primary, secondary, state and private sectors have been represented. Seeing as the report to a large extent concerns the education sector representatives from this sector have been represented in both the questionnaire survey and workshops, but also through desk research and interviews with stakeholders. In retrospect, the education sector could have been even more strongly represented. Students could have been included in the project – with a view to gaining insight into their views and evaluations of the current situation in the education environment. Instead, both the questionnaire survey and workshops have involved a relatively large proportion of recently qualified professionals.

⁴ At the beginning of the project process five different patients associations were invited to interviews or workshops. However, none of the patients associations has contributed to the project.
'The surveys and analyses made in connection with the project were made not only from a technocratic, authority-based perspective, where structural and societal changes are expected to lead to new competence requirements and demands on the organisation of study programmes – but also vice versa, so that the education and professional learning processes take part in shaping new competencies and practices, possibly contributing to new structural and societal changes’.

*From 'Project design' (cf. The Appendices)*

However, the study programmes can and should be continually adjusted – and occasionally subjected to more fundamental changes – based on societal developments, based on a wish to introduce new forms of learning and teaching, based on a wish to change the balance between theory and practice etc., and, in general, based on the basic premise that the adjustment of the study programmes should not ‘passively’ reflect changes in the external surroundings, but also the fact that the undergraduate programmes, their organisation as well as their teaching and learning means affect their surroundings in turn.

> 'What can the study programmes themselves help change? The acting education agenda (we are co-creators of needs) is facing the reacting education agenda (we respond to the existing needs)'.

(Quote from interview with researcher)

Notwithstanding the background of the survey and analysis of education and competence requirements, it may be established that the current situation as well as future requirements and opportunities involve quite a large number of viewpoints and stakeholders.

Thus, the diversity of evaluations and opinions presented in the project process has been significant. This is also reflected within and across the activities and tracks conducted – revealing a rather large variety of inputs.

### 1.3 Structure of the report

The aim has not been to create a consensus-oriented report – but instead to present both convergences and divergences of opinions and evaluations in relation to the problems and themes included in the Danish Health Confederation education project.

Therefore, emphasis has been on including a number of different activities, including ‘involving activities’ with the occupational groups represented by the Danish Health Confederation and ‘interview-based activities’ involving internationally acclaimed researchers and analysts as well as
select Danish stakeholders within the area. In addition, the work has also included research-based reports and analyses from Denmark and other countries.

It was chosen to compile the main finds and observations – along with an overall review of five perspectives developed in the project process – in this relatively short report.

Part 2 contains a cross-professional summary of important tendencies – and on a general level reflect the main results and evaluations based on the activities completed.

Part 3 deals in depth with a number of central problems – all of which are closely connected to the summary presented in Part 2.

Both the summary in Part 2 and the review of central problems in Part 3 reflect the choices and prioritisation of Implement and AAU.

Part 4 encompasses an overall review of five perspectives on further development of the healthcare study programmes, a more detailed version of which can be found in the Appendices – as each of the five perspectives express a form of ideal type based on a select basis, e.g. ‘day-to-day operations’ or ‘health promotion’. Each perspective encompasses important elements which may be integrated into the healthcare study programmes – and no one of the perspectives can work as a basis for a given healthcare study programme.\(^5\)

Part 5 includes a brief, cross-professional summary.

Each of the activities completed have provided a significant amount of interesting and useful inputs and results.

It was thus chosen, as a direct supplement to this report, to produce an extensive set of appendices. This includes documentation of the different activities and of the results of the work conducted in the four tracks as well as descriptions of the processes of the conducted involving activities.

However, the Appendices also include material that is of value on its own – in addition to being part of this relatively short project report. This is true not least of the country surveys and the summary of interviews conducted with experts and researchers from university environments etc.

\(^5\) The use of perspectives in this project process is somewhat similar to the use of scenarios as a basis for dialogue on possible courses of development.
2. Main tendencies

Below follows a description of a number of tendencies across the different project activities and tracks – and the large number of evaluations and opinions it has unearthed – which to a large extent affect the future demands on and character of the healthcare study programmes. This section thus cuts across the other parts of the report as well as the documentation and descriptions given in the Appendices.

The review has been structured within the framework of the following three themes:

- Social conditions, organisation and health
- Research and education
- Education organisation, division of labour and levels

The theme-based descriptions point towards the more detailed review of select problems in Part 5.

2.1 Social conditions, organisation and health

- Healthcare efforts and social efforts
  Health is not delimited to activities within the health sector. The subject of health and disease is relevant throughout a person’s life and within the many institutions and contexts with which the individual citizen is involved, including both his leisure life and working life.
  In continuation hereof healthcare, social services and the job market are increasingly thought of as a combined welfare area and there is increasing focus on how healthcare efforts affect social- and labour market-related efforts.
  This is evident from the fact that several other countries – perhaps not least Norway – from a strategic perspective are talking about welfare study programmes rather than healthcare study programmes.

- Character of work tasks
  There is a clear tendency to increasing complexity of the work tasks of health professionals.
  This is connected to the above argument, but it is also the result of more heterogeneous user groups following an increasing number of competing and complex disorders (comorbidity), increasing individualisation of opportunities of and demands on users, and an increasing number of challenges involving both privileged and non-privileged groups.
  Furthermore, social changes make it necessary to increase the focus on social inequality in relation to health.
  However, several other factors also come into play here – e.g. new operators (patients associations), increased guaranties and rights as well as opportunities to file complaints – and increasing pressure to meet new requirements, involving also the pharmaceutical and medico-technical industries.
• **New healthcare operators, identities and demands**

More and more healthcare operators will make new demands on the health professionals and on the role as patient.

Patients/users and their relatives are increasingly making use of volunteers and electronic media, portals and electronic ‘experts’, concepts like ‘peer-to-peer’, patients and relatives groups/associations.

The authority of healthcare operators is under pressure, creating opportunities to change the definitions of roles. They can e.g. expect to face demands to be more active as teachers and advisors etc.

Society, research and identities are constantly being transformed. E.g. the fact that research is increasing taking place at gene and genome levels displaces the definitions of ill/healthy. Today no one can claim to be healthy; instead everyone is a potential patient. The healthy have simply not been thoroughly examined yet!

The effort to optimise health (health capital) is increasingly believed to be the responsibility of the individual.

The new healthcare operators, the new types of examinations, new technologies and identities etc. all change and challenge the role previously held by the health professionals with some monopoly on knowledge and authority.

The issues concerned must continually be reflected and taken into account in the development of curricula for the healthcare study programmes.

• **New forms of services**

To the traditional stationary and ambulant hospital, services are increasingly added a series of new services – with a new balance of efforts and division of tasks between healthcare operators and between healthcare operators and operators in e.g. social services and the job market.

Stationary and ambulant services are coupled with or replaced by various new forms of services, which are also coupled in various ways: e.g. home treatment and home monitoring, telemedicine, self-monitoring, citizen and patient training, outgoing teams, proactive healthcare and welfare administration, peer-to-peer etc.

Thus, the organisational and institutional frameworks for the delivery of healthcare become more amorphous, complex and heterogeneous – just as the demands on citizens as well as health professionals constantly shift and grow.

In addition, the operators are increasingly required to use a still wider range of healthcare and welfare technology solutions.

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6 The term peer-to-peer refers to efforts where users/patients or former patients are used as a resource in relation to other users/patients.
• **Efforts across occupational groups**

The occupational groups are and will also in the future be required to collaborate to a greater extent than previously, just as there is a significantly increased need for the individual occupational groups to have knowledge of what the other groups can do and what they represent.

This is a result of the increased complexity in work tasks and the increased complexity of services and types of deliveries.

The increasing complexity of continuity of care compared to the increasing demands for quality and effect as well as cost-effectiveness point towards an increasing extent and intensity of collaboration across occupational groups – and towards greater variance in efforts across occupational groups.

• **Treatment and prevention**

There is increasing focus on efforts that promote health – although there is still a great gap between policy-oriented strategies and the actual prioritisation of resources and capacity.

The increased and population-oriented focus on factors that enhance general health is caused by i.a. the socioeconomic framework and the increased awareness that tracking and prevention along with an early effort comprise a more viable health-economic foundation and, at the same time, contribute to increased quality of life and life expectancy.

The balance of efforts is expected to shift – from a traditional and relatively great focus on treatment of the ill to increased focus on health-promoting efforts.

• **System and incentives**

The healthcare system is in itself a highly complex system – and this complexity only seems to be increasing concurrently with the development of new forms of services, but also with the internationalisation and gradually less fixed boundaries between sectors and between healthcare, social services and the job market.

It can therefore be difficult to understand how the collective healthcare system ‘works’ and how the main drivers affect the dynamic and development of the system.

The healthcare study programmes may therefore have good cause to give priority to insight into the mode of operation of the healthcare system – an issue focused upon in other counties. Cf. the Appendices.

### 2.2 Research and education

• **Focus on research**

Health professionals should to a greater extent not just search for and use knowledge that is relevant to their field, but also create knowledge by building and developing institutional contexts and job structures.
It is necessary to increase focus on the reflexive critical aspect in relation to the knowledge that is applied in clinical practice. Therefore, it is also necessary to increase focus on theory of science as well as research- and development-oriented theory and method.

The study programmes should increasingly introduce elements from research and development contexts – thus instilling habits and predispositions for a professional ethos that meets the demands for documentation, critical reflection, development and evaluation of the work.

- Reflexive education and practitioners

Health professionals must relate to a still more complex range of knowledge forms and various sources of knowledge. Health students and professionals, both the newly qualified and more experienced, should be able to gather, assess and weigh research-based knowledge and compare it to knowledge based on professional experience and consensus-based forms of ‘best practice’ as well as knowledge and demands based on input from patients and relatives.

In all professional areas and practice situations there is an increasing need for reflexive practitioners who are able to weigh different interests (ethical, economic, political, professional) and knowledge forms (evidence/research, experience, the perspective of the citizen/patient etc.), the strengths of the available knowledge and the conflicting aims and means to which these different knowledge forms give rise.

- Relations between school and practical training

There are many and conflicting views on how the educational activities should be incorporated in the school/theoretical part and the clinical/practical part, respectively, of a given study programme.

There are various historical, professional and educational traditions, and there are disparate strategies and interests in stressing either the theoretical or the clinical part.

On the one hand, there are demands of ‘coherence between theory and practice’, and on the other are demands of respecting that clinical knowledge is more than just the ‘application of theory’ – and that theory cannot and should not always be applicable in practice. There is agreement, however, that the two educational arenas should complement each other.

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7 A custom or habit of the health professional. Ethos concerns the credibility of the sender towards the recipient. Within the field of rhetoric Aristotle used the concept to refer to the personality of the speaker revealed through his speech.

8 The school/theoretical part refers to the part of the professional bachelor programmes that is provided in education institutions. The term ‘school’ is used in the report for practical purposes, but in these cases to refer to the school/theoretical part of a given study programme.

9 The clinical/practical part refers to the part of a study programme that is conducted in the places where the health professionals practise their profession. However, ‘clinical practice’ has not been used consistently as a concept, seeing as several of the occupational groups represented by the Danish Health Confederation do not work in ‘clinics’ which in the original understanding of the word are related to institutional practice. Therefore, at times the report will use the concept ‘practical training’ to refer to the practical part of a given study programme.
The study programmes may need to make the school part even more relevant in relation to practice than is the case today. In any case, there is an obvious need for qualifying the clinical part in relation to financial incentives, organisation and learning. In too many cases the quality of the clinical part of the programmes is simply too low.

An important point here is that the need is not necessarily for introducing more school pedagogy into the clinical part, but instead for more clinical pedagogy and didactics.

- **Main focus of the study programmes**

  There is great disagreement on how the undergraduate programmes and the continuing and further training system should be organised in the future.

  On the one hand, there is a need for educating health professionals to be active in the concrete operational practice context with appertaining concepts on learning the ‘basics’ and ‘being able to practise the profession as it is’ – i.e. tools- and method-oriented learning directly related to the relevant operational environments.

  On the other hand, there is a need for educating health professionals to be active in new and complex contexts with appertaining competences in ‘adjustment’, ‘relational coordination and conflict management’, ‘health promotion’, ‘knowledge-based work’ etc. – and with the skills to practise their profession and professional competence within a constantly shifting framework.

  There is still a significant need to clarify the various learning areas (e.g. ‘health promotion’, ‘operation’, ‘adjustment’) – and what each learning area adds to the total education.

  There is a need for balancing the learning areas in relation to the different sectors, institutions and within the individual occupational groups. Cf. Part 4 below, which reviews five perspectives developed in this context, and which focuses on the different ways of combining the learning areas within the study programmes.

  As a rule, all learning areas are believed to be important – and therefore determining which learning areas should dominate a given healthcare study programme is crucial – as is the deselection of a learning area as non-dominant in a given healthcare study programme.

  The rule that all learning areas are equally important, and that all learning areas should somehow dominate in the concrete combination of elements in a given healthcare study programme, may be understandable. However, in the context of an operational and action-oriented development of the healthcare study programmes such a course is not applicable.

2.3 **Organisation of education, division of labour and levels**

- **Division of labour – the undergraduate programmes and continuing and further training**

  There are various views on the division of labour between the undergraduate programmes and continuing and further training programmes.

  There is a need for focusing more than is the case today on securing systematic coherence between the undergraduate programmes and further training systems, as a minimum at a master’s level.
There is an increasing need for special offers to ‘skilled students’, who may continue into various career paths.

Similarly, there is an increasing need for (cf. the country surveys in the Appendices) giving students an opportunity to specialise or concentrate on a specific topic at master’s or professional master’s level. The increased complexity of work tasks and services makes it necessary to focus on specialisation – a task that can be solved by creating a more stringent further education system.

- **Specialist and generalist**

  Health professionals to a greater extent need to specialise within a field – cf. the country surveys in the Appendices and not least the Norwegian account of future welfare study programmes.

  A certain degree of specialisation can in principle be introduced in the undergraduate programmes. However, specialisation can also – and more appropriately – be a part of a formalised continuing and further training system, which to a larger extent has linked to the undergraduate programmes.

  This is so due i.a. to the increased complexity of work tasks as well as the increased complexity of efforts. Efforts within e.g. the primary sector or in the secondary sector as well as within the framework of various forms of services require a more specific educational orientation – within the framework of a more coherent and career-oriented basic and further education system.

  At the same time, the health professionals should also be ‘generalists’ able to safeguard the interest in coherence across the many specialised areas and functions of the collective healthcare system.

It may thus be established that in connection with the study programmes and the competence requirements we are dealing with contexts,

- where the complexity of work tasks is increasing,
- where the study programmes to a larger extent need to focus on a still wider range of knowledge, and
- where the healthcare system as such is being affected by still new work tasks and efforts – within and across institutional and virtual frameworks, increasingly involving the home of the citizen as an arena for healthcare activities.

On these grounds, there is an obvious need to consider a further development of the healthcare study programmes. At the same time, it is important to remember that the healthcare study programmes are continuously been developed within a given formal framework – and that many of the concerned and significant tendencies to a lesser or greater degree are already reflected in the organisation of the programmes.
3. Main issues

This part of the report considers a number of select cross-professional, central and fundamental issues which emerged on the basis of the compiled data. These issues should all be considered in relation to deliberations on further development of the healthcare study programmes. There may be a need for further analysis and exposition.

These main issues capture structural circumstances that concern both social and global development trends as well as knowledge-based trends and trends within the healthcare system and in the healthcare system’s interaction with other systems.

These main issues encompass the following, given in headlines – as each issue is examined in a separate section below:

- International orientation
- Development and application of knowledge
- Research and development
- Continuing and further training
- Specialised and general competencies
- School and clinic
- Learning areas and perspectives

These issues help capture the increasing complexity that health professionals will face in the future – and they are all connected to one or more of the tendencies discussed in Part 2.

At the same time, the issues reflect, in various ways, the types of interactions which need to be incorporated and reflected in the organisation of the healthcare study programmes, cf. the figure below – where the work tasks of the health professionals and the development of the healthcare system towards still more complex forms of services affect the educational requirements, and where the study programmes in turn affect the ways in which work tasks and services are in fact organised and developed.
3.1 International orientation

Health professionals perform their practice in local, regional and national contexts. It is imperative, however, that the performance and study programmes are viewed in a broader context. There is a need for focusing (even more) on how the programmes can to an (even) larger degree become rooted in and related to a Nordic, European and international collaboration.

The Nordic countries have much in common, cf. the institutions of the Scandinavian welfare model and the goods of which the populations have traditionally received their share. There are also important common characteristics within both healthcare and education.

The Nordic countries hold a unique position with regard to making both education and healthcare part of the cornerstones of the welfare state. The Nordic countries have a mutual interest in maintaining and expanding the welfare society through i.a. strengthened collaboration within the area of medium-length further education. Through such (extended) collaboration, the study programmes will stand out – including in a global perspective.

Strong health research environments have been established across the Nordic countries. It should be considered whether the (in some areas leading) position of the Nordic countries within education can lead to greater Nordic collaboration on education, e.g. in the form of exchange programmes for bachelors, the establishment and development of professional master’s programmes, PhD schools etc.

In a European context, the Bologna Process has already established a framework – based on the idea that it may be desirable to ensure compatible and homogeneous study programmes within the further education system. The aim of the process and framework has precisely been to make
students as well as researchers more mobile, and to strengthen Europe’s position in the world as an attractive destination for study and research visits.\textsuperscript{10}

Similarly, it should be considered whether the Nordic countries should aim to strengthen their position in the area. Overall, it should be considered who the countries’ closest collaborators could be within an educational context, and how such a collaboration could be focused and targeted.

Such focus would strengthen the profile of the individual university colleges and make the institutions stand out at a global level, while at the same time strengthening the qualitative benefits.

On the content side, the study programmes would also be able to introduce more supranational issues. E.g. there is much international focus on topics such as ‘genetic healthcare’ as well as increased global prevalence of microorganisms (e.g. MRSA), which points to a need for reconsidering the curricula of the healthcare study programmes.

‘Genetic healthcare’, focusing on i.a. uncovering genetic dispositions to health and disease and the consequent treatment and care, also increases the degree of individualisation and internationalisation of the demand for healthcare – a relation that may be further strengthened by the extended forms of free choice schemes across countries.

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Health professionals perform their practice in local, regional and national contexts, though with increasing influence from Nordic, European and international relations. The global is a concrete presence (e.g. international knowledge, diseases, transmission etc.), which should form a more specific part of the study programmes (e.g. awareness of international tendencies in relation to free choice schemes, financial and incentive systems, digital/mobile access to knowledge), just as it may be possible to further develop the Nordic welfare state profile through shared Nordic forms of e.g. further education.

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3.2 Creation and application of knowledge

Traditionally, there has been much focus within healthcare on evidence-based practice, clinical guidelines, standards and ‘best practice’.

This tradition is continued – cf. efforts to further develop national clinical guidelines and continuous efforts to use standardised package solutions within e.g. cancer and psychiatry.

At the same time, however, there is increasing awareness of the fact that evidence-based knowledge in relation to many healthcare areas is not or cannot be comprehensive, and/or that the evidence is ‘weak’.

\textsuperscript{10} \texttt{http://www.ehea.info/} Downloaded 18 April 2014.
In addition, evidence can be based on different levels – and there may be different opinions as to what constitutes evidence within different scientific fields relevant to health professionals’ field of work. E.g. there may be different opinions as to what constitutes evidence from the perspective of the natural sciences (anatomy and physiology), the social-human sciences (quality of life) and the philosophical level (ethics), respectively.\textsuperscript{11}

Standards and ‘packages’ also have limitations – cf. development trends to create still more complex efforts and new forms of services.

There is also increasing awareness that dominant medical thinking on evidence and clinical guidelines is insufficient – in a context where problem management represents just as large a part of the total healthcare effort as diagnosis management, and where the boundaries between social efforts and healthcare efforts are becoming still more blurred.

The character of the development in disease patterns – with complex disorders, complex health and social problems, increasingly complex work tasks and forms of services – is shifting from a traditional and often mono-diagnosis-based and evidence-oriented approach, while knowledge and competence in relation to the problem management of health professionals, which is often of a complex nature, necessitate other forms of foundations in addition to the classical evidence-based foundation.

Financing and incentives may lead to early discharge of patients – who are readmitted shortly after – or to involving the patients too extensively in the follow-up process including many ambulant visits. Similarly and cf. the figure below incentives may differ across the healthcare operators, who may be pressurised to completing a large number of consultations and ambulant visits etc., rather than to focus on the positive effect on the experienced quality of life, functional level etc. of the citizen/patient.

Critical reflexive practices can be cost-effective, e.g. by ensuring that the patient is not discharged until he is ready, by entering into a debate on how financial incentives may change clinical behaviour, or by creating incentives to focus on the effect on the citizen/patient rather than on the ‘scale of production’.

\textsuperscript{11} There is e.g. a difference between how life style choices in relation to smoking or alcohol consumption are analysed on the biological body (arteriosclerosis, tissue damage) and the social body (experience of quality of life, feeling of ‘happiness’), respectively.
The entire development in the pathological picture and the tendencies or strategies towards managing more healthcare tasks outside the auspices of the hospital – the increased responsibility of the primary sector to take on tasks and efforts, the increased integration of the healthcare system and the social system, and not least the wishes and knowledge of patients (by and to experts) – makes it necessary to introduce new terminology in addition to the one on which the traditional, evidence-based approach is built.

New, altered relations between patient, health professional and society also demand that the health professionals are professionally robust and able to argue for and substantiate professional actions in relation to both patients and colleagues, but also in a larger social context – which demand e.g. documentation and cost-effectiveness.

The increased complexity makes it difficult to transfer knowledge and skills developed in one context to another. This increasingly requires processing, relating and adjusting knowledge – and taking into consideration that much traditional evidence-based knowledge cannot be applied directly in concrete practice contexts.

Within the challenge and development picture it is therefore crucial to develop new forms of reflexivity and sensibility in relation to the increased complexity of work tasks as well as services.
Historically the different occupational groups have talked about the development and acquisition of professional knowledge, professional judgement etc. Then came, within healthcare, the advent of ‘evidence-based medicine’ – and on occasion the concept of ‘research-based knowledge’.

The two basic forms of knowledge – the evidence-/research-based and the experience-based – must prospectively and to a far larger extent than at present be weighed against and supplemented with the knowledge, needs and wishes of the patient.

As a concept and with inspiration from Norway, ‘knowledge-based knowledge’\(^\text{12}\) integrates and draws on these three sources of knowledge, which are fundamental for the professional work.

In most cases there is likely to be a need for a broad knowledge concept which, in addition to research/evidence, professional knowledge/experience and patient knowledge, must also integrate e.g. local cultures, institutional rules/routines and, for some of the more technically oriented occupational groups, knowledge forms and challenges created by technologies, digitalisation and new apparatus.

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The work of the health professional is complex and involves conflicting interests and knowledge forms. Society cannot be satisfied with and qualified, professional healthcare work cannot depend entirely on standards and evidence in a traditional sense. An efficient healthcare system must draw on knowledge-based practice, where the health professional has professional autonomy and in a critical reflexive manner integrates both evidence-/research-based knowledge, experience-/profession-based knowledge and the knowledge of the citizen/patient. Often it is necessary also to include local cultures and institutional routines.

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### 3.2.1 Knowledge across occupational groups

There is a need for developing knowledge that is relevant to the respective occupational groups and across these groups.

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A lot of the main problems and development trends point towards increased complexity in the efforts for which the healthcare system will be responsible prospectively and towards still greater breadth as regards service forms.

Thus, the need for the study programmes to include elements concerning the mode of operation of the healthcare system – organisation, management, financing etc. – is imperative. This particular area may be relevant for shared and cross-professional knowledge, in both the school and practice parts of the programmes.

In continuation hereof the complexity, logistics and efforts of citizen/patient continuity of care constitutes an area on which the undergraduate programmes must to a markedly greater extent focus within both the school and practice parts. One, and perhaps the most expedient, way to do this is precisely via cross-professional forms of learning.

Following the increased attention to the need to integrate problem- and disease-oriented circumstances as well as the general (international) tendency to increasingly coordinate and perhaps even integrate healthcare and social efforts, the healthcare study programmes must to a markedly greater extent focus on cross-professional and continuity of care-based learning and on training in cross-professional collaboration on citizen/patient continuity of care.

It is precisely the combination of various types of professional competence that has an effect on the patient – and in that respect on the experienced quality of life, functional level, social situation, skills etc.

The need for more cross-professional learning and training does not point towards a need for more extensive, joint basic studies in the undergraduate programmes. The occupational groups represent very different professions and very different activities and roles – both in terms of the efforts involved in citizen/patient continuity of care and in the individual forms of capacity.

Especially foreign, but also a few Danish examples indicate that some forms of simulation training – here understood as the simulation of logistics and efforts as well as forms of efforts in citizen/patient continuity of care – may serve as a useful tool and basis for cross-professional training. Not least because this form appeals to the clinical environments and can in itself add knowledge to these environments – and thus increase the commitment ‘on the part of clinical practice’ in connection with the study programmes.

E.g. a simulation model may be used to look at how e.g. internal waiting times are affected when the number of resources for e.g. emergency departments are reduced or increased. Or how changes in the combination of stationary and ambulant activities affect staff needs. Or the dependencies between e.g. biomedical laboratory scientists, radiographers and nurses in a given course within a given disease area.
There is a need for the study programmes to include elements on the mode of operation of the healthcare system – organisation, management, financing – areas which may be relevant for joint and cross-professional learning, in both the school and practice parts. Increased cross-professional learning must respect the fact that the occupational groups represent different professions, efforts and roles – both as regards efforts in citizen/patient continuity of care and efforts in the individual forms of capacity.

3.3 Research and development

The application of ‘knowledge-based knowledge’ as a basic concept indicates that health professionals in their work must be able to reflect on their own practice, ask relevant questions as well as apply and critically evaluate knowledge – and integrate documented and applicable research-based knowledge, experience-based knowledge and knowledge based on the experiences, needs and preferences of the citizens and patients.

The study programmes must therefore give the students the skills and competences that will enable them to reflect on various forms of knowledge and to apply knowledge and combinations of knowledge in concrete situations in practice.

Following the development towards increased complexity in work tasks and services, the combination of social and health-related problems, the increased responsibility of the primary sector etc., the healthcare study programmes are faced with an increasing need for educational elements and a gradually more complex range of educational elements.

However, following this development the study programmes also need to encompass research- and development-based elements and to introduce the students to theories and methods related to research and development.

The secondary sector has a long tradition for research and development. However, generally there is a significantly increased need for research and development efforts in relation to the efforts of the primary sector and in relation to the types of complex and often cross-sectoral and cross-functional tasks that will increase in number in the future, but which also correspond to the types of tasks in which the occupational groups represented by the Danish Health Confederation will increasingly be involved.

These types of tasks enter into a context where the traditional evidence-based approach may not be optimal, and where it cannot in any case stand alone.

It is therefore also possible to point to an increasing extent of research and development work, which precisely concerns endeavours to increase knowledge on how different forms of professional efforts and different forms of service designs can help improve the foundation for
professional and cross-professional efforts within the primary sector – as well as in the forms of citizen/patient continuity of care where the efforts of the primary sector are significant.\textsuperscript{13}

The country surveys reflect that especially Norway – but also Scotland – places great emphasis on ensuring that the undergraduate programmes comprise elements on research and development – precisely due to the trends in disease patterns, work tasks and service forms. Within these countries, the balance shifting between hospitals and the primary sector is to a great extent strategic and concrete and has been established at a national level.

There is focus on the need within the study programmes to secure knowledge on research- and development-oriented theory and method. A research-oriented ethos among the healthcare professions is important not least because it points towards higher quality and raises the quality of the work of the health professionals, and because it contributes to the national and international body of knowledge on the respective areas. It also contributes to recruiting and maintaining a high level of health professionals compared to competing work areas by supporting the incentive for healthcare work, the job content and career opportunities.

Not all health professionals should do research, and not all areas of healthcare should or can be research- and evidence-based. But qualified and effective health professional practice should involve central research elements, which integrate searching for, assessing, applying and evaluating knowledge. The study programmes must increasingly include research- and development-oriented element as a basis for reflexive practice. For the health professionals the issues specified here are connected i.a. to the demand for more research- and development-based knowledge on how efforts in the primary sector can have the optimum effect.

3.4 Continuing and further training

The health professional bachelor programmes are classified as further education, and they meet the national and European education standards emanating from the Bologna Declaration.\textsuperscript{14} Here the main idea is to strive for homogeneity and transparency with a view to increasing the mobility of students as well as teachers and thus make Europe an attractive place to study and work. On a

\textsuperscript{13} A programme has been launched under the auspices of the Danish Health and Medicines Authority to develop four dozen national clinical guidelines; here input from the part of general practitioners and municipalities point towards supplementing the traditional clinical guidelines – and focusing more on problem-oriented forms of knowledge that differ from the traditional ‘evidence-based’ tradition.

\textsuperscript{14} The Bologna Process refers to an intergovernmental European collaboration on creating a joint space for further education in Europe. The process is based on the Bologna Declaration, which was adopted in June 1999 by ministers for education from a total of 29 European countries. 
general level, it is important to include continuing further education into the ordinary education system in agreement with the intentions of the Bologna Process.

Focus is on undergraduate, postgraduate and PhD levels following the ‘3+2+3’ principle, i.e. a three-year bachelor’s (undergraduate) programme, a two-year master’s (postgraduate) programme and a three-year PhD programme.

Professional bachelors may continue into the further education system at university. There are two forms of postgraduate programmes: a master’s programme based on the bachelor’s programme and a professional master’s programme, which is an independent study programme. Some universities demand that professional bachelors participate in different forms of supplementary programmes\(^\text{15}\) for professional bachelors in order to be accepted into certain master’s programmes.

There are a number of other continuing and further education opportunities: The university colleges offer a wide range of diploma programmes; a series of special programmes for nurses and one cross-professional programme are offered under the auspices of the Danish Health and Medicines Authority; the regions and municipalities offer a few programmes, which are not regulated by the Ministry of Higher Education and Science/the Danish Health and Medicines Authority; and finally there are various programme offered by private institutions and abroad.

Because of the increasing amount of necessary and still more complex knowledge – following the increased complexity of work tasks and services – it seems fitting to focus on further education directly at professional master and master levels, and to reduce incentives for further education at diploma level and in programmes outside the formal system.

Such a line requires that upgrading of skills is done in close relation to an internationally renowned further education system. Within such a framework, it may furthermore be necessary to introduce formal practical training into the further education programmes. At the same time, these programmes should be organised in collaboration with practice.

It should be noted that the healthcare study programmes that do not lead to a professional bachelor’s degree (e.g. pharmaconomists, podiatrists and various programmes within the area of diet and nutrition) neither give direct access to master’s and professional master’s programmes nor to diploma programmes.

In this context, it should also be considered how these health professionals can be given relevant further and continuing education opportunities within the formal education system.

\[^{15}\text{The universities may require that the student completes supplementary education activities of a maximum of 15 ECTS credits, which must be offered for free after the student has been accepted into the master’s programme.}\]
Focus should to a greater extent be on offering existing further and continuing education programmes (such as e.g. special education) as university programmes. The time invested in education after completing an undergraduate programme should be considered further education and the quality hereof should be raised.

3.4.1 Coherence between the undergraduate programmes and the continuing and further education programmes

The number of students in the higher education institutions has increased considerably over the past approx. 60 years; the number has in fact increased tenfold. At the same time, the number of study places for 20-year-olds has doubled within the past 30 years or so.

The pressure experienced by the higher education institutions is also evident further down in the education system. In 1960 only 7 % of a year group of young people received an upper secondary education. In 2011 the number was 65 %.\textsuperscript{16}

The current, political goals for education remain that by the end of 2020 60 % of a year group of young people are expected to complete a higher education programme. 25 % of these are expected to complete a long-cycle higher education programme.

As a result of the increased student intake the students recruited for these programmes also come from environments that may not necessarily be characterised as accustomed to education. Moreover, for some occupational groups the students entering the healthcare study programmes may have a lower average mark upon leaving upper secondary education than was the case e.g. 10 or 20 years ago.

The stated development may make it necessary to further differentiate the students’ education opportunities or give the most skilled or ambitious students the opportunity to further expand through ‘graduate studies’ or special training, e.g. through participation in projects or tasks in addition to the study programme, thereby, to some degree, addressing the need for specialisation – e.g. in relation to disease area, area of function or sector.

This points to a need for organising the total education system, to a greater extent than is the case today, into undergraduate programmes and systematic and career-oriented further studies.

One way to do this could be to establish target figures for the percentage that should acquire a specific form of further education within the relevant occupational groups.
Such a development seems expedient based not only on the above-mentioned pressure on the higher education institutions, but also on the issue of the increased complexity and significantly increased proportion of services.

In both Norway and Sweden the gap between the different levels (e.g. university colleges and universities) seems to be smaller and focus is to a larger extent on creating a continuum of formal education opportunities, where the undergraduate programmes represent one step which may be supplemented with further steps, and where the formal education system forms a basis for any further studies.

The undergraduate education system and the continuing and further education system could to a larger extent be interconnected with the existing further education system, and it is possible to create several fixed specialisation tracks and thus more ‘career paths’. At present, the best students do not have sufficient further education opportunities.

3.5 Specialised and general competencies

The project process has been characterised by diverse views on specialisation and the need for specialisation – including in the undergraduate programmes.

A few of the programmes under the Danish Health Confederation include a number of specialised tracks. Here it is crucial that the students can follow these tracks without subsequently being bound to specific job or work areas.\(^\text{17}\)

It may be relevant here to maintain that independent, specialised tracks are predominantly followed under the auspices of further education, and that this involves socioeconomic consideration, seeing as undergraduate programmes comprising several, independently specialised tracks, all things being equal, are expensive.

This is connected to the above-mentioned issue concerning the balance and gap between the undergraduate programmes and the continuing and further education programmes – and the balance between these two, where focus first should be on a generalist orientation within the undergraduate programmes and opportunities for specialisation within the continuing and further education programmes.

The project process has also seen many inputs on the issue of general and specialised competences. In this connection it was discussed how the depth of specific professional competencies can lead to increased robustness and professional pride, and that the will and

\(^{17}\) Even though this section generally does not recommend specialisation within the undergraduate programmes, it should be noted that both the Health and Nutrition programme and the Radiographer study programme currently include specialisation. Concerning the radiographers, the division into three tracks is precisely meant to help expand their possible fields of work to also include nuclear medicine and radiation therapy.
courage to enter into inter-professional collaboration precisely rest on solid and specialised knowledge, which is felt to create a sense of security.

In some inputs this argumentation is based on an experienced need to incorporate some forms of specialised competencies, including in the undergraduate programmes.

The health services are becoming more and more complex – with regard to work tasks and service forms and thus also with regard to education and competence requirements. Some may find it paradoxical that the healthcare professions maintain a generalist orientation, when the need for in-depth knowledge within still more disease areas and areas of function continues to grow.

There is good reason to maintain generalist-oriented undergraduate programmes: Specialisation in the different areas involves a risk of atomisation, and specialisation under the auspices of the undergraduate programmes fails to address the needs for health professionals who can think and act interdisciplinarily and for training and further developing cross-professional collaboration – in a market that is experiencing growth in comorbidity and complexity of diseases within e.g. the medical area and the area of mental disease.

On the other hand, the country surveys point to a considerable need at the top of the undergraduate programmes, so to speak, for more systematically handling the need for in-depth knowledge within the various disease areas and areas of function – as part of a more systematic and, with the undergraduate programmes, more coherent continuing and further education system.

This line of thought may lead to several different forms of tracks, e.g.:

- Municipal handling of healthcare tasks
- Specialised units within primary healthcare (intermediary units, neurorehabilitation, dental care etc.)
- Outgoing teams, home treatment and everyday rehabilitation
- Emergency and life-threatening efforts within secondary healthcare
- Healthcare for children and young people
- Services performed by general practitioners and dentists (e.g. concurrently with the trend towards more and larger health centres and/or group practices
- Private practices
- Healthcare for people suffering from mental diseases or substance abuse.\(^\text{18}\)

There is great reason to reserve any specialisation to the level of further education. The undergraduate programmes should create a basis for contemplation, also including the clinical elements.

\(^\text{18}\) C.f. i.a. KABS analysis of the need for nurses with social work skills.
3.6 School and practical training

Structurally the responsibility for the total health professional bachelor’s programmes is placed within the education institutions. This means that the practical/clinical part of the programmes conducted in institutions controlled at the municipal or regional level is also the responsibility of the education institutions.

One recurrent result of this structure is education tasks, which, although not formulated in clinical practice, are conducted as part of the practical training authorised by the education institutions. The education institutions thus in principle determine the activities of the practical training.

The relation between the theoretical and the practical/clinical parts of the health professional bachelor’s programmes is and has been a source of conflict, i.a. because they represent different learning spaces and thus different learning opportunities.

The main competences of the education institutions are education organisation and didactic concepts directed at creating a framework for this, giving the students the opportunity to learn and acquire knowledge, skills and competencies.

The practical/clinical part of the programmes is dominated by a different logic: a diagnosis-, treatment-, care-, rehabilitation- and prevention-oriented logic as well as an operations- and development-oriented one – targeted at dealing with the health problems of the citizens/patients within the framework of institutions, specific efforts and courses of treatment.

The dominant idea is to ‘bridge the gap’ between theory and practice, and to ‘connect’ theory and practice. However, recent studies, e.g. in relation to the nursing education, have shown that new pedagogical initiatives launched in the practical part of the programme often to a large extent resemble the pedagogical concepts practised in the theoretical and school-based part of the programme.

This points to the relevance of distinguishing between practical training/clinical practice and theory – and securing a much larger degree of teacher exchange between the education institutions and the clinical places of education, thus to a larger extent involving the clinical/health professional experts in the teaching conducted in the education institutions and, similarly, involving the teachers at the education institutions in the development work conducted in clinical practice.

This risk of moving the school into the clinical part of the programme, so to speak, should be taken into consideration here. Thus, there appears to be a need for prioritising learning to a greater extent than today within practice, which is currently characterised by being unclear, concrete, context- and person-dependent – also to counteract the risk that learning based on these practice characteristics risks being deprioritised in the attempt to structure and organise learning in practice in detail.

Concrete health professional work is very different from and much more comprehensive than what research and education can and should be able to handle. In this connection, it is important that teaching and guidance necessitate didactic improvisation – depending on the time, space and opportunities – with a sensitivity towards the unique logic of practice. The students should in the course of their education learn that there is no one-to-one relation between theoretical knowledge (e.g. within the natural sciences [anatomy, physiology], social sciences [gender as a construction] and philosophy [ethics]) and the operational reality. In addition, increased respect for and insight
into the relevance and topicality of the respective forms of knowledge contributes to reducing the so-called ‘practice shock’.

The theoretical part of the programmes entails that the students have been ‘released’ from the concrete obligations and demands of the work situation. They have been ‘released’ to think about thinking and about practice.

This means that the students in the theoretical part of the programmes are privileged to reflect at a distance without having to act. On the other hand, it is vital that the practical part of the programmes is recognised for its unique learning opportunities – and is not ‘colonised’ by theoretical activities, ensuring that there is room for the unforeseen, unclear, person- and context-dependent, which is not simply suppressed by a dominating ‘school logic’.

In addition, the theoretical part of the programmes has the opportunity and obligation not just to educate, but also to ‘form’ the future health professionals as critical and active citizens and health professionals, who are not simply reactive and working as assistants and ‘practising’ health professionals, but who are also proactive co-players who take part in forming the future of healthcare and society.

Hence, the school (theoretical) part of the programmes should not only be able to deliver what is expected politically of the respective practice areas; the school part of the programmes should also take part in shaping and providing the practice areas with new forms of inspiration.

In certain areas ‘the students have too few skills’ (e.g. in-depth knowledge of the professional experience relevant within a specific context) when they have completed a given undergraduate programme. In other areas ‘the practice areas have too few skills’ when it comes to embracing newly qualified health professionals (e.g. accepting health ideals and values acquired in the theoretical part of the programmes). The dialectical relation should continually develop with respect for the topicality, relevance, strengths and weaknesses of the various knowledge forms.

There is a need to establish a basic focus on the challenges, questions and doubts that may promote critical and innovative thinking – and thinking ‘for’ and ‘against’ – which can ideally form a basis for the formation of the ethos of the health professionals.

The increased education level acquired through continuing and further education is not expected to stagnate or slow down. On the contrary, there is cause to believe that the wish/need for continuing and further education will continue to grow, including among clinical teachers.

All in all, the different learning spaces, represented by the school part and the practical/clinical part of the programmes, respectively, should be respected individually.

However, there is a need for innovation with regard to the division of responsibilities and interaction between the education institutions and the clinical places of education as well as between the formal education and research units and the formal health units – regardless of whether the ministerial authorities and areas of responsibility remain unchanged.
4. Future perspectives

The project process, involving newly educated and experienced health professionals as well as managers from all occupations groups, has involved working with five different perspectives on the future education and competence requirements.

In this report a perspective comprises a description of a possible development, i.e. a picture of one possible future. The individual perspective should never be understood as expressing the only possible opportunity, just as the individual perspective does not necessarily reflect the most likely opportunity.

Thus outlining five perspectives for possible future education and competence requirements creates a form of room of possibilities. Within this room of possibilities it is possible to navigate and find the course of development (the ‘future’) preferred by the given organisation or environment. However, within the room of possibilities it is also possible to reflect on how other stakeholders (the ‘external surroundings’ of the organisation or environment) assess the needs of the future.

This method of developing perspectives thus secures a focus on other stakeholders’ view on the future development and the future education and competence requirements.

The five developed perspectives are:
- the operations-oriented perspective
- the specialisation-oriented perspective
- the knowledge-oriented perspective
- the health promotion-oriented perspective
- the adjustment- and change-oriented perspective

The perspectives are inspired by the country surveys, which have emphasised different learning areas (perhaps in particular the Scottish and Swedish debates on the future healthcare study programmes) as a basis for further development of the study programmes, including continuing and further education programmes.

Other perspectives (which, if possible, have been integrated into the five chosen perspectives) emphasised in the course of the project process include e.g. ‘entrepreneur and private operation’, ‘technology’ and ‘internationalisation’ as well as ‘freedom of choice – for patients and suppliers’.  

The perspectives are described in general below, while the Appendices include a more comprehensive text on the perspectives.

Following the general survey of the five perspectives is a brief cross-professional evaluation.

Both the involving activities (questionnaire survey, workshops and interviews) and the analytical and research-oriented activities have seen very different views on which education and

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19 See e.g. ‘Fyra Framtidsscenarier – Framtidens Vård’, Stockholm 2013. The Swedish focus on ‘entrepreneurs and private operation’ may be connected with the fact that the Primärvård reform in Sweden permits privately run ‘Vårdcentraler’ (health centres), within a given framework, and that Sweden has a long tradition for allowing private operation suppliers based on operation agreements to run hospitals, hospital departments and Vårdcentraler.
competence requirements and which learning areas would be prioritised in the future – both within the undergraduate programmes and within the further education programmes.

This is also reflected in the work with the perspectives – and with which concrete elements should be included in the undergraduate programmes for the different occupational groups.

At the same times, input and evaluations provided throughout the project process embrace a series of typical problems, which may be summarised as follows:

- To which extent is it necessary to focus on specialisation – based on the need for academic depth within the chosen learning areas – as opposed to more generalist-oriented knowledge on several/many learning areas? In addition, how can the further education system in a more systematic way address the need for specialisation?

- What is the ideal balance between the theory and practical training parts of the programmes – and is there room for improvement concerning the connection between these two learning arenas?

- Do the undergraduate programmes focus sufficiently on creating a basis for newly qualified health professionals to directly enter into and contribute to the everyday workday?

- Do the students learn enough about the overall mode of operation of the healthcare system?

- Do the students learn enough about the development trends within the healthcare system, e.g. in relation to prevention, health promotion and self-care and methods for promoting better health – rather than treatment of diseases?

- Do the study programmes include enough cross-professional teaching and learning – in both the theoretical and practical parts? Moreover, do the students learn enough about team-based and cross-professional work with diagnosing, treatment, rehabilitation etc.?

- Do the study programmes provide sufficient training in professional reflection and the ability to make professional, action-oriented decisions?

- Do the students acquire sufficient knowledge on patient safety and unintended events – including the need for, to a larger extent than today, expanding the focus on these areas within the primary sector.

- Do the students gain sufficient insight into how knowledge-based knowledge, including evidence-based knowledge, comes into being, how it is used in practice, and how it is updated?

- Do the study programmes provide sufficient training in identifying adjustment and change needs and in the ability to participate in or form a constructive part of transformations?

- Have the study programmes placed sufficient emphasis on securing knowledge on research and development – and on the role played by the individual occupational groups in research and development contexts?

- Do the students learn enough about relational coordination, communication, premises for personal involvement and impact and on conflict management etc.?
The greater majority of the inputs presented in connection with the questionnaire survey and the workshops are covered by the above questions. The country surveys and interviews with researchers and other resource persons also to a large degree reflect the relevance of these questions.

The five perspectives can be understood as expressing different ways of addressing these fundamental questions. Each perspective reflects the prioritisation of certain questions, including how these may be addressed, and the deprioritisation of other questions and of their relevant in the context of the undergraduate programmes.

The survey of the five perspectives will use the concept ‘elements’ to refer to the parts that have been given priority and included in the individual perspective.

The development and survey of the perspectives do not take into consideration whether the study programmes in relation to these elements should focus on giving the students knowledge, knowledge and skills, or knowledge, skills and competences – or just insight (as a less intense category). The principal issue here is that the elements within each perspective reflect the character of that very perspective.

4.1 Learning areas

Each of the developed perspective represents a form of ideal type, where the undergraduate programmes are organised on the basis of one main criterion, and where the undergraduate programmes are coloured and influenced by this main criterion.

E.g. a health promotion-oriented perspective will entail that the undergraduate programmes, including practical training, to a large extent are influenced by health promotion-oriented angles – and by a focus on how the public health can be improved.

At the same time, though, it is also the case – as a premise for each of the developed perspectives – that the undergraduate programmes in any case must encompass elements from several different learning areas, cf. the figure below.

![Learning areas diagram](image)
Regardless of the perspective, the undergraduate programmes will thus always include elements from each of these learning areas: ‘Operation’, ‘Specialisation’, ‘Knowledge’, ‘Health Promotion’, ‘Adjustment and Change’ and ‘Communication and Guidance’.

Furthermore, all programmes must in any case include elements unique to the given occupational group, securing a specific amount of professional knowledge and unique professional skills and competences.

Concerning the individual perspective, e.g. the perspective on health promotion, although the undergraduate programmes and the practical training included herein are expected to be coloured by health promotion-oriented elements, they are also expected to address the other learning areas – although to a lesser extent than is otherwise the case.

The perspectives reflect the need for dialogue on the extent to which the undergraduate programmes can be said to be exhaustive – whether the study programmes and practical training included in the programmes should be characterised by the inclusion of elements from all the learning areas, or whether the undergraduate programmes may also be characterised by deselection, thus giving priority to some learning areas – at the expense of others.

Working with a perspective, where the further education system to a larger extent than today is fully integrated with the undergraduate education system, including systematic ‘career paths’ and opportunities for attractive forms of specialisation, in relation to e.g. the primary or secondary sector, in relation to e.g. disease areas, in relation to e.g. areas of function, but also in relation to e.g. research and development – will reduce the pressure on the undergraduate programmes with regard to the depth expected within each learning area. And perhaps with regard to the number of learning areas included.

Clearly, the individual occupational groups require different compositions of elements from the learning areas, just as each group needs a large amount of specialised knowledge, skills and competences.

4.2 The perspectives

4.2.1 The operations-oriented perspective

The undergraduate programmes are organised as generalist programmes, but with a strong focus on everyday operational tasks.

The main general objective of the undergraduate programmes is to secure knowledge as well as skills and competences relevant to the role and work of the given occupational group in the day-to-day operations – and with regard to meeting the operational demands of the workday.

From the operations-oriented perspective the undergraduate programmes are characterised by elements that secure knowledge as well as skills and competences in the roles and work which the given occupational group is expected to participate in and perform during the day-to-day operations – as they are conducted in hospitals, municipalities, at general practitioners and dentists and in private contexts.

Job preparation in the study programmes – introducing tools, methods and working procedures relevant to everyday operations – is thus the central underlying basis of the operations-oriented perspectives.
The undergraduate programmes include elements that reflect the fact that health professionals work in a context where keeping within expense budgets and achieving high levels of activity are important parts of the operational work day.

The undergraduate programmes further include elements that point towards the need for a high level of capacity utilisation and optimal use of the knowledge, skills and competences of the different occupational groups – both within the individual unit/function and citizen/patient continuity of care and in the interplay of units/functions and sectors involved in citizen/patient continuity of care.

Knowledge of productivity and how to achieve a high level of productivity as well as knowledge on optimal logistics and optimally organised processes - and how to achieve a high level of efficiency is also an important part of the undergraduate programmes.

High operating performance depends on well-organised and coordinated staff planning, but also on well-functioning collaboration across the various occupational groups. Therefore, the undergraduate programmes give priority to learning that involves handling operational elements together and across occupational groups.

The operations-oriented perspective prioritises practical training over school teaching and the impact of the operation environments on the organisation of the undergraduate programmes, including especially the practical training, is given high priority, as are teaching resources based on clinical practice.

Practical training opportunities are secured at a uniform, high level in all parts of the healthcare system, including the primary sector.

The guidelines/preconditions for practical training will be described in more detail and become mandatory: A number of detailed requirements for practical training, and the content hereof, will be drawn up, ensuring that the students gain insight into the operational framework and issues concerning disease areas and areas of function – e.g. psychiatry, general medicine and surgery as well as e.g. municipal home care, general practitioners, practising biomedical laboratory scientists and specialised as well as general and maintenance rehabilitation.

Simulation is prioritised and made an independent part of the practical training in undergraduate programmes. Focus is on the form of simulation that secures knowledge and competences within the logistics and efforts involved in citizen/patient continuity of care, e.g. within the total emergency medical chain.

The operations-oriented perspective reflects i.a. the expressed experience that newly qualified health professionals ‘know too little about reality’ and take too long to adjust to and meet the demands of the workday.

‘Nursing education needs to return to the apprenticeship form, because the newly qualified health professionals have too few practical skills and have perhaps been overstimulated at the theoretical level – many experience a major culture shock when faced with reality’.

*(Experienced nurse, questionnaire comment)*
4.2.2 The specialisation-oriented perspective

The undergraduate programmes are organised as generalist programmes, but with demands for each occupational group of specialisation within the relevant undergraduate programme.

An important twofold objective of the undergraduate programmes is to provide the students with generalist knowledge relevant to the individual occupational groups and to meet the evaluated need for in-depth and practice-oriented learning in disease- and/or function-specific areas – e.g. neurology (disease area) and rehabilitation (area of function).

The specialisation-oriented perspective is characterised by elements that provide the students with detailed theoretical and practical knowledge of areas of specialisation chosen in the undergraduate programmes.

In this perspective, working with e.g. rehabilitation of heart patients or orthopaedic patients is considered to be different – and to require different skills – from working with e.g. municipal rehabilitation of older medical patients. Similarly, working in an emergency department is as a rule considered to be different – and to require different competences – from working in a psychiatric stationary division or in a municipal institution for the mentally handicapped.

However, specialisation must be chosen on a rational basis. A certain level of holistic and generalist-oriented insight is therefore necessary. Within the specialisation-oriented perspective, the undergraduate programmes therefore also include an introduction to general elements in i.a. physiology, sociology, anatomy and epidemiology.

The undergraduate programmes reflect the assessment that the work of the occupational groups must to a greater extent be conducted within specialised areas, as the total knowledge mass and the work terrain continually expand – and because it is therefore not realistic for a particular undergraduate programme to meet the needs of other areas that the ones chosen.

The perspective reflects an evaluated increasing demand for both disease- and function-specific specialised knowledge – including specialised knowledge that is ‘ready to be used’.

The specialisation-oriented perspective can therefore also be said to address the expressed experience that the newly qualified health professionals upon graduation are not capable of meeting the demands placed on them in the different disease- and function-specific parts of the healthcare system.

'I think it should be possible to choose specialisation/elective courses already in the undergraduate programmes. It should be possible to create a good programme, where the students can choose to place special focus on a subarea'.

(Newly qualified nurse, questionnaire comment.)
The balance between theory and practice in the undergraduate programmes is not changed, but
the practical training of the individual will take place exclusively in areas that reflect the chosen
specialisations.

The perspective presupposes that the opportunities for specialisation offered in the education
institutions are also offered in the practical part of the programmes.

Even though the relation between practical training and theory remain unchanged in the
specialisation-oriented perspective, the content of both the school part and the practical training
part of the programmes will require teaching competences of clinical experts or specialists in the
areas within which the students can choose to specialise.

In addition, the practical training part will require student counsellors who on a regular basis are
involved in the chosen areas of specialisation – disease- as well as function-specific areas.

4.2.3 The knowledge-oriented perspective

The undergraduate programmes are organised as generalist programmes, but with a strong focus
on issues and problems related to different types of knowledge forms, including evidence, and the
effect of healthcare efforts on the patient/citizen.

The perspective reflects that the healthcare system increasingly demands reflexive and critical
practitioners, who do not simply reproduce established knowledge, experience and routines – but
who also have knowledge of how knowledge, including evidence, may differ between areas, within
different disease areas and areas of specialisation, and across the primary and secondary sectors.

The undergraduate programmes give the students insight into the need for increased development
of knowledge and reflexivity in relation to still more complex citizen/patient situations, ethical
challenges – and in relation to a still broader spectrum of knowledge.

The undergraduate programmes thus give the students insight into how knowledge is created,
negotiated and recreated as well as updated – and how knowledge is used.

It is imperative here to acquire knowledge of how knowledge can be based on evidence – but also
on professional experience, institutional routine and the personal insight of the patients/citizens.

In the knowledge-oriented perspective, the undergraduate programmes are characterised by
elements that place greater focus on how the professional work can be supported by the best
possible pieces of knowledge and the best possible forms of knowledge.

‘Increased competencies in working analytically – being able to reflect in relation to
evidence’.
(Experienced nurse, input from workshop group task).

‘Greater focus on ... clinical guidelines – to ensure quality’.
(Experienced biomedical laboratory scientist, input from workshop group task).

‘People should be able to address problems from a more research-based approach’.
(Senior radiographer, input from workshop group task).
The perspective involves a significantly heightened international awareness, seeing as international research and knowledge must be included in learning on how knowledge is built and used. And how knowledge and sources of knowledge are internationalised.

In the knowledge-oriented perspective, the undergraduate programmes thus also help to make such a research-based approach effective – and an effective and integrated part of the role performance of the individual occupational groups.

Hence, the undergraduate programmes also aim towards providing the students with a basis for working with research and development – through learning in connection with e.g. theoretical-methodical reflection, data collection and statistical method as well as analytical assessment and classification.

Considering the development towards an increased share of healthcare efforts in the primary sector, the undergraduate programmes place greater focus on how to ensure and document efficiency in other contexts than traditional hospital contexts.

The perspective reflects the fact that there is an increased need for searching for, collecting, handling and distributing knowledge in both the practical training and school parts – and that there is a need for relating knowledge from a generalist level to a concrete level, i.e. ‘translating’ general health professional principles into everyday practice situations.

The undergraduate programmes focus on how the everyday collection of knowledge – as a supplement to personal competencies and assessments – increasingly depends on having access to new technologically based tools (web pages, portals, apps etc.) and to continually updated knowledge.

The undergraduate programmes provide the students with knowledge on how they can work with i.a. clinical guidelines as well as standards and best practice in diagnosing and treatment as well as rehabilitation etc. and which opportunities and limitations this involves.

Knowledge on screening and similar approaches and evidence of the effects of screening are a part of this perspective – which may also involve focusing on how screening as well as genetic treatment can point to new views on disease and normality as well as new potential in health promotion and prevention.

The balance between the school and practical training parts of the undergraduate programmes shifts in favour of the former. The perspective presupposes an increasing number of education resources from research and development environments.

The practical training part focuses on how the activities and efforts of the individual occupational groups in the relevant training places are organised on the basis of evidence and best practice – and on the active assessment of quality and effect in connection with the efforts represented by the individual occupational groups.

4.2.4 The health promotion-oriented perspective

The undergraduate programmes are organised as generalist programmes, but with a strong focus on health pedagogy, health promotion and prevention.
The undergraduate programmes focus in particular on factors concerning health and disease in the family, institutions, work contexts and society – both as regards high-risk groups and entire populations.

The health promotion-oriented approach in the study programmes is fundamentally different and challenges prevalent and dominant medical concepts, classifications and logics.

The health promotion-oriented perspective is connected with the tendency to increasing demands from patients, increasing treatment opportunities and increasing problems with making government resources go a long way: Diagnosing, treatment and rehabilitation is expensive, once the damage is done – and pursuing a perspective that places great emphasis on health promotion, tracking and prevention may involve years’ of cost efficiency improvements.

The undergraduate programmes should therefore provide the students with knowledge, skills and competences aimed at improving public health in general and somewhat reducing the need for diagnosing, treatment and rehabilitation.

Focus on health should thus, to a far greater extent than today, supplement the disease- and treatment-oriented tradition.

The health promotion-oriented perspective involves differentiating the need for healthcare – including insight into the organisation of efforts and continuity of care for citizens who have the resources to take an active part in their own development.

The undergraduate programmes focus largely on health inequality – and on how to prevent health inequality through highly proactive, preventive, tracking and compensatory professional actions in relation to specific, identified population segments.

They thus include education elements that consider the methods that may be used in relation to population segments with a high level of contact with the healthcare system and problem complexity, embracing the need for parallel social and health efforts – and perhaps even labour market efforts. Such segments often represent three to five per cent of a given population, but in terms of healthcare expenses (and social expenses etc.), they represent 25-30 per cent.

The health promotion-oriented perspective thus represents a trend that is also evident in e.g. Scotland and Sweden that work with systematic ‘proactive health management’ and with holistic efforts through support functions such as care managers or the like.20

'I consider prevention for ‘the whole person’ to be an important part of the undergraduate programmes’.

(Experienced dental therapist, questionnaire comment).

'Health-promoting efforts. Prevention of common diseases. Mental health. These should be put on the agenda’.

(Experienced nurse, questionnaire comment).

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20 The Scottish ‘Personal Outcomes Approach’ works with select segments from a holistic and not just health-oriented perspective. Similarly, Sweden is working with the concept of ‘Aktiv Hälsostyrning’.
Patient education and methods for promoting self-care and recovery/optimisation of functional levels are also important parts of the undergraduate programmes – in general, but also in relation to citizens with e.g. chronic diseases or long-term mental or other forms of disease.

The health promotion-oriented perspective comprises elements that reflect a controlled focus on working with health, diet and nutrition, physical training, health-related effects of alcohol and smoking – but also on possible opportunities for, to a greater extent than today, introducing nature and leisure time as active instruments in the healthcare system and the social system.

The health promotion-oriented perspective points in the direction of integrated knowledge that embraces the social area as well as the health area.

As indicated above, broader and more in-depth work with the ‘creation of health’, health promotion, prevention and health pedagogy challenges the prevalent socialisation in medically dominated professions and institutions.

The balance between the school and practical training parts of the undergraduate programmes does not change, but the orientation towards health promotion means that the content and approach of both the school and practical training parts of the programmes do – and that focus is on new, changed roles stressing optimisation of health rather than minimisation of disease.

The theoretical part focuses in large part on health and social pedagogical as well as sociological competencies relevant to health promotion, health-supporting activities, prevention of disease and reduction of health inequality.

Although the relevance and topicality of the health promotion-oriented perspective will differ across the respective occupational groups, all groups will place greater emphasis on health and health promotion at the expense of the traditional medical focus on disease.

The organisation of the practical training will include prioritising some work places over others, ensuring a focus on recovery and self-care, tracking and prevention, rehabilitation and health promotion as well as citizen/patient involvement – and on various efforts related to health inequality.

Furthermore, in the health promotion-oriented perspective the theoretical part of the undergraduate programmes will be characterised by outgoing patient-/citizen-supported activities.

New health professional experts will function as assistant teachers in the theoretical part of the programmes, just as teachers in the education institutions will assist in studying practice, e.g. by making development and research a part of the practical training.

The health promotion-oriented perspective points towards a new balance in terms of practical training – and gives greater priority to the primary sector as a field for practical training. This corresponds to the direction taken in Norway in connection with the education reforms affecting the health occupational groups.
The adjustment- and change-oriented perspective

The undergraduate programmes are organised as generalist programmes. The focus on adjustment and change entails changing the perspective in both the school and practical training parts.

The adjustment and change-oriented perspective acknowledges that the practice at which the study programmes are targeted is complex, unclear and highly changeable.

The adjustment and change-oriented perspective addresses recent years’ (decades’) radical changes not just in pathological pictures, but also in the expectations of citizens and patients – and the concurrent i.a. technologically aided basis for restructuring the forms of employment through which health services are provided.

These ongoing and often large transformations affect the roles and efforts of the different occupational groups – and the ways in which they collaborate. But they also require focusing on how health professionals enter into and affect the character of the various adjustments and changes.

Especially in Scotland, but also to some extent in England the study programmes focus increasingly on the ability to identify needs and to contribute to implementing adjustments and changes.

'We must always be willing to adapt and to acknowledge the future development trends'.
(Senior biomedical laboratory scientist, input from workshop group task.)

Development and change at a social level, i.e. within science and technology, as well as changes in the demands of patients and users associations – and the opportunity to restructure the ways in which healthcare services are provided – lead to increasing needs for knowledge on and insight into the mechanisms that create and shape these transformation needs and into the tools and approaches that may be relevant in implementing these transformations.

The adjustment and change-oriented perspective entails that the students in the undergraduate programmes learn to be proactive, anticipatory and curious.

In the adjustment and change-oriented perspective, the occupational groups learn how to act within well-known and safe routines, but also how to improvise and initiate professionally defensible actions on new grounds.

It is imperative that the adjustment and change-oriented health professional is proactive, also with regard to professional development and contributing to the production of knowledge.

It is equally imperative within the adjustment and change-oriented perspective that the occupational groups learn to be more active and offensive, also with regard to overall and structural matters and trends within healthcare.
The adjustment and change-oriented perspective thus focuses on the need for new health professionals to act in a reflexive, critical and adequate manner in complex situations and constantly changing contexts.

At the same time, though, the perspective also focuses on the need for the occupational groups to be active and effective when it comes to identifying transformation needs and implementing such transformations.

Thus, the adjustment and change-oriented perspective is also about personal impact and robustness – in the context of transformation, where the wind force may be very strong.

Hence, learning concerning motivation, conflict management, coaching, commitment etc. also becomes an important element within the adjustment and change-oriented perspective.

Knowledge on the healthcare system's mode of operation (management, organisation, financing/incentives etc.) and the challenge pictures that are based on the future pressure on the system is an integrated part of the undergraduate programmes in this perspective – precisely because this provides the students with knowledge on which factors affect the need for and character of transformations.

The perspective entails organising the practical training in such a way that the students are involved in actual adjustment and change processes, while focus is also on studying and taking part in specific 'key situations' – e.g. patients/citizens who refuse to 'cooperate', 'the wrong patient in the wrong bed' etc. – and in general on how errors and defects are created, and where there is room for improvement – in the concrete situation as well as structurally.

In this perspective, clinical experts must to a greater extent function as assistant teachers in the theoretical part of the programmes, just as teachers in the education institutions should take part in studying practice in development and change processes.

### 4.3 Across the perspectives

The perspectives described above individually and in various ways involve current trends (cf. part 2) as well as the select main issues (cf. part 3).

Each perspective represents specific, potential future focuses of the study programmes.

The five perspectives do not necessarily operate at the same level. E.g. while the knowledge-oriented perspective is aimed at a general disposition on handling knowledge (acquisition, assessment, application and evaluation), it is not aimed at a specific focus, as is e.g. the case with the health promotion-oriented perspective.

Analytically, the operations-oriented and adjustment- and change-oriented perspectives are on the same level, seeing as both perspectives consider possible role on which the health professionals should to a greater extent focus.

The operations-oriented perspective emphasises the potential for a form of operational, reactive, assistant role, while the adjustment- and change-oriented perspective emphasises a more autonomous and proactive role.
Finally, the specialisation-oriented perspective mainly functions as a supplement, and to some degree as a contrast, to ideals of generalist programmes. At the same time, this perspective touches upon a general issue discussed in all Western countries: the balance between generalist and specialist in a development picture where the very complexity of the healthcare system creates a need for more in-depth knowledge and special competences in some sub-sections.

The knowledge-oriented perspective may be the most basic, because it does not simply relate to the relevant and current knowledge of the respective occupational groups, but also critically reflects on this knowledge – the status hereof, the nature and opposition between the different forms of knowledge and not just the application, but also the evaluation of the professional knowledge.

At the same time, this perspective could be viewed within the framework of the ‘scientification’ of the health professions. However, it is important here to stress that health professionals should be able to deal with the diversity of knowledge – and that science/evidence should not be assigned a higher position.

The operations-oriented and adjustment- and change-oriented perspectives reflect a level that focuses on various scenarios concerning the work of the health professionals. Both perspectives focus on a number of possible professional roles, which may become necessary in the future.

Finally, the health promotion-oriented perspective can be said to aim more directly at emphasising the study programmes, just as the specialisation-oriented perspective focuses on the prioritisation of general and more specialised competences, respectively, within the study programmes.

The work with the perspectives has been characterised by five different ways of looking at the development of the undergraduate healthcare programmes within the future healthcare system.

None of the five developed perspectives can stand alone for any occupational group, sector or institution. However, the perspectives cover various learning areas, which may be more or less dominant in the organisation of the undergraduate programmes of the individual occupational groups.

In the course of the project process, managers and employees from the relevant occupational groups as well as the member organisations of the Danish Health Confederation have been involved in working with the five perspectives – and have contributed to the further development and consolidation of the perspectives.

Based on input from the managers, employees and member organisations, there appears to be a series of shared core values relative to these perspectives – and relative to the many elements covered by the perspectives, cf. also the detailed description in the Appendices.

None of the perspectives can in full or in isolation be used as a basis for the development of the healthcare study programmes. This is rather a matter of balance. All learning areas must be represented in the undergraduate programmes – but the prioritisation hereof may differ across the healthcare study programmes.
A central challenge here, which has also been evident from the project process, is that the prioritisation of the elements in the undergraduate programmes, in a context characterised by increasingly complex knowledge, work tasks and service forms etc., is anything but easy.

Nevertheless, working with the five perspectives has suggested that there may be elements across the different perspectives that are believed to be central, in general and across occupational groups and member organisations, to the further development and improvement of the healthcare study programmes.

This is true e.g. of knowledge and competences or insight relative to these elements:

- cross-professional collaboration on citizen and patient continuity of care and on efforts in concrete functions
- cross-professional collaboration and coordination across healthcare operators (shared care etc.) – including the tools and methods for managing such collaboration and coordination
- organisation and optimisation of the different forms of citizen and patient continuity of care, involving efforts that cut across sectors and/or involve several occupational groups and functions
- knowledge and competences to use and evaluate knowledge and to translate existing knowledge into actions

In connection with the latter, there may be a further need for increased learning and training as regards competencies and skills in action-oriented professional assessments and decisions – where the prioritisation hereof is, at the same time, believed to secure a better basis for a strong professional identity and sense of security in professional performance.

This is connected with another element that is believed to be central: the prioritisation of knowledge and competencies as regards professional guidelines and best practice and the ability to use knowledge from more and more international, web-based and mobile sources, and where knowledge may be applied directly in situations in everyday operations.

These prioritisations are also in tune with yet another element that is believed to be central: ensuring that the students to an even greater extent acquire knowledge on information technology (IT) and technology and on data and information exchange across healthcare operators and sectors – also in connection with the reorganisation of services etc., which should to a greater extent be conducted or based in the home of the citizen.

This is also in tune with the belief that professional knowledge and knowledge of the ethics and roles of the subject and professions naturally should be central in the undergraduate programmes, and that there is believed to be an increasing need for the students to gain insight into the professional competencies, roles and skills of the other occupational groups in relation to team-based, cross-professional efforts.

The relation between theory and clinical practice has been and is central in connection with the further development and improvement of the undergraduate programmes. Finding the right balance between school and practical training and the right pedagogical and didactic instruments can be difficult.
Furthermore, there appears to be agreement on prioritising the result-oriented involvement of and information and communication on patients/citizens and relations – as well as the optimal forms of citizen, patient and relative involvement in e.g. home monitoring and home treatment.

Similarly, there is believed to be a general need for prioritising elements that concern factors, which affect general public health – as well as equality in health – including tracking, prevention and health promotion.

On the other hand, the five perspectives also include a series of elements in which the various occupational groups and member organisations show less interest and do not recommend that the undergraduate programmes give greater priority to. These include administrative elements, such as e.g. financial management, budgeting, staff planning and activity-based management. While these have in the project process and by the participants involved been deselected and considered of little relevance at the undergraduate level, they have been highlighted as highly relevant within further education.

Here it is crucial to note that the project process has also shown some support of increasing the students’ knowledge on the structural organisation and modes of operation of the healthcare system – and that professional management has also been suggested as an important learning element.

Similarly, a number of the elements included in the specialisation-oriented perspective are believed to be less relevant in the context of the undergraduate programmes, but may be important in connection with further deliberation on an improved and more systematically structured further education system.

It may be natural to assume that a perspective such as the operations-oriented involves great social cost efficiency – apparently with a quicker transition to full working capacity in the everyday running.

However, the opposite is much more likely to be the case. The cost of greatly adjusting the study programmes to what is presently required within the practice areas merely prepares the ground for stagnation, as the operational practice is not particularly stable over time – this has always been the case and will, if possible, be even more unrealistic in the future.

This limits the application of the operations-oriented perspective, and it is not likely to work as one dominant perspective within any of the occupational groups.

These evaluations lead directly to the adjustment- and change-oriented perspective, which may include elements that are beneficial – to an even greater extent than is the case today – to the health professionals within the context of the undergraduate programmes.

The Scottish starting point of ‘transformational change’ and in part the Norwegian sources’ emphasis on ‘forbedringskunnskap’ (‘improvement knowledge’) and knowledge on the basis, dynamic and results of changes suggest that knowledge on transformation and adjustment – and the ways in which individuals and occupational groups can participate and have an effect – increasingly represents a focus area to which the undergraduate programmes should pay more attention.
5. Summary

Based on an extensive data material this report has brought into focus important tendencies affecting the future education and competence requirements of the health professionals.

The project process and this report suggest that social changes, including the development of the area of health and disease and the development of new forms of services, e.g. as a result of new and more technological opportunities, together with the development of the health professions require not just ongoing deliberation on both knowledge, work and education, but also continuous further development and improvement of the healthcare study programmes.

The knowledge and competence requirements facing health professionals change, and neither the undergraduate programmes nor the various opportunities for further and continuing education can thus be static: There is a need for continuously adjusting the study programmes as regards to both content, pedagogy and organisation.

5.1 International experiences

The still more complex forms of knowledge, the still more complex forms of service and delivery as well as the increased complexity of the work tasks of health professionals to a great extent form the basis for the dialogue taking place in the countries around us – both as regards the content and the structure of the healthcare study programmes.

Furthermore, these countries experience an increased focus on integrating healthcare, the social area and labour market into a more coherent welfare area, a trend which i.a. involves organisational and managerial changes, but which also affects the demands placed on the study programmes.

Sweden is e.g. debating whether there is a need for expanding the undergraduate programmes to four years, and both Norway and Scotland are working on increasing the demands for the quantity of material covered by the students. This is precisely a result of the increasing complexity in knowledge and the ongoing development in i.a. diagnosing and treatment technology.

In the select countries, there is great focus on and tendencies towards assigning greater priority to cross-professional learning – just as the increasing complexity is believed to lead to greater needs for specialisation. In this context the countries, perhaps Sweden and Scotland in particular, are attentive to and operationally engaged with the need for expanding and systematising the opportunities for further education, thus ensuring that the different graduate programmes are to an even greater extent than today able to meet these specialisation needs – not just in the form of function- or disease-specific specialisation, but also specialisation focusing on e.g. management, research and development, clinical guidance, resource planning and management etc.

As in Denmark, relative and citizen orientation, volunteer efforts and peer-to-peer concepts occupy a central position in the debate in the select countries. And the countries seem to assign great priority to elements within the undergraduate programmes based on this orientation.

The same is true – with Sweden and Norway as relevant examples and Scotland as the most significant one – of the orientation towards effect. That is, learning about which efforts and combinations of efforts actually have an effect from the perspective of the citizen/patient.
This approach is connected with the above: that the undergraduate programmes should give the students insight into the need for collaboration across not just the operators and sectors of the healthcare system, but also across the healthcare system, the social system and the labour market system.

Hence, all the select countries emphasise an experienced need for more knowledge on the mode of operation of the total healthcare system – on how the different operators and functions interact, and how the overall organisational and financial incentives affect coordination and coherence.

The countries thus emphasise an experienced need for expanding the practical training opportunities within both the primary and (except for Scotland) private sectors.\(^2\)

The country surveys suggest that there is an increasing need for introducing an international viewpoint into educational contexts – including in the organisation of the study programmes and their content – which corresponds to the clear tendency in the healthcare system today for exchanging experience and inspiration not just across municipalities and regions (counties), as was the case just five to ten years ago, but to a far greater extent across countries, gradually approaching international efforts.

### 5.2 Central elements in the further development and improvement of the healthcare study programmes

The report points to a series of areas to which the study programmes should assign greater focus. The weighing and organisation will differ from programme to programme. There is i.a. increased need for focus on health promotion and prevention, on theory of science and method, on technology and IT, on the patient’s perspective and on the organisation and mode of operation of the healthcare system.

The education project of the Danish Health Confederation shows that in connection with the further development and improvement of the study programmes there is a need for focusing especially on the following areas:

- **Reflexive health professionals.** Health professional work is complex and involves conflicting interests and knowledge forms.

  An efficient healthcare system should draw on a knowledge-based practice, giving the health professionals a certain degree of autonomy and space for action, not least when it comes to being proactive, reflexive and making assessments and performing and managing the given profession authoritatively.

  Knowledge-based practice means that clinical decisions are based on at least three forms of knowledge: evidence-based knowledge, experience-based knowledge and the knowledge, wishes and needs of the citizen/patient.

\(^2\) Scotland has a strong tradition for and internalised belief that all forms of healthcare should be conducted under the auspices of the public sector, and there is great resistance to private initiatives within the healthcare system.
The increase in the quantity of efforts within the primary sector and the increased specialisation within the secondary sector as well as the tendency towards greater integration of the health, social and labour market areas in itself create a basis for broader knowledge and conceptual insight in relation to knowledge.

All professional areas and practice situations will experience an increased need for critical-reflexive practitioners, who are able to weight the different knowledge forms, the strength of the available knowledge and the conflicting goals and means to which these different knowledge forms give rise.

- **Knowledge and research.** The increased need for reflexive and critical health professionals, who are able to develop, document and evaluate, presupposes i.a. that the health professionals take an active part in developing knowledge within their own field – and therefore, priority should be assigned to the theory of science and research methods in the healthcare study programmes.

  Naturally, not all health professionals should do research, and not all health professional practice areas should or can be research- and evidence-based. Nevertheless, qualified and effective health professional practice must include research elements, which integrate the search for, assessment, application and evaluation of knowledge.

  In this context, it should be noted that there is a highly increased need for research and development activities in relation to the efforts of the primary sector and in relation to the growing number of municipal healthcare tasks – a field in which the occupational groups represented by the Danish Health Confederation are increasingly involved.

- **Focus areas in the content of the study programmes.** The report points to a series of areas to which the study programmes should assign greater focus. The weighing and organisation will differ from programme to programme. It is e.g. emphasised that there is an increased need for focusing on health promotion and prevention, on theory of science and method, on technology and IT, on the perspective of the patient and on the organisation and mode of operation of the healthcare system – and at the same time, the health professionals should remain firmly anchored in their own profession.

  There is increasing international focus on patient security, including safe medicine handling, based i.a. on well-known phenomena involving unintended events, where focus traditionally has been on the hospital system.

  In consequence of still more complex and interconnected citizen and patient continuity of care across sectors and healthcare operators, and the increasing amount of tasks solved in the primary sector, i.a. as a result of still shorter courses of hospital treatment, learning on patient security and safe medicine handling should remain a priority. At the same time, though, it is important to focus to a higher extent on the primary system’s need for development and efforts to minimise the number of unintended events and secure learning based on unintended events.

- **Improved practical training.** The often inadequate and generally erratic quality of the practical training included in the study programmes should be addresses i.a. through
pedagogical methods creating a stronger commitment in the clinical environments (‘clinical pedagogy and didactics’), but also through more firm financial incentives.

School and clinical practice should be respected in their own right. The theoretical part of the programmes focuses mainly on practicing thinking on relevant professional phenomena, while the main focus of the practical part is on practicing acting in professional contexts. The two parts also represent different learning spaces and learning opportunities.

There are initiatives, such as teacher exchange, which may improve the students' experience of complex study programmes, but there is also a need for experimenting with new forms of learning and new forms of organisation – and a general need for innovation, if the two learning arenas are to supplement, support and complement each other in the best possible way.

It is believed, though, that changes in the healthcare system’s ways of organising efforts and providing healthcare services and changes in technology etc. are happening at such a high pace that it is virtually meaningless to aim to create undergraduate programmes that ‘guarantee’ a seamless transition from education to practice.

- **Cross-professional collaboration.** In both the school and practical training parts of the programmes it makes good sense to increase the extent of cross-professional learning; and the professional bachelor’s programmes can with advantage utilise the many similar interfaces and the concrete opportunity within specific areas to organise joint education, teaching and possibly guidance.

It may also be relevant to work with joint learning programmes with the other healthcare study programmes, e.g. the medical and dental study programmes.

At the same time, though, establishing such a high degree of fellowship and coordination that professional boundaries and central professional traditions are erased is not optimal. Common to the disciplines is that they unfold in complex organisations, and that the practitioners of these disciplines function as cogs in a machine consisting of separate and often highly specialised processes.

The results of the education project therefore do not point to the need for some form of joint, cross-professional basic course within the undergraduate programmes.

The increased complexity in work tasks and service forms in itself creates a need for more knowledge on the modes of operation (organisation, management and financing, patient rights and legal guarantees etc.) of the healthcare system.

This knowledge should to a greater extent than today be a part of the healthcare study programmes and represents one of several elements, where cross-professional education and learning can with advantage come into play.

- **The primary and secondary sectors.** It is believed that the increasing complexity of the material, which the undergraduate programmes are expected to handle, leads to an ongoing need for moderating the traditional, dominant, disease- and diagnosis-oriented basis in favour of a more broadly oriented basis that takes into consideration the growing
number of different forms of services and collaboration across healthcare operators and across the primary and secondary sectors.

The undergraduate programmes – both the school and practical training parts – should reflect the continued balance shifting, where a still greater part of the total healthcare task is likely to be solved within the primary sector.

In continuation hereof, greater emphasis should be assigned to tracking, prevention and health promotion – and to population-oriented forms of efforts in general – within the healthcare study programmes.

- **Specialisation and further and continuing education.** The further and continuing education system should to a greater extent than today offer master’s and professional master’s programmes, matching the many areas of specialisation within the healthcare system – including also the crucial differences between e.g. work in somatic areas and psychiatry, respectively, municipalities and hospitals, respectively, private practices and the public healthcare system, respectively, etc.

Furthermore, target figures for the most skilled and ambitious students should to a greater extent than today be included in the formal further education system, just as it should to a greater extent than today and as part of the undergraduate programmes (as a form of talent development) be possible to work as a trainee (nationally as well as internationally) or participate in e.g. improvement or development processes or research and development projects in addition to the fixed and ordinary study programme.

Concerning the healthcare study programmes that do not lead to a professional bachelor’s degree it should be considered how these health professionals could participate in relevant further and continuing education within the formal education system.