

## SK TEAM. STUDENT-RUN INTERPROFESSIONAL TEAMS

### A. Project manager / contact person / Host faculty

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### B. Summary

In 2016, our application for Center for Excellence in Education (SCOPE) received a maximum score, but was not funded. We have already started some work, and importantly, the current application is one of several steps in preparing a new application for the next call. The aim of this project is to better prepare our students for interprofessional clinical practice. This will be achieved by giving the all last year students in 11 programmes an opportunity to work independently and in collaboration with each other in real-life situations. Adding to our successful interprofessional project TverrSam, a student-run clinic called “Studentdrevet kartleggingsteam” (SK-team) will be established. The teams, composed of 6-8 students from different health professions, will work to assess patients and propose recommendations for further investigations and treatments. The knowledge gained on how to implement full-scale interprofessional clinical education will also be valuable to other educations requiring work-place relevant training.

### C. An innovative and feasible project plan

The proposed project aims to better prepare our students for interprofessional clinical practice in two ways.

Firstly, the project addresses the need for interprofessional competencies and cooperation in health care. This need has been communicated through strong political signals and requests from the practice field. To an increasing extent, work in the health care practices, as well as in other parts of society, is solved through interprofessional teamwork. Thus, educational institutions are challenged to strengthen their focus on interprofessional competencies, and integrate such activities within the uniprofessional curricula. Real life training is one of the most important areas for education of health care providers, yet there is a lack of interprofessional practice in the clinical setting. The reasons for this include a range of practical challenges, like adapting to the schedules of different study programmes, and ensuring relevance of the practice situation across professions.

Secondly, to be fully prepared for practice, the students must be capable of working independently. After they graduate, students go straight into work situations where they have

the full responsibility for a patient. However, educational activities where students independently plan and effectuate comprehensive tasks, are currently lacking. Thus, the educations must improve in this area as well.

#### C.1. Innovation: Student-run investigative team (SK-team)

To meet the need for independent and interprofessional practice for all students, we have included all the 11 study programmes at all NTNU campuses leading to accreditation as a health professional. The innovation and principles are:

Establishment of a full-scale interprofessional student run practice:

**Student-run investigative team (SK-team).**

- Each team will include as many different professions as feasible
- The team of students will work independently in a setting that is safe for both patients and students
- The teams shall operate both in primary and secondary care
- Participation will be compulsory for students in the involved study programmes
- The activities shall only require minor changes to the different programmes' time schedule

#### *Is it innovative?*

The establishment of SK-teams is a new approach to student-run clinics and interprofessional learning, internationally as well as nationally. There have been published research reports on students working more or less independently as volunteers at free of charge clinics, but these mostly involve uniprofessional practices. Furthermore, there are examples of smaller projects involving students from different professions, but none have been fully implemented across all professions to the same extent as in this project. Finally, we have not been able to identify studies on clinics that are both student-run *and* interprofessional on the scale we will have. Thus, our idea is truly innovative, in that it will be the first large full-scale, student-run interprofessional clinic both in Norway as well as internationally.

#### *Is it feasible?*

We have developed a prototype model (SK-team) involving all students that is both feasible and sustainable. The main reasons are that the clinic will be student run (requiring little teacher involvement), each student will participate in two teams (max four hours each time), and the timing and setting is flexible.

We, as the only educational programme in Norway, have experience from a large full-scale interprofessional educational activity – TverrSam (Tverrfaglig Samhandling). TverrSam has been in operation since 2013, and is an obligatory two-day student active, theoretical, educational activity involving 750 third year students from nine different medicine, health and social science study programmes at NTNU. The major success factors, which this project

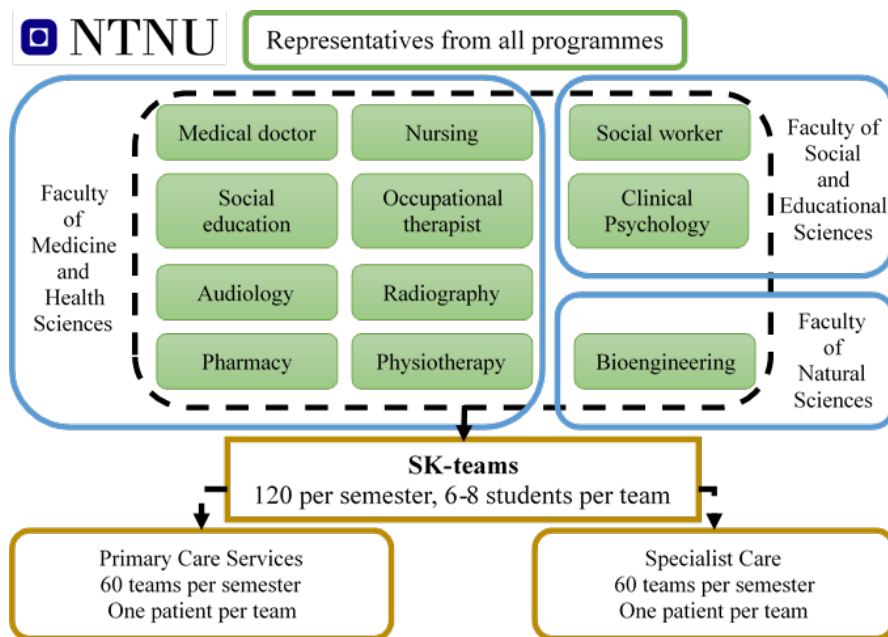
will build on, have been (1) to fully implement the project within the existing educational activities and organization and (2) detailed planning and follow-up from dedicated individuals across educations who are accessible and in a position to make things happen.

The project manager for the current application, Professor Aslak Steinsbekk, is the initiator and project manager for TverrSam, and has long and broad experience from innovative interprofessional educational and practice programmes. This also includes being PI on several research projects in this field. Aslak Steinsbekk is also the project manager for the SCOPE project.

A vital factor in this project is the active participation from all involved study programmes. Based on our experience from TverrSam, we will establish a steering group with one representative from each study programme, as well as representatives from the students, practice field and patient representatives. The staff and students will form the working group. In addition, due to involving programmes from other faculties, the project will be overseen by the deans for education at these faculties. The project will be located within the pedagogical unit (PLUS) at the Faculty of Medicine and Health Sciences, ensuring close contact with other educational development projects.

*What is the SK-team?*

The full-scale programme will include 11 health care professions with approximately 1000 students who are in their final year. Each SK-team will consist of 6-8 students. A team in Trondheim will typically, due to the size of the study programmes, include 1 medical student, 1-2 nursing students and 4-6 students from the other professions. For the other campuses, adjustments will be made, including inviting students from other educational institutions.



Each student will participate in two different teams, one in primary and one in specialist care. Each SK-team will be assigned one patient. The teams will work independently (without supervision), to ensure that students truly take independent responsibility. The work flow for one SK-team will be as follows:

1. The practice identifies eligible patients and asks the patient for consent to give the SK-team access to their health record and to be interviewed.
2. The SK-team reviews the patient's health record and interviews the patient
3. The SK-team completes their assessment and writes a summary of their findings, focusing on what they recommend as further follow-up of the patient. In addition, each student will provide the written documentation required of their individual profession.
4. The full report will be given to the patient, who can then choose if and with whom they share the report.
5. The SK-team can ask the patient for permission to contact the patient and/or his/her health contacts to get feedback on how the patient has been followed up including information about results of further investigations and treatment..
6. The students report back to the project/teachers on their experience and what may be improved.

Approximately 240 patients are needed per year, requiring both primary and specialist care to provide six patients a week for 20 weeks each year. This is well within what is feasible through our current co-operation with hospitals and municipalities.

### *Ethical considerations*

Student run clinics cannot be offered if they are not safe for the patients. In the current project, patient safety will be ensured through the selection of patients and settings. The SK-teams will not replace other health care services, but be an addition, as it provides a type of second opinion from an interprofessional perspective. Furthermore, the students are in their final year, meaning that they have practical clinical experience to build on.

### *Student run, is it needed?*

The responsibility placed on the students will be an innovation in and of itself. Practical learning activities in the health care professional programmes today are generally limited to specific tasks and activities organized by the students' teachers/supervisors. A typical statement from the students is that they "have watched" the professionals do their job. In an innovative education project supported by strategic funds from NTNU on interprofessional team work using virtual reality (VirSam), students from medicine and nursing worked independently on different cases. The feedback was that:

- This was the first time they had to take full responsibility.
- They had never had the practical experience of clarifying the roles of the different professions involved in patient care. On practice placements, they had followed someone from their own profession and taken part in that person's responsibilities, without considering where the limits of each professions responsibilities came from.

This, together with similar feedback in other settings, shows that students do not get enough experiences similar to the ones they will meet in practice after graduation.

#### *Why apply for funding from Rector?*

Our reason for applying for funding from the Rector is the extensive and demanding scope of large full-scale interprofessional projects. One prominent example of the challenges and resources required for such projects is the Experts in Team for master students at NTNU. We also have previous experience from several small interprofessional test projects, which have not succeeded in becoming everyday educational activities for all students. Thus, funding is needed to employ dedicated persons, including students, who will ensure implementation and start up, as this is highly resource demanding. But importantly, the continuation can be done without extra resources as the project will end with the activity being an integrated part of the everyday educational activities in each study program.

The project is of strategic importance both for NTNU and for other institutions educating health professionals. Firstly, all health care educations will have to adhere to new regulations (Forskrift om felles rammeplan for helse- og sosialfagutdanninger) where interprofessional competencies are required. Secondly, in 2019 and 2020, new national curriculums (rammeplaner) that build on these regulations will be put into effect for many of the study programmes involved. This project is thus a signal that NTNU acts proactively on the new regulation. The experience from this project can also be used in the work with the new curriculums itself and in the adjustments to these locally.

Based on our experience from TverrSam/VirSam, current political signals, and feedback from both students and the practice field, we believe that this project will play a crucial role in our initiatives to better prepare our students for professional practice.

Finally, the value of this project goes beyond the involved study programmes, as the knowledge on how to implement full-scale interprofessional education will be valuable to other educations requiring work-place relevant training.

#### *C.2. Evaluation and influence*

The starting point of our evaluation will be to investigate if we contribute to students being better prepared for clinical practice as a result of having worked independently and having

improved their interprofessional skills. Thus, we need to evaluate if we are able to develop and implement sustainable solutions. To do so, we will use the same evaluation and impact framework that we have used for SCOPE, the Normalisation Process Theory (NPT).

NPT is a framework for understanding the processes by which complex interventions are naturally integrated and sustained in daily work. It has been tested, refined and applied in studies conducted across diverse settings. There are four core constructs in NPT, defined as essential conditions and processes for new working practices to become a natural part of daily work: **Coherence**, **Cognitive participation**, **Collective action**, and **Reflexive monitoring**. The relationship between the constructs is not linear, they influence each other, and implementation work is necessary within all four constructs. The table gives an overview of the questions to be investigated to assess the interventions, building on:

<b>NPT components</b>	<b>Questions to be investigated</b>
Coherence (Makes sense)	Does the intervention have a clear purpose? Who will benefit from the intervention? Are the staff and students likely to value these benefits? Will the staff and students understand the intervention?
Cognitive participation (Engagement and commitment)	Will the intervention fit the overall goals and activity? Are the staff and students likely to think it is a good idea? Are the staff and students prepared to invest time and work in this?
Collective action (Facilitation for use)	How will the intervention affect staff and students? Is it compatible with existing practices? Will the staff and students need extensive training before they can use it?
Reflexive monitoring (Appraisal of value)	Are the staff and students likely to appreciate the intervention after a while? Can the intervention be improved on the basis of experience and feedback?

In order to ensure that the activities can be sustained after funding ends, the work will be integrated with our established pedagogical teaching and learning centre, PLUS. The knowledge gained will thus be applied within an established structure, whose task is to work with institutional educational development over time. The experience of students and others will be closely monitored to adhere to NTNUs quality system.

Our legacy, some years after completion, will be in the form of an innovative model for full-scale interprofessional practice programmes. This will be evident by our dissemination activities, as well as by having changed the curricula in other health care education programmes. It will also be evident in increased co-operation between personnel from the different study programmes, and how similar programmes at other institutions have started to build on the knowledge gained in this project.

### C.3. Dissemination

Our dissemination strategy is built around our target groups. Our primary target groups are 1) the staff and students at the involved study programmes, 2) other health profession programmes and institutions in Norway and 3) study programmes in other areas. The first two groups will be directly involved in the work, as we consider this the best method of dissemination. Locally, the NTNU merger, which brought most of the health education programmes together in one faculty, serves as a good starting point for co-operation. Coming together in a joint effort involving central aspects of the education will provide an opportunity for useful co-operation between the different study programmes administrations.

Through our national and international networks on interprofessional education, such as the TPS network in Norway, the Nordic NipNet and the European Eipen, we will share our knowledge and support other institutions in implementing similar activities.

Most of the student activities will be carried out in the practice field and the results made available for patients and professionals in clinical settings. This will constitute an important part of the dissemination, as the students will demonstrate the results of interprofessional teamwork.

This work will also have relevance for the health sector in general, and the dissemination activities to target the sector at large will be publications and presentations in professional forums.

### D. Documented educational quality in existing provision

#### D.1. Input factors

The Faculty of Medicine and Health Sciences at NTNU (MH faculty) is the result of the 2016 merger of The Faculty of Medicine (DMF) and health profession programmes at three former university colleges (Høgskolen i Sør-Trøndelag, Høgskolen i Ålesund, Høgskolen i Gjøvik). The MH faculty currently has 838 employees in teaching positions. Of these, 206 (25%) are professors. Currently, there are approximately 7250 students at the faculty. Our health profession programmes have high grade point averages for admission, with the medical doctorate programme requiring 67.0/60.7 and the nursing programme 51.7/47.3 points in 2016.

Our main campus in Trondheim is integrated into St. Olavs hospital, and has close cooperation with other hospitals and primary health care services, providing joint learning spaces for students, research facilities and staff offices within the clinical areas. Thus, research, clinical and academic functions are intertwined, exposing students to the work field

on a daily basis. The students have access to the same extensive range of international journals, e-books and databases as the staff.

In 2016, the faculty published 1085 scientific papers and awarded approximately 70 PhDs. The Faculty has a long tradition of excellence in research, including the 2014 Nobel Prize in Physiology/Medicine. It currently hosts two Centres of Excellence in Research (SFF) and one Centre of Excellence in Innovation (SFI) in addition to six other major research centres. The Faculty also has a long history of engagement in education research, on which the project will build. Formal pedagogical training is a requirement for permanent employment.

All our health profession programmes have a common foundation in offering a holistic view of patients, and emphasising communication both with patients and within and between professions. All students are offered the possibility of going on an exchange. In addition to normal exchange agreements, the Faculty has a collaboration with a range of additional teaching institutions internationally; allowing students to go on short stay and term exchanges, have practice placement and do thesis work abroad.

The MH faculty also has a self-developed course in facilitating PBL groups that has been run for more than 20 years, training 30 staff members and 40 students annually, as well as external participants. Many teachers have combined positions as academics and clinicians, ensuring close connection with the field of practice. The Faculty hosted the large AMEE (International medical and health education) conference in 2007. We present papers at this conference every year, as well as sponsoring student participation from different study programmes and campuses.

As described above, the MH faculty has established a Teaching and Learning Centre (PLUS) with a full time professor as leader, co-located with the deans for education and work places for study program leaders in order to facilitate a pedagogical development and dissemination. The faculty has also allocated large funds for educational development projects within the PLUS centre, including PhD positions.

#### D.2. Process factors

The MH faculty has a variety of programmes that are all regarded as leading nationally. Generally, they employ an integrated curriculum model combining on-campus educational activities and off-site practice placements. Several of the programmes include PBL, which helps the students become oriented towards transformative learning through engaging them in identifying problems and finding answers. In a PBL-session, students decide their own



learning objectives, organise the work and identify relevant research literature in order to solve the problem.

Most of the academic staff are researchers as well as educators, and in some programmes, the majority are also clinicians. Our educators thus have a very good foundation for basing their teaching on the desired learning outcomes, published research and prevailing clinical methods. Consequently, students are exposed to research through lectures and reading. There are also other opportunities for students to engage in research. One prominent example is the integrated research program in medicine, which annually admits 12 students who complete half the required work for a PhD whilst in medical school.

All health care programmes at the faculty provide students with early patient contact, which has been a key feature and is highly appreciated by the students. This helps the students orient themselves towards their future task from day one, and they learn to communicate, examine and prescribe treatment for real patients with an increasing degree of independence. We also employ simulation exercises and training on mannequins, to allow the students to practise skills in a safe environment. Simulation exercises are also currently used to bring students from different health professions together to practice collaboration in realistic clinical settings.

Student assessment reflects our programmes' focus on the learning outcomes, leading to a variety of formative and summative assessments. The summative assessments range from Multiple Choice Questions with single best answer, via written exams to different types of practical exams.

In terms of formative assessment, PBL provides students with continual feedback on group dynamics and acquisition of methodology skills. During the different types of practice placements, the students are provided with feedback and supervision on communication and clinical skills, both from the university employees and from those in the practice field. Our programmes, in common with the other similar programmes in Norway, have been criticised for the amount and quality of feedback to the students, particularly feedback on clinical skills acquisition. We have taken steps to address this, and the SK-team can further contribute through providing the students with feedback from other team members.

The faculty has a long history of strong student involvement. Reference groups are the main vehicle for feedback from students. Reports from the reference groups are a significant part of the annual quality report to the programme boards, which are responsible for overall programme quality. The students also systematically evaluate different teaching activities, the practice placements and assessment quality. Students have permanent places on the Faculty

Board, the Programme Boards, and on the Dean's and the Programme leader's advisory boards. There are student representatives on a range of other committees, including all committees working on curriculum development.

#### D.3. Outcome factors

Our study programmes are generally known for a low dropout rate, likely due to their popularity. One example is the medical program where approximately 93 % of the students graduate and about 90% finish within the estimated time. Furthermore, current feedback from the practice field indicates that our students are well prepared for their work as health care professionals.

We have some evaluations of how students evaluate teaching activities after they graduate. One relevant example for this application, is the evaluation of TverrSam. In the spring of 2016, a cross-sectional study was performed where all potential TverrSam participants in 2014-2016 (N=2044) were invited to answer questions about the experience and benefit of TverrSam. The response rate was 26%, but the composition of sexes and professions in the group of respondents matched the composition of participants in TverrSam. The majority (84.0%) recommend continuation of TverrSam, and 60% answered that participation in TverrSam would have a positive impact on their work after graduation. Furthermore, 60% that stated that TverrSam was relevant for their study programme. Importantly, 70% of the student wanted the programmes to spend more time on learning about other professions, and the free text comments also strongly pointed to the lack of interprofessional education. Compared to other published studies in this field, TverrSam scored very high on being a useful and positive experience for past participants.

## ATTACHMENTS

- Reference list
- Funding plan for the project period, with the project's total expenses broken down by each project year
- Action plan with milestones.
- Course description(s) and study programme description(s) relevant to the application

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## FUNDING PLAN

<b>Cost</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Total</b>
Pay roll	1 238 290	1 269 247	1 300 978	3 808 515
Indirect expenses	662 014	678 564	695 528	2 036 106
Operating expenses	300 000	200 000	100 000	600 000
<b>Total</b>	<b>2 200 303</b>	<b>2 147 811</b>	<b>2 096 506</b>	<b>6 444 620</b>
<b>Funding</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Total</b>
Rector	1 000 000	1 000 000	1 000 000	3 000 000
Own	1 200 303	1 147 811	1 096 506	3 744 620
<b>Total</b>	<b>2 200 303</b>	<b>2 147 811</b>	<b>2 096 506</b>	<b>6 444 620</b>

Payroll covers 1.5 full year equivalents each year. This will cover employment of personnel to do the work required, and includes the cost of setting up and running the project itself - including research, development and dissemination activities.

The students are generally very active in extracurricular work and in the student democracy at the faculty. As we will have a high level of involvement of students in our work, we are conscious that we must not “steal” students from other activities. We will therefore pay students taking part in setting up and evaluating the project.

Operating expenses covers costs for operational activities and tasks in the project; meetings, travel, procurement for minor equipment, workshops etc.

We will also apply for external funding for additional research activities.

## ACTION PLAN WITH MILESTONES

The project period is from 1/1-2018 to 31/12-2020.

<b>Milestone activity</b>	<b>Deadline</b>
Engagement of project manager	01.02.2018
Work groups established	01.03.2018
Start of pilot with three trial SK teams	01.09.2018
Evaluation of pilot with three trial SK teams finished	01.11.2018
Registering SK teams as obligatory part of subjects in relevant study programmes	15.11.2018
Start of pilot with minimum 10 trial SK teams	01.02.2019
Evaluation of pilot with minimum 10 trial SK teams finished	01.05.2019
Plan for full-scale implementation of SK teams in all programmes	01.06.2019
Start of full-scale implementation of SK teams	01.09.2019
SK teams evaluated and adjustments made for continued interprofessional clinical practice in all study programmes	30.06.2020
Evaluation report finished and two research articles submitted	31.12.2020

The main challenge for this project is to make the SK-team sustainable in everyday day-to-day operation of the programmes. Therefore, the first part of the project will emphasise gradual step up implementation with a focus on adjusting the organisation and activities to ensure sustainability.

We will have two pilots. The first pilot will give us the needed knowledge for making the changes in “Emner på nett” (November) in time to be ready for the full-scale implementation the next study year. The second pilot will provide the experience needed to do the detailed adjustments that ensures the success of the full-scale implementation.

Importantly, the final year of the project period will constitute the first year of full-scale implementation of the student-run clinic. Supporting the programmes during the first year of full-scale implementation will be crucial in ensuring that they are able to take full responsibility for running and completely integrating the SK teams in their curricula.

## Student-run Interprofessional teams

Evaluation is a central part of the project throughout, but particularly so in the last phase: It is knowledge about full-scale running of interprofessional educational activities that is lacking, and where this project is in a unique position to contribute.

## Course description(s) and study programme description(s) relevant to the application

A major strength of this application is that all relevant programmes was invited to participate and everyone agreed. This means involvement of 11 different study programmes including all campuses. Due to the size, we have not included a detailed programme description for all the relevant programmes here. Furthermore, the different study programmes will integrate the SK-teams activity into different courses, as the SK-teams will not be a separate course. This might be unusual for those used to thinking in terms of separate courses. However, we have experience with this from TverrSam. The different programmes have integrated the TverrSam learning outcomes within the learning outcomes they have for the subjects where TverrSam is placed. The reason is practical, each interprofessional activity is too small to be a 7,5 study credit course.

However, in the long run, maybe even within the project period (re the ongoing work with new national curricula which will be implemented from 2019/20), one possible solution is that different interprofessional activities are organised within one subject. One scenario can be that the work regarding “områdeemner”<sup>1</sup> (area subjects) at NTNU leads to interprofessional activities becoming one such subject.

Based on this, we have chosen to give a broad overview of the main programmes.

Additionally, we have included examples of learning outcomes, both those that are specific for some of the professions and those relevant for the SK-teams.

## Overview of study programmes

The numbers below include students in the involved programmes who started 3/6 years ago and are active students in the autumn semester 2017. Approximately 1/3 of our bachelor students will be involved in SK-teams each year. This equals close to 900 bachelor students and 200 master students.

Profession	Number of students in all years of the study	Short program description
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<sup>1</sup> The report on «områdeemner» suggested that:

- These be placed in the 4.th-6.th semester
- Should preferably be relevant to post graduation work
- Should include students from different subjects or professions that might work together post graduation, so that they may learn from, with and about each other.

Student-run Interprofessional teams

	<b>programmes as of 12.10.2017</b>	
Nursing	657 students in bachelor's in Nursing at Campus Trondheim, 391 at campus Ålesund and 709 students at campus Gjøvik.	<p>The nursing program is a qualifying program. It gives the students knowledge and competencies in treating and taking care of people during important life events.</p> <p>Studies in clinical practice takes place in both hospitals, nursing homes and home based care - totally 52 weeks of a bachelor in nursing.</p>
Audiology	122 bachelor students at campus Trondheim.	<p>Audiographers are specialists in hearing and have the responsibility of doing investigations and rehabilitations for people with hearing difficulties and/or hearing loss. The job of the audiographer is to aid people with reduced hearing, so that they may function better in their everyday life.</p>
Occupational Therapy	234 bachelor students at campus Trondheim and 97 students at campus Gjøvik.	<p>Occupational therapists help people who struggle to function in everyday life due to illness, injury or other disabilities. They enquire into peoples' abilities and difficulties, and try to figure out what training, exercise, adaptations in their environment and general aids each individual might benefit from.</p>
Physiotherapy	207 bachelor students at campus Trondheim.	<p>Physiotherapists understand the body and its movements. They have knowledge about how the body can be seen in relation to the environment and society.</p> <p>Through investigations, physiotherapists figure out what opportunities for better health the patients have, through treatment and exercise. Physiotherapists also work prophylactically. They give advice and institute training to prevent injuries.</p>
Social education	280 bachelor students at campus Trondheim.	<p>The bachelor program qualifies the students as social educational workers. It ensures that the student becomes a professional who might help people with disabilities, such as developmental disabilities, cognitive disabilities, multiple functional disabilities, dementia and psychological disabilities. The bachelor program emphasises lifetime development.</p>
Radiographer	123 bachelor students at campus Trondheim and 90	<p>The bachelor of radiography curriculum includes both technological and healthcare subjects. As the radiographer's responsibilities cover only a small</p>

Student-run Interprofessional teams

	students at campus Gjøvik.	part of health care services as a whole, cooperation with other personnel categories is quite important. Core courses are anatomy, pathology, radiation physics, patient care, trauma, radiation protection and digital imaging.
Social work	Approximately 250 bachelor students at campus Trondheim.	Social work is a profession based on practice, as well as a scientific subject that tries to promote social change and development. Principles include social justice, human rights, collective responsibility, respect for diversity, as well as several different theories. These aspects are the basis of social workers' competencies in their practice with children, adults, groups and society.
Bioengineer	Approximately 200 bachelor students at campus Trondheim and at campus Ålesund.	<p>A bioengineer is both a health care professional and an engineer. They are responsible for the day to day work with analysing tests in a medical laboratory.</p> <p>Bioengineers take tests from patients and examine them, for instance blood work and tissue samples. They are responsible for handling and analysing them correctly. The degree of patient contact varies among the specialities.</p> <p>The bioengineer bachelor trains health care personnel qualified to work in medical laboratories. Upon graduation, students can also go on to do a master's degree.</p>
Psychology	Approximately 350 students in the clinical programme at campus Trondheim.	<p>Psychology is the study of behaviour and experience of humans and animals, where the characteristics of these are sought to be explained through theories based on observations and measurement.</p> <p>At the Department of Psychology at NTNU, research and education in this subject are built up with emphasis on five different perspectives:</p> <ul style="list-style-type: none"> <li>• biological psychology</li> <li>• cognitive psychology</li> <li>• social psychology</li> <li>• personality psychology</li> <li>• developmental psychology</li> </ul>

## Student-run Interprofessional teams

		<p>In the vocational programme we emphasize the application aspect of these fields by using skill training and practice.</p> <p>The programme qualifies the students as a psychologist in Norway.</p>
Pharmacy	60 master students at campus Trondheim.	<p>The Master of Science in Pharmacy has a wide range and covers subjects from the basic sciences of chemistry, biology and medicine to specialised subjects in production of pharmaceuticals and the pharmacological treatment of patients. Pharmaceuticals are cornerstones in modern medicine, and pharmacists play a vital part in development, production and use of drugs.</p> <p>The Master of Science in Pharmacy is a two-year programme which gives 120 ECTS credits. It is composed of a selection of courses and a research-based master's thesis.</p> <p>The MSc programme only accepts students with a bachelor's degree in Pharmacy which has given the grounds for authorisation/license as a prescription pharmacist.</p>
Medical doctor	Approximately 700 students at campus Trondheim.	<p>Over 6 years, the medical study educates the students to a level of qualification which enables them to function as house officers at hospitals. This type of medical qualification is comprehensive and covers knowledge and skills as well as attitudes. It is the Faculty's responsibility to design a programme that will take the students to this goal during the stipulated period of study. A necessary part of the process is to let the students know how they are doing from time to time in relation to the drawn path and whether they are able to follow the expected ascent in qualifications towards the goal. This is the purpose of the exams, while the learning objectives aim to guide the students in advance as to what they are expected to know for the exam.</p>

### Learning outcomes

#### Examples of uniprofessional learning outcomes

Learning outcome	Program
har avansert kunnskap innenfor de basale og anvendte fagene i profesjonsstudiet, fagområdets vitenskapelige teorier og metoder	Psykologi

Student-run Interprofessional teams

er bevisstgjort at psykologrollen stiller krav til kontinuerlig yrkesmessig og personlig utvikling	Psykologi
inngående kunnskap om bruk av legemidler og legemidlers plass i forebygging og behandling av sykdom ut fra et individ- og samfunnsperspektiv	Farmasi
har bred kunnskap om sentrale temaer, teorier og problemstillinger innen sykepleievitenskapelige emner	Sykepleie
kan ivareta pasientens grunnleggende behov ved å observere, vurdere, planlegge, iverksette, evaluere og dokumentere sykepleie	Sykepleie
Etter fullført studium har den nyutdannede legen medisinsk kunnskap, ferdigheter og generell kompetanse til å utøve legeyrket på en god, ansvarlig, reflektert og omsorgsfull måte	Medisin

Examples of interprofessional learning outcomes

<b>Learning outcome</b>	<b>Program</b>
kunne samarbeid med annet helsepersonell om optimal legemiddelbehandling til den enkelte pasient	Farmasi
kan kommunisere om psykologfaglige problemstillinger i ulike kontekster	Psykologi
kan samhandle tverrprofesjonelt for å skape et koordinert, helhetlig og sammenhengende tjenestetilbud	Sykepleie
kan identifisere problemstillinger, gjennomføre diagnostikk, iverksette behandling og/eller forebyggende tiltak samt oppfølging ved ulike sykdomsgrupper og tilstander i samarbeid med pasienten og ulike helseprofesjoner	Medisin
opptrer respektfullt i møte med alle brukere og samarbeidspartnere	Medisin
kan kommunisere muntlig og skriftlig om helsefaglige problemstillinger, både med helsepersonell og allmennheten	Medisin
kan utøve ledelse i akuttmedisinske situasjoner der beslutningstaking, kommunikasjon og samarbeid med andre profesjoner kreves	Medisin