

Quality Report 2022

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Introduction

Sunnaas Rehabilitation Hospital specialises in physical medicine and rehabilitation, and one of eleven health enterprises within the Southern and Eastern Norway Health Authority. Most of the patients come from the southeast part of Norway. The hospital also welcomes patients from all over the country and interacted with approximately 230 municipalities in 2022. Based on the national values of quality, safety and respect, Sunnaas Hospital also adds the following values of professionalism, commitment and joy.

Sunnaas Hospital offers highly specialised rehabilitation for patients with spinal cord injuries, brain injury, stroke, multitrauma, cognitive challenges, pain conditions, severe burns, neurological diseases and rare congenital diagnoses. We offer clinical services organized as bed units, ambulatory and outpatient services, in-person attendance and digital consultations. Rehabilitation services are provided in different phases after the injury or illness has occurred. The hospital has lifelong follow-up responsibility for some of the target groups.

Systematic quality and patient safety work

Sunnaas Rehabilitation Hospital will work to establish equal services for all, ensure quality and patient safety, and optimising the use of resources as much as possible.

Regulations on management and quality improvement, the National Action Plan and regional secondary strategy for patient safety and quality improvement form the framework for quality and patient safety work. We also adhere to an international quality system adapted to medical rehabilitation, the Commission on Accreditation of Rehabilitation Facilities (CARF). CARF is an international non-profit organization that accredits medical rehabilitation service providers worldwide. The accreditation applies to several rehabilitation programmes in addition to the systems at an organizational level.

CARF-accredited rehabilitation programmes

- Inpatient rehabilitation programme – Adults
- Inpatient rehabilitation programme – Paediatric Specialty Programme
- Inpatient rehabilitation programme – Brain Injury Programme, Adults
- Inpatient rehabilitation programme – Brain Injury Programme, Paediatric Specialty Programme
- Inpatient rehabilitation programme – Spinal Cord Specialty Programme, Adults
- Inpatient rehabilitation programme – Spinal Cord Specialty Programme, Paediatric Specialty Programme
- Inpatient rehabilitation programme – Stroke Specialty Programme Adults
- Interdisciplinary outpatient medical rehabilitation programme – Brain Injury Specialty Programme Adults
- Interdisciplinary outpatient medical rehabilitation programme – Spinal Cord Specialty Programme Adults
- Interdisciplinary outpatient medical rehabilitation programme – Stroke Specialty Programme Adults

New comprehensive quality system and the Sunnaas Quality Register

A new comprehensive digital quality system was introduced in 2022. The system includes the modules Document management system and deviation system. In the long term, more modules for audits, risk management and action plans will also be implemented. This will make improvement work and good corporate governance easier and better. Another focus area is the planned work on the Sunnaas quality register, which will be up and running in 2023. Systematic registration of high-quality data will improve the work of analysing performance information and will support further improvement work.

Working environment and patient safety

Our work to see the working environment and patient safety in context is important and evolving. In 2022, the hospital introduced a new comprehensive quality system that forms the basis for seeing environment, health and safety (EHS) and patient safety in context, and finding the reasons why incidents occurs so that the right measures can be taken. In 2023, new forums will be established to see the connections and interact more closely on working environment and patient safety issues. An analysis of serious-significant undesirable incidents is carried out every year. The analysis provides an overview of significant patient-related, staff-related and operational incidents reported in the undesirable incident reporting system. The analysis for 2022 shows a reduction in reported significant incidents compared to previous years. In 2022, only two significant incidents were recorded compared to 11 significant incidents in 2021. Part of the reason for the reduction may be the work done on more correct categorisation of severity according to guidance from the Norwegian Coding System for Undesirable Incidents (NOKUP). Management involvement and follow-up of undesirable incidents are important criteria for achieving this. Undesirable patient incidents are discussed at all management meetings, and there is an increased focus on learning value at the system level. Continuous work to maintain a good reporting culture is important, especially in categories where less reporting is done. Safe employees and openness about incidents are key to learning from and preventing patient injuries.

Focus Areas

Patient safety work is anchored in the National Action Plan and Regional Secondary Strategy for Patient Safety and Quality Improvement. Sunnaas Hospital complies with the initiative for areas of the "I Trygge Hender 24/7" patient safety programme. Improvement work is evaluated at our organization through management reviews.

- Prevention of falls
- Prevention of pressure sores
- Medication reconciliation
- Safe discharge
- Undernourishment
- Early detection of sepsis at bed wards

Antibiotic control

The consumption of broad-spectrum antibiotics is to be reduced. The hospital had an increasing consumption of antibiotics in 2022. This negative development requires better follow-up of national professional guidelines for antibiotic use. The goal for 2023 is for broad-spectrum antibiotics to be kept at the same level or lower than in 2019.

Improvement visits All clinical departments and units with patient services conduct improvement visits annually. Here, representatives from senior management and healthcare professionals meet in clinical practice at dialogue meetings on patient safety.

Internal audits are conducted according to the approved audit programme. Internal auditing is a self-check that helps ensure that the hospital follows internal and external requirements, reduces risk and identifies areas for improvement.

User Interaction

The hospital has a user committee and a youth council. The committees actively participate in reviewing goals, building plans, development work and strategic processes at the hospital. The user committee and the youth council promote views and issues that can improve patient services for adults and younger users. The hospital arranges general meetings for patients and dialogue meetings with user organizations representing the patient groups at the hospital. When meeting individual patients, the hospital offers dedicated training for patients and their loved ones. The Regional Secondary Strategy for Patient Safety and Quality Improvement supports efforts to increase user involvement in patient work. Patients and next of kin should be involved in decisions throughout the rehabilitation process. The hospital has peer consultants who play a significant role in assisting patients in the rehabilitation process.



Goal achievement for selected indicators

The results of this quality report are visualised through the use of "traffic lights" such as green, yellow, and red, *Table 1*. Key Performance Indicators (KPI) are measurable and show development aimed at specific goals, enabling decision-makers to assess goal achievement within given limits.

High goal achievement <i>Result is within acceptable level</i>	Moderate achievement <i>Result is outside acceptable level and should be reviewed</i>	Low goal achievement <i>Result is substantially outside acceptable levels and should be reviewed in detail</i>
KPI 1.2 a. Inpatient discharges: Result: 3076. Goal: 2910.	KPI 1.1 Average arriving waiting time Result: 55.5 d. Goal: <50 d.	
KPI 1.3 Video and telephone consultations Result: 38% Goal: ≥30%	KPI 1.2 b. Outpatient consultations Result: 9140. Goal: 9600.	
KPI 1.4 Use of interpreters; remote interpretation Result: 89% Goal: ≥70%		
KPI 1.5 Passed scheduled time Result: 4% Goal: < 5%		
KPI 2.2 a. Patients not arriving to outpatient clinic appointment Result: 1.8% Goal: ≤ 1.5% Threshold: < 3%		
KPI 2.3 Discharge summary time. Result: 78% Goal: 70%		
KPI 3.1 Functional Independence Measurement Traumatic brain injury Result: 21.3 points Goal: >20 points	KPI 3.1 Functional Independence Measurement Spinal cord injury adults Result: 17.3 points Stroke Result: 16.5 points Acquired brain damage, children and adolescents Result: 15.2 points. Goal: >20 points	KPI 3.1 Functional Independence Measurement Multitrauma, burns and Guillain-Barré syndrome Result: 13.1 points Goal: >20 points
		KPI 4.2 Fall Result: 2.6 per 1000 beds Goal: ≤ 1.5 per 1000 beds
KPI 4.5 Prevalence of health-related infections Result: 1.4% Goal: <3%		KPI 4.4 Antibiotic use, reduction compared to 2012: Result: 25%. Goal: 30%
		KPI 5.1 Patient satisfaction response rate Result: 44% Goal: ≥ 60%

KPI 5.3 All in all, how satisfied you are with your stay Result: 91% Goal: >90%	KPI 5.2 a. Patient satisfaction – goal achievement, long stays Result: 74% Goal: >75%	KPI 5.2 b. Patient satisfaction – Goal achievement, short stays Result: 55% Goal: >75%
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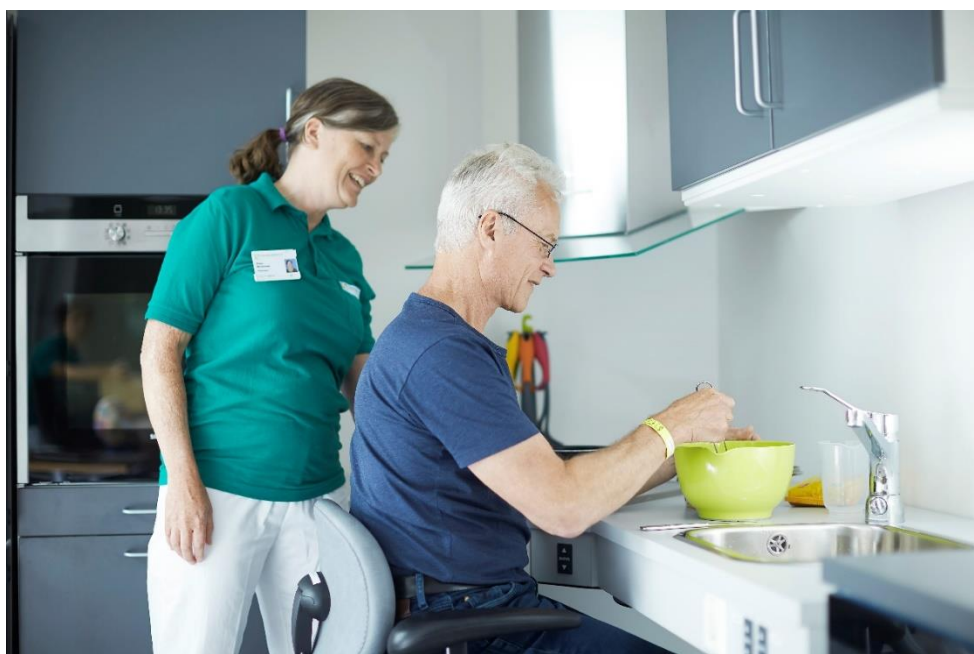
Table I Overview shows improvement areas the hospital has selected as key figures. To assess the degree of goal achievement, it is essential to define metrics and limit values for each quality indicator. The overview shows only those areas where the hospital has defined threshold values for KPI=Key Performance Indicator.

Patient data per rehabilitation programme

The hospital uses the term "primary rehabilitation" for the rehabilitation carried out immediately after acute injury or illness. Primary rehabilitation stays have a longer duration than programmes such as health checks, assessments and other types of follow-up stays. We have prepared tables with various diagnosis-specific rehabilitation programmes that patients have been admitted to.

The tables are divided into services for adults, children and adolescents 0-18 years. It states how many times the rehabilitation programme has been completed and the number of unique patients who have been offered a place. The programme can be implemented several times for the same patient.

With regard to gender distribution, the tendency is that there are more men admitted to rehabilitation than women are. For inpatient adults, the age varies from 19 to 87 years. The average age is 48 years per programme. Percentage distribution: women 42 percent / men 58 percent.



Adults: Primary rehabilitation and pain rehabilitation

Programme specific	Completed	Unique patients.	Proportion of women	Avg. age	Max. age	Min. age	Median age
Stroke	127	127	33%	54	75	22	56
Mild to moderate cognitive sequela	152	150	47%	47	71	19	49
Multitrauma, neurology and burns	77	77	32%	47	76	20	48
Spinal cord injury	73	73	30%	54	80	21	55
Pain	45	40	67%	48	72	21	48
Pain – Hypermobility	106	92	94%	39	77	19	37
Traumatic brain injury	65	64	14%	46	71	22	46

Adults: control – assessment – follow-up – group

Programme specific	Completed	Unique patients.	Proportion of women	Avg. age	Max. age	Min. age	Median age
Stroke	300	221	36%	56	85	22	58
Mild to moderate cognitive sequela	321	239	52%	49	72	19	51
Multitrauma, neurology and burns	96	90	46%	50	81	19	53
Spinal cord injury	534	487	30%	52	85	19	54
Traumatic brain injury	70	63	23%	45	76	19	47

Adults: specific rehabilitation programmes

Programme specific	Completed	Unique patients.	Proportion of women	Avg. age	Max. age	Min. age	Median age
Ability to work	102	98	47%	42	64	21	43
Cerebral palsy	107	94	62%	40	74	19	38
Poliomyelitis	35	35	71%	68	87	31	73
Rehabilitation potential	185	175	52%	48	77	22	48
Spasticity	74	51	50%	52	78	23	54
Eating and swallowing	80	80	44%	61	86	20	65
Transportation assessment	203	197	30%	48	83	19	51

Children 0-18

Programme specific	Completed	Unique patients.	Proportion of women	Avg. age	Max. age	Min. age	Median age
Acquired brain injury – Primary rehabilitation	27	27	52%	14	18	1	15
Acquired brain injury - Control- Assessment - Follow-up group	16	16	31%	13	18	4	15
Spinal cord injury and multitrauma – Primary rehabilitation	8	8	63%	15	18	12	15
Spinal cord injury and multitrauma – Control – Assessment – Follow-up – Group	25	22	56%	12	18	3	13
Eating and swallowing – Specific rehabilitation programme	14	14	36%	8	18	3	6
Transportation assessment	53	53	40%	17	18	16	17
Other – Specific rehabilitation programme	14	13	43%	17	18	13	18

Table II describes completed programme, unique patients per programme and demographic patient data. "Completed programme" mean how many times the programme has been completed during 2022.

1 Availability

1.1 Average number of days waiting for admission

The waiting time for admission at Sunnaas Hospital was 55 days in 2022. This is an increase from 47 days in 2021.

The change in waiting time is related to variation in access to resources, as well as the fact that the hospital has increased outpatient services in 2022. In autumn 2022, inclusion criteria were sharpened and resources adjusted to reduce waiting times for outpatient services. The hospital continues to further develop the arena-flexible assessment programme by offering outpatient services to those patients who can benefit from it. It is expected that this will help reduce waiting times. Efforts are also being made to improve the planning horizon by increasingly establishing fixed times and fixed resources for outpatient activity. The hospital plans for overbooking of patients, mainly in short stay departments where patient appointments can be changed at short notice. Waiting time figures are counted once a month. This means that it shows the waiting time at the time the withdrawal takes place, therefore any incorrect registrations in the assessment of referrals may then affect waiting days. Good registration practices and secondary control checks are constantly being worked on.

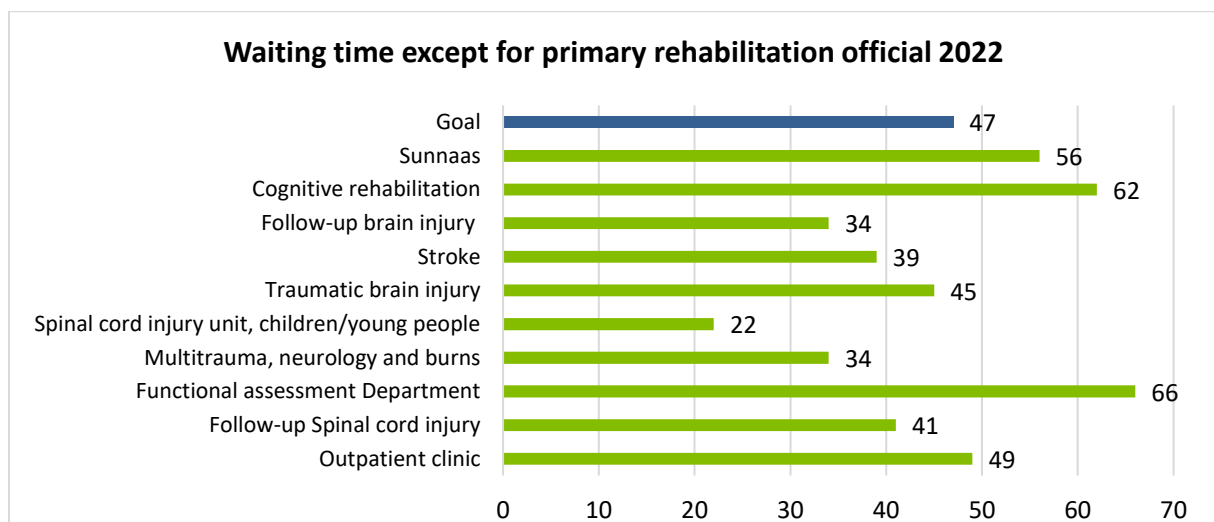


Figure 1: Waiting times – excluding primary rehabilitation – Sunnaas Hospital.

The hospital has an overview of waiting times for patients referred for primary rehabilitation. Patients referred for primary rehabilitation after a new injury or acute illness are already in treatment and are not included in the official waiting time statistics. For these patients, the hospital has chosen monthly point measurement to have an overview of waiting times for patients who are in the course of treatment.

1.2 Inpatient and Outpatient Discharges

The hospital has a bed capacity of 153 beds. In 2022, the hospital had 3076 inpatient discharges. This is an increase from 3057 in 2021. The goal for 2022 was 2910 inpatient discharges.

The hospital reduced the number of beds from 159 to 153 in 2022, while increasing outpatient activity by nearly 1000 consultations compared to 2021. The change is in line with the planned restructuring of clinical rehabilitation services; from bed to outpatient clinic.

In 2022, the hospital conducted 9140 outpatient consultations. The goal for 2022 was 9600 consultations. A total of 460 fewer consultations were carried out than planned. One of the reasons is that fewer group sessions were conducted at Studio 99 than planned. There were few applicants for one group offer at Studio 99, and the offer has now been further marketed to reach the target group. Another reason why the target was not achieved is that a higher number of consultations in 2022 was budgeted for several of the hospital's departments than was the actual result. Several departments have developed their outpatient services for patients, and have increased outpatient activity. Further development work is ongoing to provide patients with an arena-flexible service in all departments.

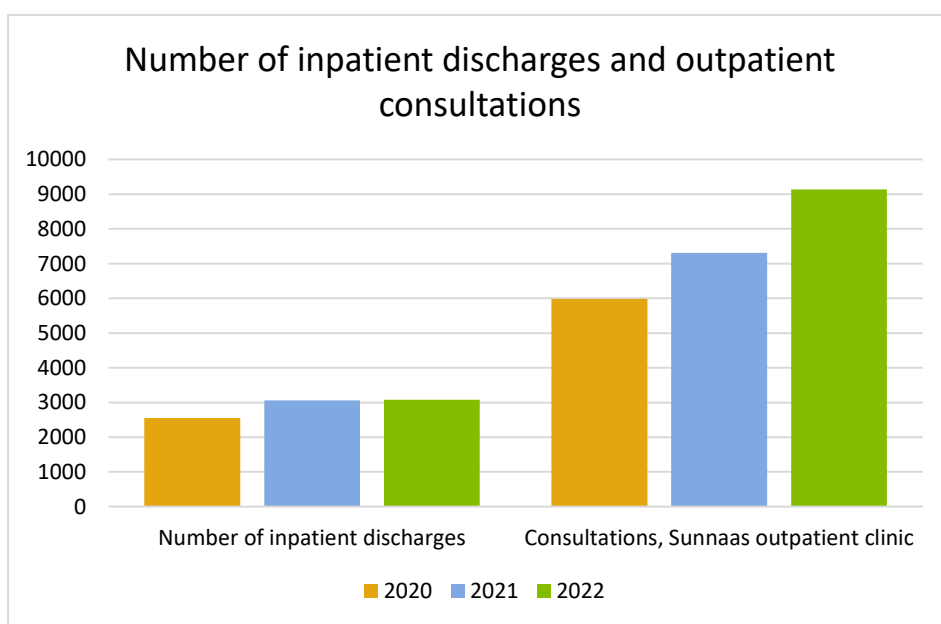


Fig. II Number of discharges and consultations conducted at Sunnaas Hospital.

1.3 Video and telephone consultations

In 2022, 38 percent of all outpatient consultations at Sunnaas Hospital were conducted over video and telephone. This is 23 percentage points above the requirement from the Southern and Eastern Norway Regional Health Authority that all health trusts in the region must carry out at least 15 percent of outpatient consultations via video or telephone.

Video accounted for 28 percent at Sunnaas Hospital, which is the highest proportion of video consultations in the Southern and Eastern Norway Regional Health Authority, where the average is 1.7 percent. Telephone consultations accounted for 10 percent, which is on average in the region.

Internally at Sunnaas Hospital, the Cognitive Rehabilitation Department has the highest number of video consultations. Around half (1232) of all video consultations are conducted here. This is followed by the Department of Outpatient Clinic, Admissions and Ambulatory Service (PIA) and the Functional Assessment Department (FUV).

Video conferencing usage overall has also increased in 2022. Since many administrative meetings have now been moved over to Teams, a decline in videoconferencing use via the Norwegian Health Network was expected in 2022. Nevertheless, it turns out that videoconferencing over the health network has increased by around 20 percent last year. In 2022, more than 12 700 video calls were conducted on the Norwegian Health Network. Videoconferencing is also used for internal and external clinical meetings, video interpreting, group training at Studio 99, conversation and coping groups and next of kin services.

The clinical use of videoconferencing seems to have become a natural part of the treatment and clinical work at Sunnaas. The use of videoconferencing is in line with the hospital's strategic goals, set out in the digitalisation plan, among other things. Procedures and checklists for video consultations have been reviewed and revised in 2022. Efforts are being made to develop a regional e-learning course on video consultations in which Sunnaas Hospital plays a key role.

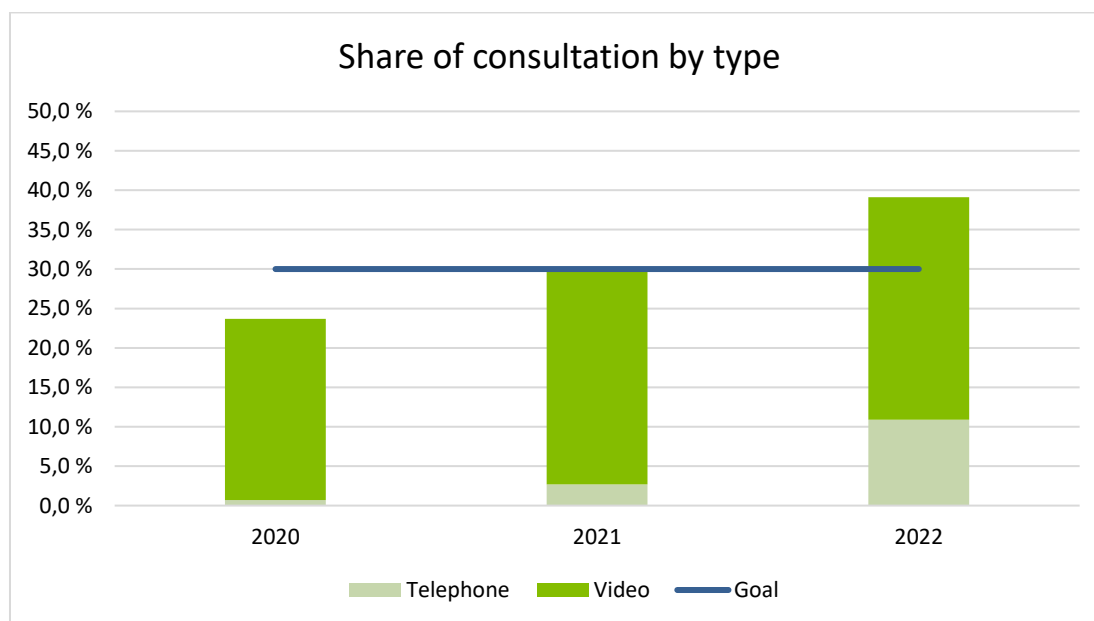


Fig. III Number of video and telephone consultations by type at Sunnaas hospital.

1.4 Use of interpreters, remote interpretation

The hospital records the number of interpretation assignments, the language required, the interpreter's qualifications and the type of interpreter used. 87 percent (95 percent in 2021) of completed interpretation assignments at Sunnaas Hospital in 2022 have been carried out by interpreters with state authorisation or interpreting training (Categories A, B, C and D; see www.tolkeregisteret.no).

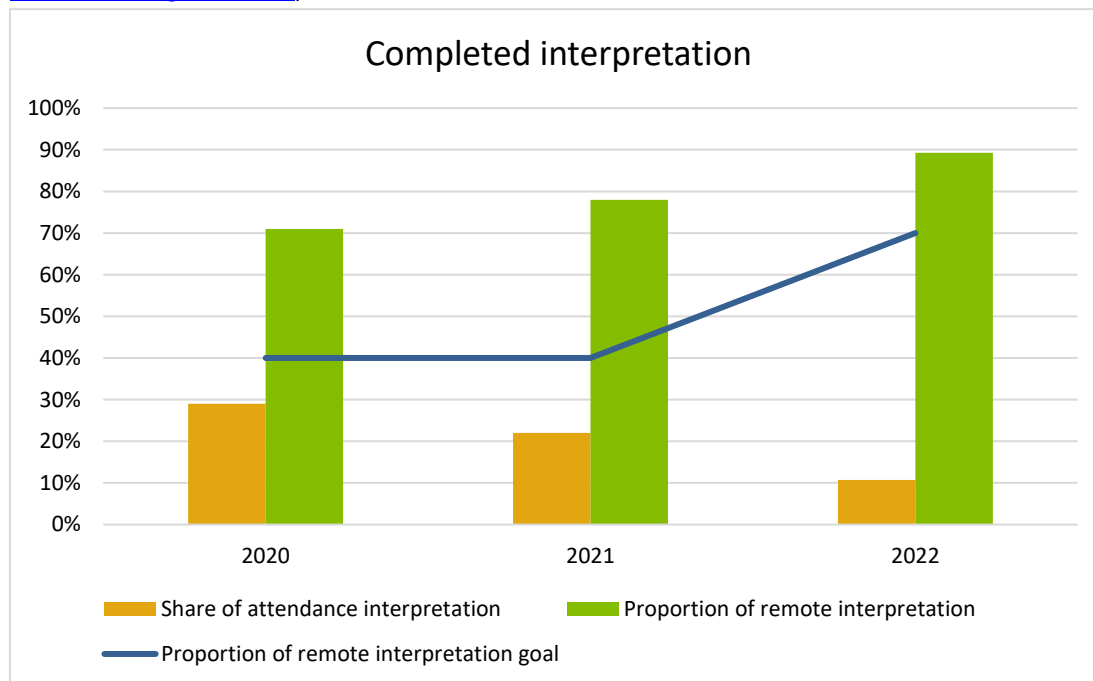


Fig. IV Interpreting – method of interpretation at Sunnaas Hospital.

Interpreters have been provided in 19 different languages in 2022 (28 in 2021). The largest language group is Russian (268), followed by Polish (225), Ukrainian (193), Lithuanian (64), Arabic (53), Thai (42), Albanian (32), Somali (32) and Bulgarian (32).

The number of interpretation assignments has increased from 708 (2021) to 1073 (2022). There may be several possible reasons for this increase, including the generally expected increase compared to previous years, increased access to qualified interpreters through the use of videoconferencing on several different platforms, and the need for interpreters in connection with more hospitalised patients as a result of war in Europe. Increased use of Ukrainian and Russian is an indication of the latter increase that differs from previous years.

Sunnaas Hospital currently has a goal that 70 percent of all interpretation assignments should be delivered as remote interpretation. In 2022, 89% were delivered as remote interpretation (78% in 2021) via video consultation or telephone. Unfortunately, the technology maturity among interpreters for the use of video solutions on a secure platform for disseminating health information still differs greatly. There is reason to assume that some interpretation sessions have not been held as a result of the interpretation services' challenges related to the use of the hospital's platform, and that varying quality has also led to conversations being interrupted. Sunnaas Hospital interacts with Oslo University Hospital, Akershus University Hospital and the interpretation services to improve this function by using video solutions for interpreters.

Figure IV shows an overview of the different interpretation methods. Telephone interpreters are also considered remote interpreters, but are not preferred if video consultation could be used. Telephone interpretation increased in 2022 (257) compared to 2021 figures (20). The increase in the number of telephone interpretations is not a desirable change and may be assumed to be related to the lack of adequately qualified interpreters available for use via video consultations.

1.5 Passed scheduled hours for patient appointments

Sunnaas Hospital complied with 96% of patient agreements in 2022. We have reached our target figure. Improvement work in this area has been ongoing for several years and led to a reduction in passed hours. The improvement project "The right Patient at the Right Time", carried out in the Follow up spinal cord injury Department is an example of such improvement work.

To reduce passed scheduled hours, the following measures have been implemented:

- Continuous monitoring of waiting lists
- Continuous intake of postponed patient stays at available capacity: call list
- Planning for patient overbooking. Patients are offered services as planned.
- Updating and follow-up of waiting lists for outpatient clinics and admissions.

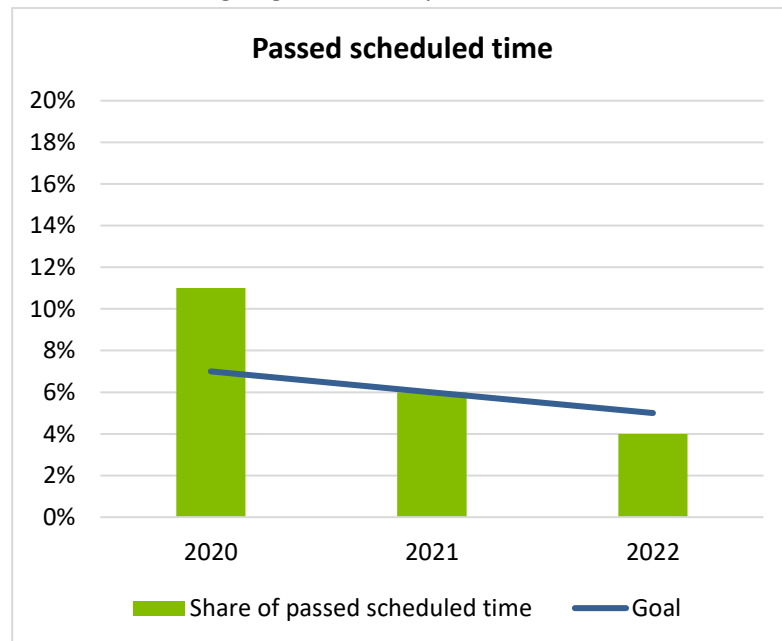


Fig V Passed scheduled hours at Sunnaas Hospital.

2 Efficiency

2.1 Average length of stay per programme

The length of stay in the hospital varies according to the patient's needs and the rehabilitation programme to which they are admitted. Patients admitted to primary rehabilitation after new injury or illness have longer stays than patients admitted to assessment and follow-up stays. These patients often have complex and difficult challenges, and there may be a wide variation in the extent of injury and the patient's condition. To meet the needs of patients and to ensure a good transfer from hospital to home, many patients are discharged for shorter periods of time in an attempt to remain at home after an illness or injury before finally ending the rehabilitation stay.

Length of stay for some groups, assessment and control stays are predetermined and vary little over time:

- Assessment of ability to work: 14 days
- Group courses to cope with cerebral palsy: 5 days

- Assessment of poliomyelitis: 5 days
- Assessment of rehabilitation needs: 14 days
- Assessment of spastic paralysis: 3-5 days
- Assessment of eating and swallowing difficulties: 2 days
- Assessment of transportation needs: 3 days
- Control check stays vary in time, from 1 to 10 days

Adults: primary rehabilitation and pain rehabilitation			
Programme specific	Average length of stay		
	2020	2021	2022
Stroke	38	46	48
Mild to moderate cognitive sequela	31	30	31
Multitrauma, neurology and burns	62	66	69
Spinal cord injury	62	75	71
Pain	6	7	9
Pain – Hypermobility	8	9	10
Traumatic brain injury	58	63	59
Children 0-18*			
Programme specific	Average length of stay		
	2020	2021	2022
Acquired brain injury	58	52	44
Spinal cord injury and multitrauma	119	54	84

* These are few stays, so the numbers can therefore easily vary

Table III Average length of stay per rehabilitation program.

2.2 Patient no-show rates at outpatient clinic

The proportion of patients "not showing up for an appointment" for 2022 was 1.8 percent. This is an increase of 0.5 percent compared to 2021.

In 2022, 28 percent of all outpatient appointments were conducted via video consultations, and an estimated 1 percent of patients did not attend digital consultations. 10 percent of all consultations

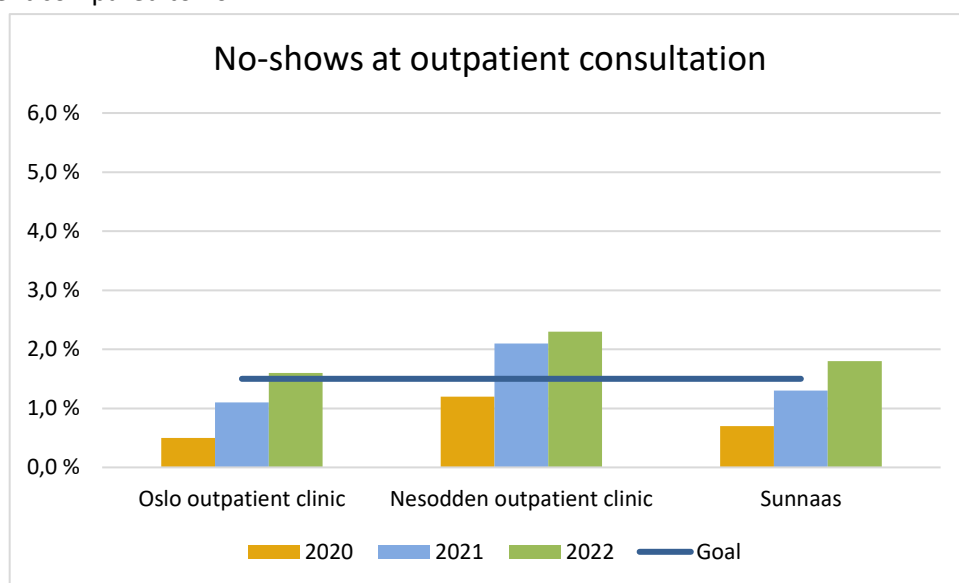


Fig. VI Now-show for outpatient consultation per location and for Sunnaas as a total. Nesodden: Outpatient Clinic Department, Admission and Ambulatory Services (PIA) and outpatient activity in several departments. Oslo: Studio 99, Interdisciplinary Outpatient Clinic and the Cognitive Rehabilitation Department.

were conducted by telephone, and an estimated 3 percent did not attend a scheduled telephone consultation.

The hospital is committed to providing sufficient information to patients about the appointment. Sunnaas started using digital distribution of appointment letters in the autumn of 2021. This requires that the patient is an active user of the Helsenorge application. The printing service is responsible for sending letters to non-digital users.

All patients who have registered their phone number online (helsenorge) receive an SMS reminder 72 hours before their scheduled appointment. All patients are offered assistance in connecting to the digital platform prior to a video consultation.

"No-show" patients for outpatient clinic per department

The hospital can now show results for outpatient clinic non-show per department. This provides a basis for more targeted improvement work in the future.

In some departments, there is a larger proportion of patients who do not attend an outpatient appointment than in others, including not attending telephone consultations. In the Spinal cord injury follow-up department (OPF), 7 percent did not attend an outpatient consultation in 2022. OPF conducted 153 phone consultations, and 10 percent of these did not attend their scheduled appointment. The increase in no-shows to telephone consultations may be related to a change in routines for how patients have previously had contact with the department. Over the past year, contact has been systematised via a planned digital consultation. The increase can also be explained by the fact that employees have become more aware of the correct registration of "no-shows". One area of improvement for 2023 is to continue the work on proper registration in all departments, training in internal routines for no-show patients and monitoring developments.

Department	Number of consultations in 2022	Number not appearing 2022	Share of not appearing 2022
Outpatient Department, Admission and Ambulatory Services	6173	115	1.9%
Spinal Cord Follow-up Department	290	21	7.2%
Cognitive Rehabilitation Department	1815	18	1.0%
Functional Assessment Department	417	7	1.7%
Brain Injury Follow-up Department	200	5	2.5%
Multitrauma, Neurology and Burns Department	59	1	1.7%
Spinal Cord Injury Department with the Unit for Children and Adolescents	67	1	1.5%
Stroke Department	28		0%
Traumatic Brain Injury Department	69		0%
Total	9118	168	1.8%

Table IV "No-show" patients for outpatient consultation per department.

2.3 Discharge summaries sent within one day

Sunnaas Hospital sent a total of 78 percent of discharge summaries within one day in 2022.

At least six occupational groups must document their assessment before the doctor can complete the discharge summary, so this is a joint responsibility of the entire multidisciplinary team. The discharge summary period is followed up monthly per department and individually as needed, but at least once a year during the doctors' performance appraisals. Hospitals are pleased that in 2022 as well, there has been a two percent increase in discharge summary time sent within one day. The scheme is well implemented and all departments reach the target of 70 percent, with the exception of two that are close to the target. In total, Sunnaas Hospital increased from 36% in 2019 to 78% in 2022.

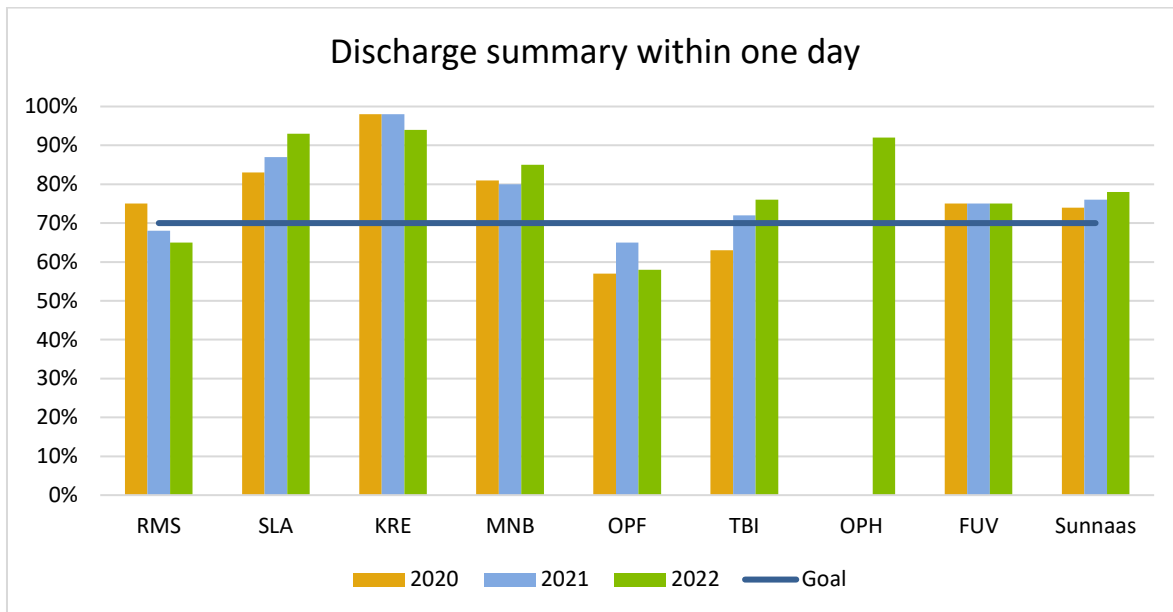


Fig VII Shows discharge summary within a day. N = number of discharge summaries sent out from each department. KRE= Cognitive rehabilitation, SLA= Stroke Department, TBI= Traumatic Brain Injury Department, RMS= Spinal Cord Injuries Department for Children and Adolescents, MNB= Multitrauma, Neurology and Burns Department, OPF= Follow-Up Department, FUV= Functional Assessment Department, OPH= Brain Injury Follow-Up Department.

Effect

3.1 Functional Independence Measurement – FIM

Functional Independence Measure (FIM) is a measurement that illustrates the ability to perform daily tasks. The FIM tool is used in the individual patient's rehabilitation process and can be compiled to present data per patient group. The degree of activity restriction changes during the rehabilitation period. The changes that appear in the FIM results can be used to capture improvements in the ability to do daily tasks and to analyse the results of rehabilitation. The nurse, in collaboration with the multidisciplinary team, scores patients who are admitted to primary rehabilitation. A change in points shows how great an improvement in independence the patient has achieved from admission to discharge.

Sunnaas Hospital does not consider FIM a good enough nuanced tool to reflect changes in cognitive function for patient groups with cognitive difficulties. For 2022, the results show an average change in functional improvement for all primary rehabilitation programmes, totalling 18.8 points. The hospital has a goal of average improvement of over 20 points.

There is only registration of FIM upon both admission and discharge for a minority of patients. In 2023, the heads of the clinics will review the use and usefulness of the FIM functional measurement tool for the various programmes. This work forms the basis for the hospital's assessments regarding the future use of FIM.

Change in average points from admission to discharge per programme for primary rehabilitation:

- Spinal cord injury adults, 17.3 points. N=15
- Multitrauma, burns and Guillain-Barré syndrome, 13.1 points. N=34
- Traumatic brain injury, 21.3 points. N=25
- Stroke, 16.5 points. N=85
- Acquired brain injury, children and adolescents, 15.2 points. N=12
- Spinal cord injury children and adolescents. The number of persons included in the documents is less than 5 and is therefore not presented.



Functional Independence Measurements – FIM



Fig. VIII Functional Independence Measurements – FIM change in functional

3.2 EQ-5D – perceived quality of life and physical functioning

The Norwegian Directorate of Health's National Rehabilitation Register asks patients who are hospitalised for two weeks or more to assess their quality of life on admission and discharge. This is done using the EQ-5D measuring tool. The use of the Rehabilitation Register has increased since it was introduced at the hospital. There were 126 fully registered patients in 2021; in 2022 this rose to 203. On a scale from 0 to 100, patients rated their health at 50 on admission and 61 on discharge, respectively. This improvement is somewhat less than last year's (2021: from 49 to 63), but since new patient groups have emerged during further implementation, the figures cannot be directly compared.

Patients also assess their functioning in five key areas of health-related quality of life, where on admission they report the greatest challenges in the areas of normal tasks, walking and pain/discomfort (and to a lesser extent challenges with personal care and anxiety/depression). Most improvement during the stay is reported in the areas of walking, normal chores and personal hygiene/care.

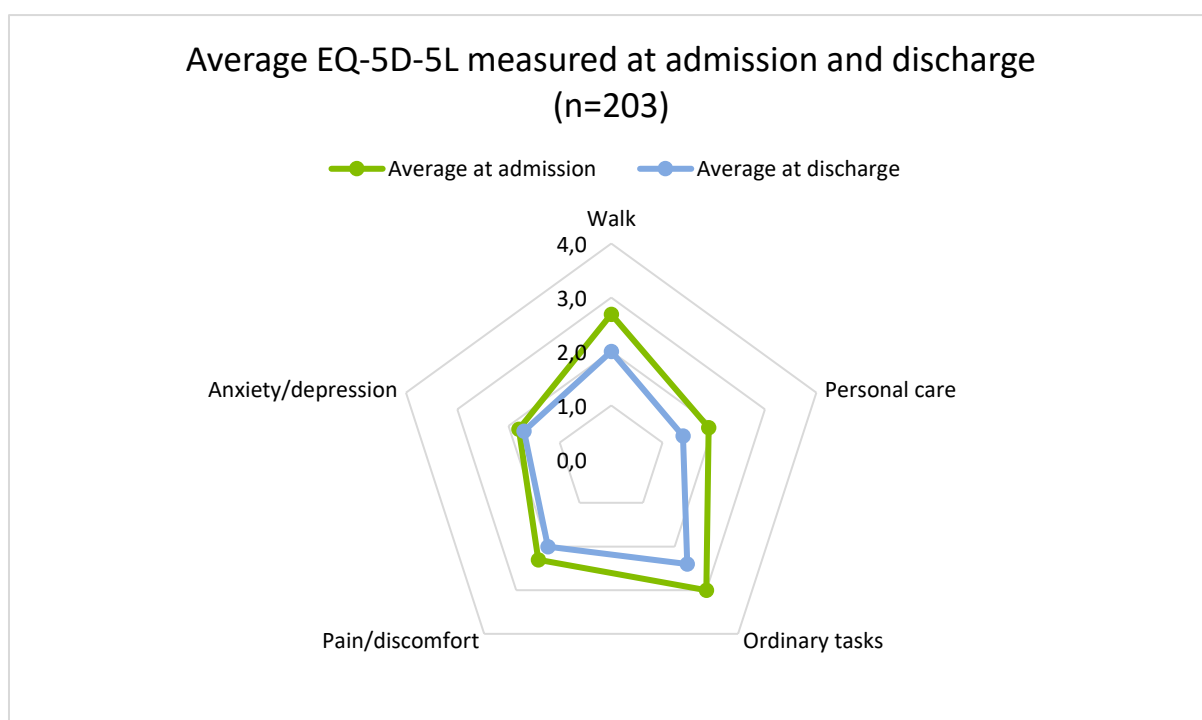


Fig. IX Self-reported health-related quality of life EQ5D at Sunnaas

3.3 Discharge from primary rehabilitation per programme

Data is taken from the electronic patient records system (DIPS) and divided into five main categories; home, nursing home, other rehabilitation institution, hospital, other. After a reduction in functionality, there is often a need for extensive adaptations to the home. Patients may need follow-up at other rehabilitation institutions or at rehabilitation wards in nursing homes or health clinics before they can return home. The location to where patients are discharged is analysed annually in the CARF accredited rehabilitation programmes.

Home: Patients currently staying at *assessment and follow-up departments* mainly live at home and are naturally discharged to home. That is why these programmes are not included in the table below. Patients who have been admitted to *primary rehabilitation* are also discharged mainly to their homes.

Other institution: Patients may need to continue rehabilitation elsewhere after their stay at Sunnaas Hospital. Patients are then discharged to other rehabilitation centers that Sunnaas Hospital interacts with for a time-limited stay, with the goal of improving strength, training balance and completion of rehabilitation.

Nursing home: Patients are discharged to nursing homes or health clinics. This can be a temporary stay and not necessarily permanent. Patients may need to stay in rehabilitation wards at nursing homes/healthcare homes before they are discharged to their homes.

Hospital: includes all hospital specialisations for examination, follow-up and treatment of existing or newly-arising health conditions.

Type of programme	Age	Programme specific	Unique patients.	Home	Other	Nursing home	Other rehab inst.	Hospital
Primary rehabilitation	0 - 18	Acquired brain injury	27	89%	7%	0%	0%	4%
Primary rehabilitation	0 - 18	Spinal cord injury and multitrauma	8	75%	13%	0%	0%	13%
Primary rehabilitation	Adult	Stroke	127	65%	2%	11%	16%	6%
Primary rehabilitation	Adult	Mild to moderate cognitive sequela	150	99%	1%	0%	0%	0%
Primary rehabilitation	Adult	Multitrauma, neurology and burns	77	78%	4%	4%	6%	8%
Primary rehabilitation	Adult	Spinal cord injury	73	73%	3%	10%	4%	11%
Primary rehabilitation	Adult	Traumatic brain injury	64	75%	5%	6%	8%	6%
Pain	Adult	Pain	40	98%	0%	2%	0%	0%
Pain	Adult	Pain – Hypermobility	92	100%	0%	0%	0%	0%

Table V Discharge to home, other (not defined), nursing home, other rehabilitation institution and hospital.

4 Patient safety

4.1 Unplanned transfers per programme

Sunnaas Hospital identifies unplanned admissions to emergency hospitals, and the underlying cause of the transfer. Results from analyses are used for improvement work aimed at rehabilitation programmes/offers and education to patients, relatives and personnel.

An unplanned transfer may occur in unexpected conditions such as infections, falls, worsening of condition or other acute situations. Patients who have experienced severe traumas or severe illness can quickly develop a worsening condition. A patient may also have multiple unplanned transfers during the rehabilitation process due to a condition's complexity and/or a recurrence of the same problem. In total, there were 102 unplanned transfers to other hospitals in 2022. This is a reduction compared to 2021 (113). After an unplanned discharge, patients can return to Sunnaas Hospital to continue the rehabilitation programme. Keeping track of and evaluating unplanned transfers provides useful information about course of treatment, unforeseen events and the health enterprise's handling of these (knowledge, routines and efficiency), as well as information on collaboration and flow between health enterprises and urban areas/municipalities.

Type of programme	Age	Programme specific	Completed	Unique patients	Not planned
Primary rehabilitation	0-18	Acquired brain injury	27	27	4
Primary rehabilitation	0-18	Spinal cord injury and multitrauma	8	8	1
Primary rehabilitation	Adult	Stroke	127	127	15
Primary rehabilitation	Adult	Mild to moderate cognitive sequela	152	150	3
Primary rehabilitation	Adult	Multitrauma, neurology and burns	77	77	21
Primary rehabilitation	Adult	Spinal cord injury	73	73	26
Primary rehabilitation	Adult	Traumatic brain injury	65	64	8
Contr – Assessment – Followup – Grp	Adult	Stroke – Control – Assessment – Follow-up – Group	300	221	4
Contr – Assessment – Followup – Grp	Adult	Mild to moderate cognitive sequelae – Control – Assessment – Follow-up – Group	321	239	1
Contr – Assessment – Followup – Grp	Adult	Spinal cord injury – Control – Assessment – Follow-up – Group	534	487	12
Contr – Assessment – Followup – Grp	Adult	Traumatic brain injury – Control – Assessment – Follow-up – Group	70	63	1
Specific rehabilitation programme	Adult	Ability to work – Follow-up or assessment	102	98	2
Specific rehabilitation programme	Adult	Cerebral palsy – Follow-up or assessment	107	94	1
Specific rehabilitation programme	Adult	Poliomyelitis – Follow-up or assessment	35	35	1
Specific rehabilitation programme	Adult	Rehabilitation potential	185	175	2

Table VI Unplanned discharges per programme. "Completed programme" mean how many times the programme has been completed during 2022. Some patients may have been admitted to various rehabilitation programmes in 2022, either at the same department or at another

4.2 Fall incidents

Patients admitted to rehabilitation are often at increased risk of falls. The target number for fall incidents is set at fewer than 1.5 falls per 1000 bed days. The number of reported fall incidents in 2022 was 108, 2.6 falls per bed day. This is an increase from 64 reported fall incidents in 2021. The hospital reviews all fall incidents reported each year in the deviations system. Most reported fall incidents occur during the day in patients' rooms. There is a higher number of falls on weekdays than on weekends.

All patients are screened for fall risk upon admission, and patients at risk of falling are monitored using a multidisciplinary approach. Patients and next to kin, where this has been clarified with the patient, receive individual and group-based information and training about fall risks. The Patient Safety Committee reviews all serious fall incidents as part of the systematic efforts to prevent falls. Fall incidents that have learning value for others are anonymised and published on the hospital's website. Falls that are classified as moderate, and where repetition within the cause is seen, is a priority area for improvement. The underlying cause of one-third of the reported falls is categorised as the patient's behaviour/cognitive state (category 3.6.4 NOKUP). The increased number of falls in 2022 can also be explained by the establishment of the Intensive Balance Group Programme, which is aimed at patients with a fall risk and among others aims to reduce the number of falls in the long term. Most of the falls in this programme occur in training situations and are controlled falls. None of these falls resulted in injury. Improvement work has been initiated with the aim of working systematically and interdisciplinarily with fall prevention measures within training, and information to patients/next to kin/primary health service.

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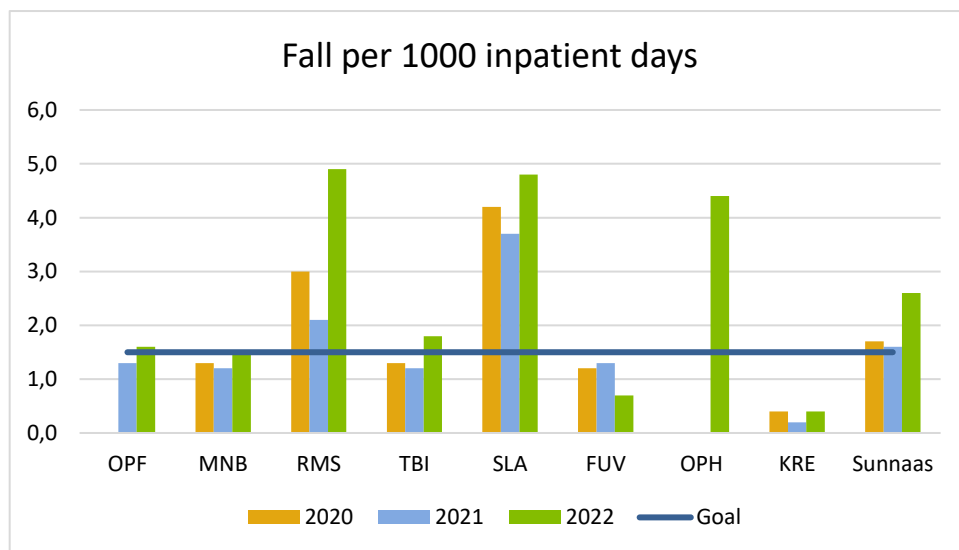


Fig. X Fall incidents reported in the improvement system TQM Health and Quality Portal EK. OPF= Spinal cord injury follow-up department, MNB= Department for Multitrauma, Neurology and Burns, RMS= Spinal Cord Injuries Department, Unit for Children and Adolescents, TBI= Department for Traumatic Brain Injuries, SLA= Stroke Department, FUV= Functional Assessment Department, OPH= Brain Injury Follow-Up Department. KRE= Cognitive rehabilitation. OPH and FUV were created in 2022

The Norwegian Coding System for Undesirable Patient Incidents (NOKUP): the definition of a fall is an incident where the patient fell or was exposed to an accident during treatment or transport/being moved. A fall is an unexpected incident where the person ends up on the ground, floor or at a lower level regardless of whether injury occurs or not. A fall thus includes when someone rolls out of bed or slides down onto the floor from a chair.

4.3 Risk screening

The hospital screens all patients for the following risk areas upon admission:

- Falls
- Pressure ulcer
- Infection
- Undernourishment
- Alcohol use

Risks identified during screening provide an opportunity to follow up patients with a multidisciplinary approach and with training. Developments over the past two years show that an increased risk of falls has been registered in several departments. Information to patients about their own risk and information for their relatives, with the patient's consent, documentation and multidisciplinary follow-up has been the focus. This work will continue in several departments in 2023 as well.

In 2021 and 2022, the Nimble project was carried out in the Department of Multi-Trauma, Neurology and Burns (MNB). Nimble is a solution where data is registered via mobile phones, after which the results are transferred electronically to the medical records system. Reports from Nimble will not be available until the next release of the tool. The routine for screening is also in a transitional period in 2023, where it will be documented in Nimble and on a screening form in the DIPS medical records system. Sunnaas cannot present data on screening for malnutrition. Undernourishment is mapped using the electronic curve system, MetaVision. Work is being done to develop regional solutions that can provide opportunities for extracting data. If a risk is discovered, measures are implemented in the treatment plan and nutritional forms are created. Children have their own nutrition form.

4.4 Antibiotic use

Compared with 2012, Sunnaas Hospital has reduced the consumption of broad-spectrum antibiotics by 25.2 percent (figures have not been corrected for activity).

For 2021, the reduction was 37 percent compared to 2012. The hospital experienced an increase in the consumption of broad-spectrum antibiotics in 2020 compared to the previous year. We assume that medically complex patients with long-term antibiotic treatment contribute significantly to increased consumption of

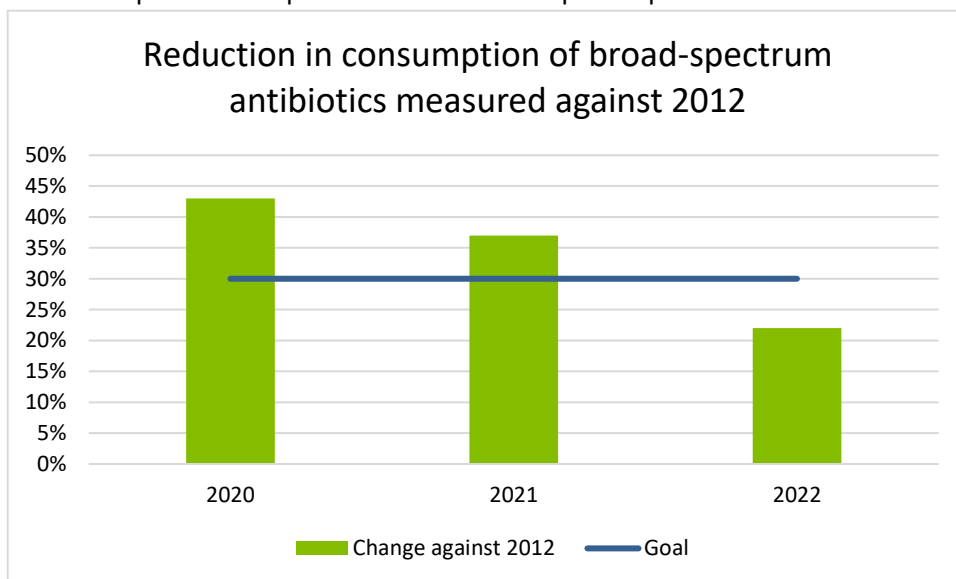


Fig. XI shows a reduction in broad-spectrum antibiotics measured against 2012 broad-spectrum antibiotics, but in order to find the cause of increased consumption, there is a need

to establish systems and routines for better monitoring of antibiotic use per department in real time. Internal audits will be conducted in 2023. The assignment and ordering document for the organization in 2023 stipulate that the result shall be at the same level or lower than 2019.

4.5 Prevalence of health-associated infections

All healthcare-associated infections (i.e. infections that have arisen as a result of contact with the health service) are registered on a fixed date every monthly quarter. The purpose of all infection registration is to make improvements so that no one is harmed by preventable infections. The trend since 2014 shows an improvement. Since 2014, systematic training in basic infection control measures has been carried out, both for permanent employees, extra shifts and students.

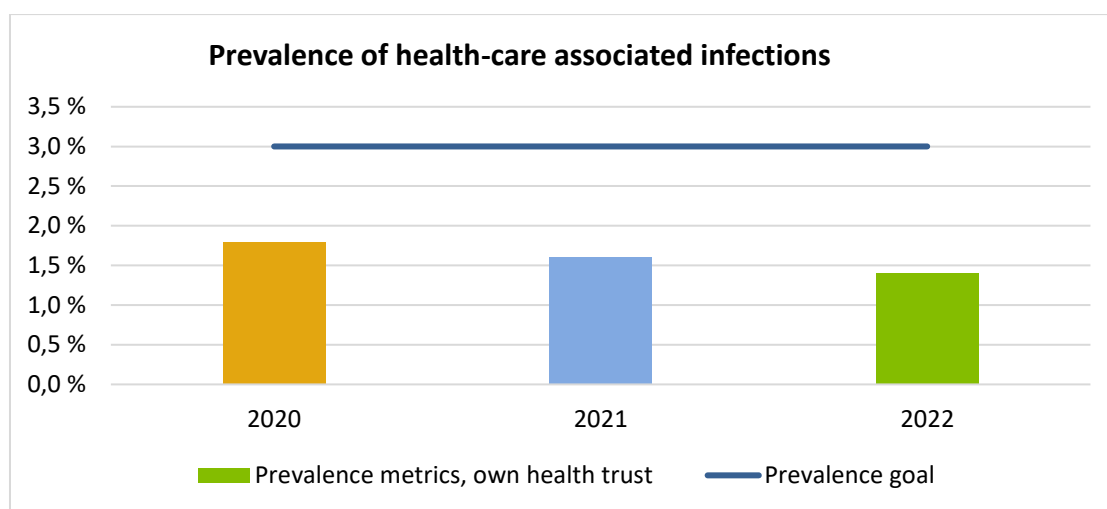


Fig. XII Prevalence of healthcare-associated infections at Sunnaas Hospital.

5 Patient satisfaction

The hospital conducts an internal User Survey on a continuous basis. The survey is carried out anonymously and all patients are invited to respond upon departure or by contacting the outpatient clinic. Results from the User Survey are published three times a year, and feedback is used for internal improvement work. The results of the patient satisfaction survey were published for patients, staff and stakeholders using:

- The User Committee (Brukerutvalget)
- The Youth Committee
- At meeting forums at all levels in the hospital, including the board
- Information online: sunnaas.no

5.1 Response rate

In 2022, 1147 inpatients responded to the User Survey, representing 44 percent of all patients. This is the same as for 2021. The response rate for children and young people in 2022 was 48 percent.

5.2 "Goals for your stay were prepared with your participation. Did you reach these goals?" Primary rehabilitation and short stays

On the question of whether the goals set for the stay were reached, 63 percent answered mostly or very much. 16 percent respond that goals were not drawn up with them during their stay.

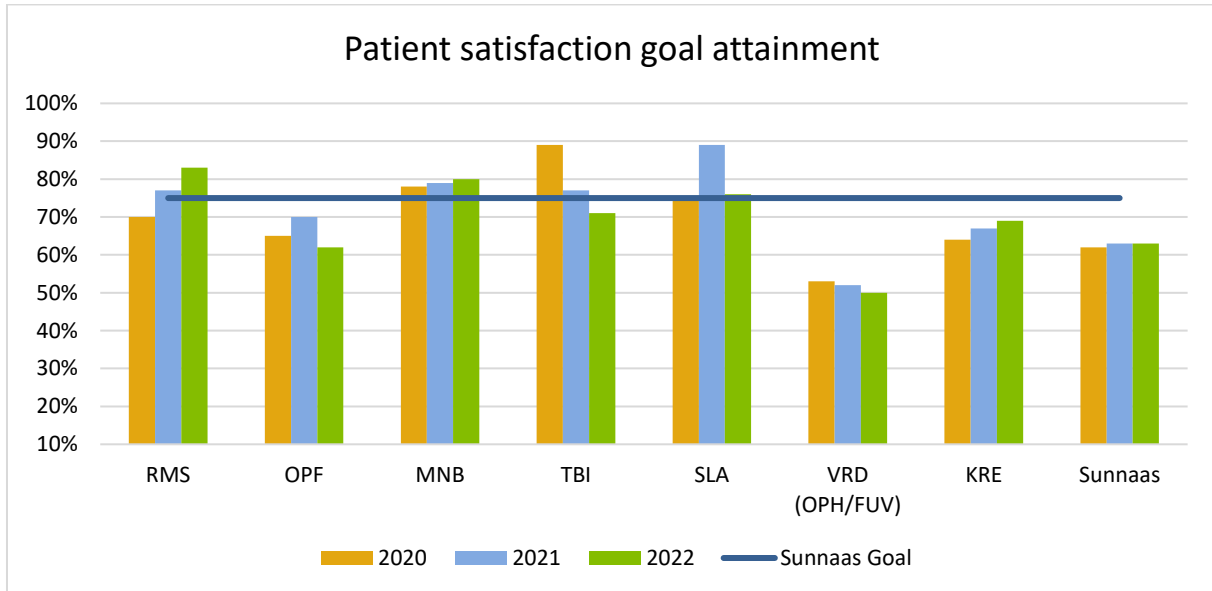


Fig. XIII Satisfaction by type of stay. KRE= Cognitive rehabilitation, VRD= Assessment Department, OPH= Follow up Brain Injury Department, FUV= Functional Assessment Department, SLA= Stroke Department, TBI= Traumatic Brain Injuries Department, RMS= Spinal Cord Injuries Department, Unit for Children and Adolescents, MNB= Multitrauma, Neurology and Burns Department, OPF= Follow-up Department.

In the primary departments, 74 percent answered to mostly and very much, and 6 percent replied that no goals were prepared (Fig. XIV). In the Follow-up/Assessment/Control departments, the result is 55 percent satisfaction and 22 percent respond that no goals were prepared. Continuous efforts are being made to set clear goals based on the individual needs of the patients, and feedback on this question is followed up throughout the year. The hospital sees potential for improvement when it comes to how patients experience achieving goals.

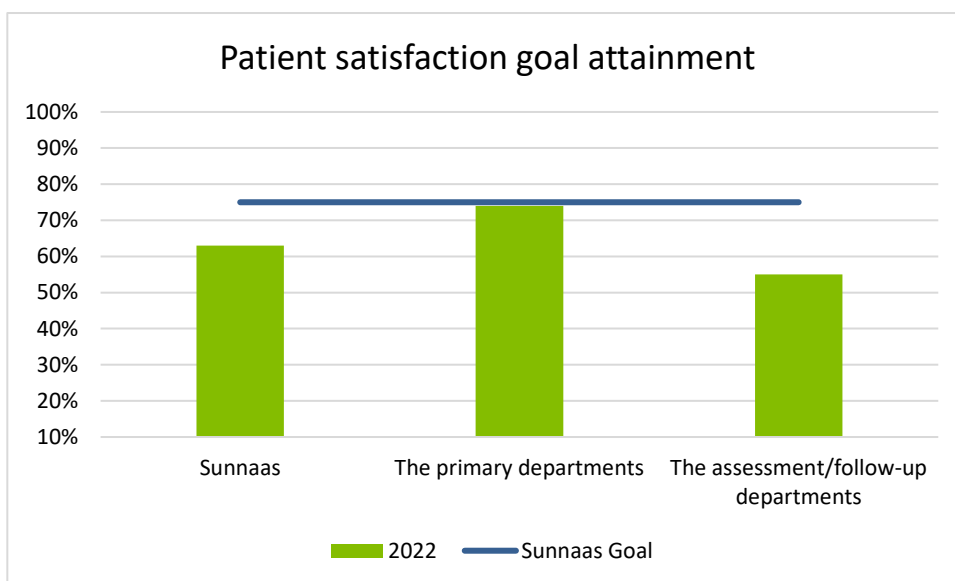


Fig. XIV Satisfaction, short stays and long stays. Primary departments: KRE= Cognitive rehabilitation, SLA= Stroke Department, TBI= Traumatic Brain Injury Department, RMS= Spinal Cord Injuries Department, Unit for Children and Adolescents, MNB= Department for Multitrauma, Neurology and Burns. Assessment/Follow-up Departments: OPF= Follow-up Department Spinal Cord, OPH= Brain Injury Department, FUV= Functional Assessment Department.

The MAP innovation partnership (Goals and activities with the patient at the center) is already in process with the development of a digital solution, including the patient's goal plan. The goal is both to streamline the clinical workflow for healthcare personnel and give the patient a significantly greater ownership of their own rehabilitation process.

5.3 "All in all, how satisfied are you with your stay?"

In 2022, 91 percent of adults responded that they are mostly or very satisfied with the services offered at Sunnaas Hospital. For children and adolescents from 0 to 17 years of age, 94 percent answered that they were mostly or very satisfied with their stay.

The hospital has selected certain areas for improvement.

When asked about the food, 70 percent of all inpatients answered that the food was mostly or very satisfactory. 21 percent of the patients responded that they were to some extent satisfied with the food offered. Food satisfaction is down 6 percent compared to 2021. There is some variation between departments on this question. In 2022, food satisfaction has seen a tertiary decline from 78 percent in the first quarter to 64 percent in the third quarter. The hospital continuously follows up undesirable incidents within the food category, in cooperation with the suppliers. The project "Food Care for the Future" has also started with the aim of improving food services and offers.

When asked if relatives received suitable information and training, 34 percent answered mostly and very much. This is an increase of 4 percent from 2021. 12 percent answered to some extent, and 39

percent answered Do not know/Not applicable. The hospital wants to improve in this area, and there are several departments that have started improving information and training for relatives.

5.4 Patient and relative complaints

In 2022, the hospital received a total of 38 written complaints from patients and their relatives. This is an increase from 26 in 2020, but the same number as in 2021. All feedback is processed systematically and analysed. The analysis is an important contribution to improvement and quality work at Sunnaas Hospital.

The number of complaints about waiting time and discharge summaries/multidisciplinary summaries has remained stable over the years, and complaints about interaction/transfers have been reduced to zero. The hospital has worked systematically to keep waiting times down, as well as to have good processes for interaction/planning of discharge/transfer to other institutions.

There was an increase in the number of complaints concerning rights (patient complaints about rejection/rights assessments regarding referrals) from seven in 2020 to 24 in 2022. This can probably be explained by the fact that in 2021 it became possible to submit complaints also electronically online (helsenorge.no), which has simplified the process.

6 Summary

The national and regional goal is to reduce the risk of patient injury and reduce unwanted variation in offers and quality. Sunnaas Hospital aims to offer highly-specialised rehabilitation with the highest professional quality. Overall, the results for 2022 (see Table 1) show that the hospital has high goal attainment within many of the indicators. This applies, among other things, to goal achievement for the availability of bed-based services. During 2022, the availability of outpatient services has increased. There is a high level of goal attainment within video and telephone consultations. The result is in line with the hospital's goal of providing arena-flexible services to patients. Continuous improvement work within the discharge summary period has had an effect, and there is a high goal attainment of discharge summaries sent within one day. Through the User Survey, the patients expressed high satisfaction in many of the areas in which the hospital wants feedback.

The improvement work is a continuous process that will continue in 2023 in several areas with moderate and low goal attainment. There is variation in the use of the FIM functionality tool, and the results vary between departments. Following up the results and use of FIM is therefore a priority. Systematic use of relevant efficacy measures will also be considered in 2023. Fall prevention is another area for follow-up. In 2022, a new improvement system has been established where it is possible to categorise the underlying causes, which will help us to find the cause of falls so that appropriate interventions can be implemented. The hospital also wants to increase satisfaction in areas where patients are less satisfied. For 2023, special efforts are being made to improve satisfaction in the areas of food, goal attainment by patients and information/education to relatives.

In 2023, the hospital will set up its own quality register that aims to include all patients who receive an offer at the hospital. The Sunnaas Quality Register will be an important step forward in improving

and streamlining improvement work. The register will provide better opportunities for continuous monitoring of the quality of the hospital's services and facilitate more detailed and targeted analyses.