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## CONCLUSION

### General:

Wards, outpatient clinic areas and common areas constitute approx. 45% of the total net hospital floor area at the new University Hospital. Needs connected to these areas are influenced by medical developments, technology and cooperation between the different levels of the health sector. A high degree of flexibility, generality and the least possible amount of tailoring and special solutions are important premises for planning. That is why the areas are being planned to include general modules and the possibility of changes on short and long-term notices. This means the wards; outpatient clinics and common areas are planned so they can be utilized independently of medical specialty and for patients with different degrees of observation and treatment needs. New premises are being included for product and waste handling.

The following main principles concerns further center wide programming of functions:

### Wards:

- All bedrooms are planned as single rooms and all 'sengetun' (bed clusters) consist of 8 rooms.
- In each bed cluster 4 bedrooms have a toilet/shower and each 2x2 room shares a toilet and shower. Exceptions are in observations where there are 4 toilets/showers pr 8 bedrooms.
- All bedrooms have direct access to the toilet/shower.
- Three large bedrooms are being planned, each at 15m<sup>2</sup> for each bed wing (: 6 pr ward). This would provide ample size for additional equipment and overnight stay for family members.
- A workstation of 12m<sup>2</sup> is also planned. This is considered the smallest amount of area needed to maintain all the functions of the workstation.
- It is emphasized that the support rooms shall be kept in accordance with table 5.9.2 to maintain important functions in the wards and allow for flexibility of activities.
- If 50% of the bedrooms are single rooms with individual bathrooms, there are no plans for contact isolation rooms, incl. hallway, toilet /shower with decontaminators in the wards. Airborne infection isolation rooms are in the Infectious unit ward.
- Break rooms, conference rooms and group rooms provide flexibility for meetings, conferences and meetings. Additional areas are provided for meetings and teaching inside the centers' collected area for offices/conference rooms and areas for teaching /research.
- Large offices, dialogue rooms, and exam/treatment rooms shall be utilized with flexibility for documentation, spontaneous professional discussions and conversations in addition to what is happening in wards and work stations.
- Plan for visual contact between workstations and wards to allow maximum flexibility for use of the rooms.

### Outpatient and day treatment areas

- Each outpatient clinic unit consists of 7 examination/treatment and dialogue room.
- The outpatient clinic area consists of 2 outpatient clinic units (i.e. 14 exam/treatment and dialogue room.)
- Planning for the out patient clinic area includes several different specialty areas. The rooms will be used flexibly.
- Each day treatment unit consists of 8 resting areas and 4 resting rooms.
- The day treatment unit makes use of joint support rooms with outpatient clinics, surgery or wards.

### Patient services

- Area for entrance/ reception for each center totals 98m<sup>2</sup>.
- The remaining area is added as supplementary area in kitchen /eat-in, in the wards. These correspond to 6m<sup>2</sup> rooms, and constitute an increase from 30m<sup>2</sup> to 36m<sup>2</sup>.

## INTRODUCTION

The responsibility for preparation of “GENERAL GUIDELINES GROUP 2-wards, out patient clinic areas incl. specialty rooms, day rooms and patient services” (shortened to GROUP 2) has been awarded to "Felles utviklingsenhet” (FUE) for New university hospital in Trondheim. The work is done and prepared with assistance from “Helsebygg Midt-Norge (HBMN)” and the consulting firm “Hospitalitet A/S”. Hospital and university personnel and representatives from the patient organizations have assisted in the process.

Program manager Hilde Tradin from HBMN has been the PM for the job and has had the official responsibility of planning the meetings. Also; professional group managers, representatives from personnel-and user organizations have taken part. The group has been named "the planning group" and is named by FUE.

The representatives are:

- Ellen Anette Hegstad, advisor, “Enhet for nytt sykehus, St Olavs Hospital” (group manager)
- Anders Waage, Chief surgeon, Dept. of medicine, St Olav’s Hosp.
- Anne Dina Haslene, Asst. head nurse, Mental Health, Haukåsen, St Olav’s Hosp.
- Arild Berge, user group representative, FFO
- Birgith Berg, user group representative, NHF
- Haldis Lønnum, postgraduate college teacher, NTNU/HiST
- Bente Krogseth, postgraduate college teacher, NTNU/HiST
- Grethe Aas, Project representative, ” Enhet for nytt sykehus, St Olavs Hosp.
- Marit Kristiansen, department head nurse, Surgical Dept. St Olav’s Hosp.
- Unni Wik, advisor/daily manager, Dept. for Ortho and Rheuma, St Olav’s Hosp.
- Olaf Scheel, Unit chief surgeon, Depts. laboratory medicine, St Olav’s Hosp.
- Stein Samstad, chief surgeon, Dept of medicine, St Olav’s Hosp.

Hospitalitet A/S has done the programming in collaboration with Orgoplan, Hartmann A/S, Ementor Danmark and Medivi A/S. Program advisor for GROUP 2 has been Medivi A/S by Marte Lauvsnes.

The projects primary goals and mandates for the programming are described in the project manuals that have been worked out for each planning group.

## 2 THE PURPOSE OF GENERAL GUIDELINES

GROUP 2 is included in the programming of functions. Work with the general functions shall contribute to uniform – not necessarily identical - program demands and resolutions parallel to center functions, to secure standardization, generality and flexibility.

GROUP 2 gives foundations for preparation of the center wide program functions.

GROUP 2 only gives guidelines where programming of the rooms is being performed in the center wide programs.

GROUP 2 are given as direct input to the program function for each individual center function.

GROUP 2 consist of both guidelines and room programs for the individual function.

GROUP 2 gives input to the center wide functional programming at the following centers

	<i>Ward</i>	<i>Outpatient</i>	<i>Day area</i>	<i>Patient services</i>
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		<i>clinic area w/specialty rooms</i>		
Emergency center	(x)	x	x	x
Cardiothoracic center	x	x	x	x
Abdominal center	x	x	x	x
Environmental center	x	x	x	x
Mobility center	x	x	x	x
Psychiatry center	(x)	x	(x)	x
Administration and services center				x
Supply center				

Table 2.1 Center wide FP that receives info from GROUP 2

For the Psychiatry and Emergency center, GROUP 2 for wards, out patient clinics and day treatment areas will be an advisory in a lesser degree than for somatic/clinical centers.

There are areas where **general programs and guidelines** have joint interfaces against GROUP 2. These concerns:

Provide guidelines for surgery, anesthesia, post-op observation (GROUP 1). Develop procedures for observing patients within light and intermediate observation.

Guidelines for offices, conference rooms (GROUP 3). Principles for integration of offices, conference rooms in wards, out patient clinics and more.

Physical-and ergo-therapy programs (GROUP 5). Create measures for integration physical therapy in wards, outpatient clinics and more.

Satellite labs programs (GROUP 6). Author steps for integration of sample unit, satellite labs in out patient clinics.

Non-medical service program (GROUP 7). Provide guidelines for integration of transport/delivery and employee services in wards, out patient clinics and more.

Teaching/research programs (GROUP 8). Offer actions for integration of teaching-and research areas in wards, outpatient clinics and more.

ICU programs (GROUP 9). Explanation of differences between intermediate- and intensive observation.

Explanations between general programs and guidelines is being handled at meetings and the results expressed in the respective programs as guidelines for center wide programming.

In fall of 2003 a project is being managed by HBNM/FUE "Development and model of physical solutions in out patient clinics, day treatment areas, and observation units in the New university hospital". Also, another project is being managed by HBNM, concerning development of wards and a project concerning Health resource center. Explanations and coordination between this project and GROUP 2 is managed by HBNM.

Specific needs connected to some patient groups are not mentioned in this document, but will be handled in the center specific programming function.

### 3. DOCUMENTATION OF BASICS

Documentation of basics for GROUP 2 is:

- Development plan for RiT 200.010.00.R.RA-001.Dated May 1997
- Revised Main function program, 020.00.R.01.RA.006, rev 02. Dated 04.29.03
- Supervised transport and delivery, 020.00.N.02.RA-002, rev 03. Dated 02.25.03
- Total supply- main principles, rev 01. Dated 09.13.02
- Total supply- in the new RiT, 040.00.N.RA-001, rev 02. Dated 07.30.01
- Programming handbook. Dated 06.10.02
- General center, main principles, 020.00.R.03.RA-028, rev 02.Dated 12.18.02
- Design guide, chapter 1-3.Dated 09.21.01
- Design guide, chapter 4. Dated 09.21.01

Other reports/sources used in the programming of GROUP 2 are:

- Wards in the new hospital, 020.00.N.03.RA-001.HBNM.Dated 05.29.02
- Conditions that influence professional contents and dimensioning of the new hospital (see [www.sykehusplan.org](http://www.sykehusplan.org) ) Nov.2002. Network for hospital planning, Norway.
- [Volven database](#), KITH
- Hamilton DK: "Unit 2000 patient beds for the future. A nursing unit design symposium." Houston. TX, 1990
- Finished revision: Use of isolation to prevent spreading of contagious diseases in health institutions. "Isoleringsveilederen". Sosial og heledirektoratet og Nasjonalt folkehelse institutt, September 2003
- [Forskrift om arbeidslokaler](#), Dept of labor, Sept.2002
- [Veiledning om arbeidsmiljøet in helseinstitusjoner](#), dated 02.01.1991

### 4 EXPLANATIONS OF TERMS

**Bed cluster / Sengetun:** Group of approx. 8 bedrooms with own shower/toilet in close proximity of workstation. The workstation consists of writing areas, as well as storage for supplies, linens and fluids. The bed clusters are the base modules (building blocks) for a ward.

**Ward:** The ward is the area where admitted patients are during the main portion of their stay. The ward is split into bed clusters. In a center, one floor consists of one ward.

**Intermediate observation:** Area for observation of critically ill patients suffering from potential life threatening organ damage, e.g. stable respirator patients and/or patients that has the need for considerable observation post op.

**Light observation:** Area for patients with post op short-term observation and non-surgical patients in need of light observation. This can consist of post-op observation, observation of stroke patients, patient that has had angiography/bronchoscope or other.

**Outpatient clinic unit:** Group of 4-8 exam/treatment rooms and dialogue rooms with included workstation. The workstation consists of writing areas, as well as storage for supplies, linens and fluids. The Outpatient clinic is the base module (building block) of an outpatient area.

**Outpatient area:** geographically defined area for outpatients. An outpatient area can consist of several outpatient clinics for various medical fields.

**Specialty room:** Rooms and units for specialized examinations or treatments. The rooms can be connected to outpatient clinic units, day treatment areas or wards.

**Day treatment:** Treatment of patients, either outpatient or daily stay  
The treatment is more extensive than regular outpatient visits and the need for a bed is presupposed, but not for an overnight stay.

**Daily stay:** Planned admission without overnight stay where the patient is treated over one or more days. With daily stay the patient can receive daily treatment. Because of the exam/treatments character and or the patient's need or health condition for a resting place or bed, stay of 4-5 hours or more, and the need for observation/care/dialogue with more than just the examining/treating doctor.

**Day surgery:** Operation that demand observation afterwards due to anesthesia or surgery, but where the patient does not need an overnight stay.

**Day treatment area:** Unit connected to outpatient clinic operations, wards, or specific treatments for patients that does not require admittance.

**Patient services area:** Service areas for patients that supplement areas for examination, treatment and stay.

## **5 WARDS, INCL. INTERMITTENT OBSERVATION**

### **5.1 Developing trends**

#### **Developing wards**

The development of wards from the traditional Florence Nightingale-units to single-and double corridor solutions has to a large degree influenced the work situation for employees and the patient's experience of their stay in a ward.

The development has gone in the direction that wards are uniformly developed, where the beds are seen as a common resource that is not limited to specific departments or specialty fields.

A large focus has been placed on teaching and research in the later years, where one can see the common effect in synergy of a strong integration between teaching-and research institutions and the clinical units in a hospital. Through this effort it has been possible to arrange for these activities also in the wards.

#### **Developing bedrooms**

In the last few years there has been a tendency nationally and internationally to change the bedrooms from multi bed-to one bed rooms. Reason behind this is the patients need for privacy, confidentiality, screening, contagiousness and flexibility.

The average lengths of stays in wards are consistently decreasing, and it is the patients with the most treatment-and observation needs that remain. Patient hotel, day treatment, outpatient dialogues and efforts in centers for Primary Health Service influence the composition of patients in the wards.

Because of the composition of patients, there is a need to have bedrooms where one can both shield and have the opportunity for observation of critically ill patients when it is needed.

Several hospital projects are also being planned with their own individual bathrooms (toilet/shower) with direct access from the bedroom. Consideration to patient's integrity, effectiveness and flexibility is the reason.

New hygiene demands have caused the amount of isolation rooms to increase in the last few years. Suggestions from authorities previously stated that a minimum of 10% of beds for adult patients in somatic hospitals should be isolation rooms, and 1/3 of these should be isolation of airborne infection. This has now been adjusted to that it is up to the individual hospitals to judge the need for number and type of isolation rooms.

#### **Developing workstation**

The workstation has changed in character and functions in the workstation has been changed considerably in direction of centralized work places, where the personnel is more convenient to the patient, family members and distances have been decreased for the personnel by shorter distance to patients, supplies, linens etc. are easily accessible. New technology has changed the everyday for the personnel. Among other things documentation can take place by laptops in the bedrooms and when a patient signals for help it goes directly to the responsible nurse.

### **5.2 Description of functions, tasks and definitions**

The ward consists of areas for patients of different ages and with different illnesses and degrees of seriousness. The ward needs to cover the patient's basic needs for safety, dignity and comfort, activity, rest and sleep, nutrition, privacy and social contact. In addition the family member's needs shall be taken care of as well as possible.

Patients in need of advanced observation and care connected to critical illness is localized in a part of the ward defined as intermediate observation. All bedrooms are to be utilized for light observation.

Totally generic rooms that can both be regular rooms, light and intermediate observation gives the advantage of avoiding moving, but the demand for visual contact, installations and area becomes larger.

The two main principles in the solution for observation of patients are:

1. Visual contact between the bedrooms and workstation.
2. Room and outlets for observation equipment, infusion pumps etc.

In cases where there is need for light and intermediate observation of just-operated patients, it can be practical to localize them in a separate unit close to the surgical area.

Patients arrive directly at the ward for a planned admission via the reception area. Patients with a predetermined condition will also be directly admitted to the wards. Patients with undetermined conditions and acute critically ill patients arrive at the ward via emergency-area, observation area or ICU. Patients from emergency- area arrive in/with a bed. The porter or other personnel that is bringing the patients to the respective center will also return with a clean bed back to the emergency area.

In the wards, diagnostics, treatment and teaching activity will take place, first of all connected to ADL<sup>2</sup> in the ward. Exams, treatment and dialogues will primarily take place in the bedrooms. If there is need for special equipment or surroundings, this will in certain cases take place in exam/treatment rooms or dialogue rooms. Education of patients and family members take place individually in the bedroom, or in groups in the dialogue rooms, patient library or group rooms. Patients will take care of or be assisted in the daily hygiene routine, maintenance of social connections, meals, as well as gathering of information of illness/symptoms/medications. Patients eat their meals (dependent on condition) in the kitchen/dining area, in the cantina, or in the bedrooms.

Family members (or other support) will be together with the patient when he/she wishes. Overnight stay can happen in the bedroom, in the family room or at the patient hotel. Family members can eat together with the patients or in the cantina.

The nursing personnel will have their work (treatment, care and instruction/teaching) in the existing bedrooms and support rooms that are in the wards. The workstation, that includes areas both for writing/ communication and supply function, will be a communications hub for activities connected to documentation, ordering, registration, coordination, observation and service. All deliveries of supplies, linens and fluids will also be to the work stations. There will be a pneumatic tube system for delivery of samples and receiving of medicines.

The nursing personnel's main task during the day will be connected to a bed cluster, but on the evening/night/weekend shift there will be a reduced number of personnel connected to several bed clusters. That is why it is important with a good general view and short distance within a bed wing.

Documentation and dialogues with patients will take place in the bedrooms. In addition some documentation, professional discussions and talks among groups take place in support rooms with a large office, dialogue rooms, exam-/treatment rooms and break rooms (daytime). The patient library will for periods of the day (i.e. early mornings) be utilized for professional meetings. The need for these areas will vary considerably, and the individual center/ professional areas will have a need for an evaluation of the possibilities connected to the resources available in the wards.

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<sup>2</sup>Activities of daily living

A joint office-and conference area will be in the center, and also integrated, a few office spaces in the clinical areas. This is in addition to the rooms described in table 5.9.2.

There will be a registration area in the ward, for arrival of visitors to the ward. Service, patient administration as well as delivery of mail and phone requests will also be handled at the registration area. The registration area is proposed to be manned until nightshift.

By organizing the ward with a large degree of close proximity and accessibility between personnel and patients with use of centralized workstations and protection of private affairs for patients and family members by the use of single rooms, the physical conditions are optimized for fulfilling the main goal of a patient focused hospital.

The ward is an important arena for teaching and clinical research for college-and university students, in addition to the hospitals own internal teaching and research activity. By use of single rooms for the patients the teaching and research can take place inside the ward without disturbing patients, and confidentiality will be maintained. Plans have been made for a certain teaching areas in the group rooms in the wards. In addition, some wards there will be integrated teaching-and research options (ref.GROUP 8). To prepare the physical conditions in wards and intermediate observation for teaching and research supports the goals of an integrated university hospital.

#### **Definitions:**

Both for regular-and observation beds in wards there are definitions of observation beds outside the ward and intensive units. There is also a definition compared to the observation unit and patient hotel. First of all this definition is organized to secure good patient flow. Additionally there will be important definitions in relation to areas that is integrated in or near the wards, such as offices/conference rooms, teaching-and research areas, areas for physical-and ergo therapy and specialty rooms.

### **5.3 Criteria's and parameters for calculations of capacity and dimensioning**

A need for 914 regular beds (incl psychiatric and intermediate observation) has been calculated for HFP. Patient composition and demands for the stays changes quickly in accordance with medical and technological development and treatment of patients on different levels in the health sector.

Of the 914 beds, 285 are planned for phase 1. Observation, ICU, post-op and birthing areas are additional. In HFP there is a reported 85% utilization of the wards (incl. intermediate observation)

### **5.4 Service functions**

#### **5.4.1 Medical service**

##### **Laboratory services**

Sample takings will be performed at all times in the wards. There is a need for short distance to pneumatic tube system to send samples to the laboratory center. Bedside analysis will be performed in intermediate observation and in certain wards. This requires placement possibilities for analysis apparatus.

##### **Physical-and ergo therapy**

There is a need for physical-and ergo therapy services for patients in most wards. In addition to adjacent treatment-and training rooms, the physical therapists have a need for utilizing a workstation for documentation, planning etc. The ergo therapists have their treatment rooms in certain centers.

## **Anesthesiology**

In cases where there are patients in intermediate observation that is newly operated, needs respiratory treatment, or advanced pain treatment, there will be a need for accessibility to anesthesiology personnel.

### **5.4.2 Non-medical services**

#### **Supplies- and waste handling**

At FUE there are principles for transportation and delivery with significance to the wards:

*Transportation principle:* arrangements are made for automatic transportation systems like pneumatic tube, waste disposal system and AVG.

*Delivery principle:* There will be a centralized delivery, maximized for storage

*Information principle:* Exchange of information concerning supply flow and logistics are IT-based. It will be a connected system that covers identification, ordering, purchase and storage based on supply category.

*Production principle:* Main units for supply delivery shall be localized.

*Module principle:* A unit principle will be utilized where storage and transportation are adapted to a 40x60 module or an integrated multiple of this, division of the multi unit.

*Organization principle:* Unless needed the health personnel shall not perform supply delivery if it takes away from patient related time.

The consequences for the ward are these:

- All samples are sent by pneumatic tube from the wards directly to the Laboratory center.
- Waste, plastic, paper and confidential papers are sent by waste disposal system from the waste room.
- Clean linens are delivered in carts, transported by AGV. When the cart is empty, it is placed in the waste room and filled with dirty linens.
- Dirty linens are stored in carts in the waste room in the wards, and pushed manually to collection area where the carts are collected by AGV.
- Hazardous waste is stored in waste room in wards, pushed manually to collection area and collected by AVG.
- Packing material, glass and metal (that can not be placed in waste disposal system) are collected in containers in waste room, transported manually on the same floor to collection area, where the container is collected by AGV.
- All supplies, fluids, medicines and sterile goods are delivered by carts/AVG to the bed clusters. In the bed clusters the carts are unloaded and the empty carts are pushed back to collection area by elevators for collection by AVG.
- Supplies, linens and fluids are directly stored in the workstations supply locker. Supply lockers are module based 40x60 modules.
- All ordering of supplies will be done electronically.
- It is not the responsibility of the health personnel for supply delivery.
- In all wards and intermediate observation there will be a need for delivery of food to patients several times a day. Food is delivered from the main kitchen by buffet carts. Health personnel will deliver food to patients from the buffet carts.
- Dirty dishes/silverware are washed in the wards kitchen/eating area.
- There will be a need for regular supply delivery to the wards and intermediate observation. This concerns supplies, linens, medicines and fluids. Earlier calculation (TOF 13) performed by HBNM show that with 9 storage lockers in the bed clusters workstation for supplies, linens and fluids, delivery is needed about 2-3 times a week. Amount and frequency in supply restocking will be closer examined by HBMN.
- Supply delivery will take place at night to avoid disturbing patients and elevator load. It is presupposed the carts will be emptied first thing in the morning by designated personnel.
- The new premises give the wards a need for increased size in waste rooms from 5 to 8m<sup>2</sup>. This is area previously designated to waste rooms in the basement. It is presupposed this area will be transferred to the wards.
- Plans are made for placing of carts on each floor.

### **Housekeeping**

There is a need for housekeeping services from personnel connected to the centers housekeeping station. Additionally there will be need for clean up of spills when the housekeeping personnel are not available. Equipment for this will be in the wards cleaning/rinsing room. Beds are cleaned in the cleaning/rinsing room. If the beds are very soiled or in need of repairs, it will take place in the centers housekeeping station (often placed on lower level)

### **Administrative functions**

There will be a need for personnel dedicated to answering phones, deliver and file mail, ready/send samples, take care of visitors etc.

### **Technical**

There is a need for accessibility to personnel able to perform light maintenance, repairs and training for technical equipment. This especially concerns intermediate observation.

## **5.5 Hygiene demands**

Patients admitted to a ward are susceptible to infection because of reduced defense system, but also due to the hospitals microbiological flora. The best initiatives for reducing infection are by good hand hygiene and physical barriers between patients (by use of single rooms and isolation). Newer research indicates sanitizing with alcohol can be more effective than washing hands.

According to new guidelines there is only need for airborne infection isolation in special occasions (i.e. at the infectious unit) the guidelines use the expression isolation about air-and contact infection and isolation about other ways to set up for isolation, i.e. single rooms. If the wards are being planned with single rooms where half has included bathrooms, there will be no need for contact infection isolation. No demands for drain/sluice and no demands for a decontaminator in bath/toilet by isolation.

If no plans are made for a drain/sluice, it is presupposed there are cabinets and containers on the inside and outside of room for storage of linens, gloves and more.

Good routines and room for handling of waste and dirty linens will reduce the danger of infection. As well as routines and set up of handling and distribution of food and meds.

## **5.6 Flexibility and generality**

Both wards and bedrooms should be planned for flexible use both on short and long term basis. Changing patient composition and new treatment methods influences time and need for observation and care. All wards and bedroom should have a generality so that different patient compositions with different needs can utilize the area. Wards and bedrooms should have the possibility for rebuilding and re-organization when the needs for changes are there. Bed clusters will therefore not be precisely adapted to the medical field, but be general. It is suggested that a division in bed clusters with 8 beds are kept as a principle independent of the number of beds for different medical fields.

## **5.7 Need for close proximities, externally and internally**

Need for close proximities between part functions and rooms are based on 5 main momentums:

- PAS: Comfort and accessibility for patients/family members.
- ORG: Organizational; i.e. joint personnel man/operate more functions/rooms on the same shift.
- TRA: Transport; minimize amount of transport and/or transports over longer distances because of discomfort/risk for patient or time taken in moving for the personnel.
- UTS: Equipment; joint use of equipment that is stationary, or requires too many resources to move.
- FOU: Common area to support research, teaching and development for patients/family members, employees, students, university- or hospital personnel.

There is a separation between absolute and relative need for close proximity, where the absolute are demands where close proximity must be attended to, while the relative is in the category “should”.

Matrix for the absolute need for close proximities

<i>Part function</i>	<i>Part function</i>	<i>Reason</i>	<i>Comment</i>
Intermediate observation	Ward	PAS, UTS	
<i>Room</i>	<i>Room</i>	<i>Reason</i>	<i>Comment</i>
Ward	Work station	PAS	Direct visual contact between ward and work station
Isolation	Work station	PAS	
Dialogue room	Bed cluster	TRA	
Kitchen w/dining room	Bed cluster	TRA	One kitchen/dining room centrally placed for 3 wards
Exam/treatment	Bed cluster	TRA	One exam/treatment room centrally placed, for 3 bed clusters
Registration	Bed cluster	ORG	One registration, centrally placed, for 6 bed clusters
Medicine room	Bed cluster	TRA, ORG	One medicine room centrally placed, for 3 bed clusters
Group room	Bed cluster	FOU	Students and clinical teaching personnel switches between clinical and theoretical work

Table 5.8.1 Matrix for absolute needs for close proximities in wards.

Matrix for relative needs for close proximities

<i>Part function</i>	<i>Part function</i>	<i>Reason</i>	<i>Comment</i>
Ward	Office (manager)		Accessibility and closeness between immediate manager and the personnel
<i>Room</i>	<i>Room</i>	<i>Reason</i>	<i>Comment</i>
Bed cluster	Break room	ORG	During the daytime the break room can be utilized as a buffer for pre visitation, conversations etc.

Table 5.8.2 Matrix for relative need for close proximities in wards.

### 5.8 Special demands for environment, building and equipment

The environmental demands that is set for a ward is described in the design guide.

Bedrooms and treatment rooms are adjusted with high ceilings and set up for attaching of wall- and ceiling mounted equipment

For some patient groups (i.e. psychiatry, pediatrics etc.) there will be a need for separate efforts for sound proofing outside of standard demands of bedrooms and treatment rooms.

Supply delivery to the wards takes place via regular public elevators. HBNM will work out how this will affect the capacity of the elevators.

In the wards of the future patients will to a large degree be in bed and have equipment attached during transports. The need for automatic doors will have to be evaluated according to patients need for self assisted transportation, either by wheelchair or other means, and also for uninterrupted transportation for personnel where is necessary.

### Special needs/qualifications connected to equipment

The following is presupposed:

- Adjustments are being made for observation equipment at all intermediate observation rooms, as well as eventual installation of observation equipment in regular bedrooms.
- Easy access to help aids for assisting in moving the patients.
- Possibility for utilizing mobile e-ray machines, ultrasound, thorax e-ray and CT in areas for intermediate observation.

### 5.9 Standard room

The ward consists of following standard rooms<sup>3</sup>:

<i>Function, room #</i>	<i>Room, designation</i>	<i>Exists in some wards</i>	<i>M<sup>2</sup> net</i>
GS.01.001	Room, 1 pers		12m <sup>2</sup>
GS.01.007	Observation, heavy	X	15m <sup>2</sup>
GS.01.012	Kitchen/eat-in, Patient		30m <sup>2</sup>
GS.01.016	Sanitary, Toilet/shower, HC		5m <sup>2</sup>
GS.01.019	Sanitary, Toilet/shower, Large		8m <sup>2</sup>
GS.01.020	Cleaning/rinsing room		9m <sup>2</sup>
GS.01.021	Storage, Waste, dirty		5m <sup>2</sup>
GS.01.031	Work place, Work station		13m <sup>2</sup>
GS.01.055	Storage, Equipment		15m <sup>2</sup> )
GS.01.057	Storage, Medicines, Large		8m <sup>2</sup>
GS ..032	Registration		18m <sup>2</sup>
GS ..014	Dialogue room		10m <sup>2</sup>
GS..044	Examination/treatment room		16m <sup>2</sup>

Table 5.10 General view over actual standard rooms, ward

Description of the function of every room is described in RFP for standard rooms

#### 5.9.1 Area standards ward

The area standard per bed in the ward (incl. intermediate observation) is according to HFP 24m<sup>2</sup>. Exceptions are the observation beds that have 20m<sup>2</sup> beds and bed area for psychiatry that has 36m<sup>2</sup>. In addition there is set aside 275m<sup>2</sup> in phase 2 for bedrooms with need for extra space, i.e. isolation and room for intermediate observation.

<sup>3</sup>GROUP 2 concludes in table 5.9.2 with altered area sizes in certain rooms

With new place for increase in area for waste rooms, the area frame for per bed will be increased to 24.125m<sup>2</sup>, therefore, 6m<sup>2</sup> pr ward is presupposed moved from transportation and delivery.

In addition there will be an increase in of the collected area for a standard ward by group rooms at 20m<sup>2</sup> will have a 50/50 distribution of area for hospital functions, teaching and research functions. The area frame will then increase by 20m<sup>2</sup> for a ward, to 24.54m<sup>2</sup>/bed\*. The conditions for having a joint common room for hospital and teaching functions are that this room can be utilized flexibly. Then it is presupposed that other rooms, like dialogue rooms, break rooms and conference rooms can be used in the same way.

Additionally there will be an increase of the area factor to 24.79, by transferring area from patient services to the kitchen/dining area, so the room increase from 30 to 36m<sup>2</sup>. This will give room for dishwashing and better maneuverability for patients using a wheelchair or other help aids.

The new area factor consists of the rooms included in a standard ward. It is noted that the area used for group rooms and teaching is included in the area frame for research and teaching.

	<b>Additional area/48 beds</b>	<b>New area factor/bed</b>
HFP, starting point		1152:48 :24m <sup>2</sup>
Waste disposal room	6m <sup>2</sup>	1158:48 :24.125m <sup>2</sup>
Group room, teaching	20m <sup>2</sup>	1178:48 :24.54m <sup>2</sup>
Kitchen/eat-in	12m <sup>2</sup>	1190:48 : 24.79m <sup>2</sup>

*Table 5.9.1 new area factor pr bed*

Area standard in HFP consists of bedroom, incl. shower/toilet, workstation, locker/room for fluids, supplies, linen and equipment, registration, dining room/kitchen, exam/treatment room, dialogue room as well as personnel toilets and possible break rooms. In table 5.9.2 other room categories are also included in the ward inside the area frame.

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\*It is still not clear if the 50/50 separation will be a joint ownership to the rooms, or separate ownership to every other room, with (user rights for all) this will be cleared up in GROUP 8

The principle with module building of the wards where bed clusters are the smallest unit will have the following consequence for area:

<b>Bed cluster</b>	<b>Count</b>	<b>M<sup>2</sup> net</b>	<b>Area</b>
Workstation, incl. storage	1	12	12
Rooms	8	12	96
Toilet/shower (2x2 rooms have joint toilet/shower)	6	5	30
<b>Total 1 bed cluster</b>			<b>138</b>
<b>Total ward</b> (: 6 bed clusters)			<b>828</b>
<b>Joint for 3 bed clusters</b>	<b>Count</b>	<b>M<sup>2</sup> net</b>	<b>Area</b>
Additional area, large bedroom (15 m <sup>2</sup> )	3	3	9
Additional area toilet/shower, large	1	3	3
Storage, medicines	1	8	8
Storage, waste	1	8	8
Storage, equipment	1	15	15
Kitchen, eat-in	1	36	36
Break room, personnel	1	10	10
Cleaning/rinsing room	1	9	9
Exam/treatment room	1	16	16
Group room, teaching (50% teaching area)	1	20	20
<b>Total joint for 3 bed clusters</b>			<b>134</b>
<b>Total ward (: 6 bed clusters)</b>			<b>268</b>
<b>Joint for 1 ward</b>	<b>Count</b>	<b>M<sup>2</sup> net</b>	<b>Area</b>
Storage, copy	1	5	5
Registration	1	12	12
Waiting room	1	8	8
Dialogue room	1	10	10
Library, patient	1	15	15
Toilet/shower	1	5	5
Office, large	1	15	15
Toilet/personnel	2	2	4
Conference room	1	20	20
<b>Amount ward (: 6 bed clusters)</b>			<b>94</b>
<b>Total amount ward</b>			<b>1190</b> 24,79 m <sup>2</sup> /bed

Table 5.9.3 Model for area division intermediate observation

Because there are only single rooms, is it enough with only one dialogue room per ward.

Felles utviklingsenhet(FUE) has previously decided that there will be an extra large bedroom of 16m<sup>2</sup> per bed cluster. It is considered enough that there is 3 large bedrooms, each 15m<sup>2</sup> pr ward (:6 pr ward) for patient with need for overnight stay for family members or extra large equipment. In comparison, the rooms at the Women's-child center, are calculated for patient w/family member staying overnight, and are projected to be between 13 and 15m<sup>2</sup> (most are projected to approx.14m<sup>2</sup>). Standard rooms for intermediate observation that are equipment heavy are 15m<sup>2</sup>. Norges Handikapp forbund has come with the following statement:” In building phase 2 it is planned in each bed cluster a larger bedroom with possibility for overnight stay of family members. We feel an area of 15m<sup>2</sup> is adequate to cover this need.” There is an extra large bathroom pr bed wing (:2 per ward). In unforeseen situations where

there is a need for overnight stay for patients in other rooms than bedrooms (dialogue rooms, exam/treatment room) there is a toilet equipped for wheelchair that can be used. It is presupposed that this is equipped with a shower.

In connection with the drawings for building phase 2, an "explanation of bed clusters IHT revised program" has been executed, Where one has looked at the possibility of reducing the area in toilet/shower to 3m<sup>2</sup> for some rooms, as well as alternatives for placing the rooms in the bed clusters.

Area management in table 5.9.2 cannot by itself cover the need the personnel have for meeting-and teaching activities. This should be covered inside the area frame for offices/conference rooms (ref.GROUP 3) and inside areas for teaching and research (ref.GROUP 8)

For intermediate observation the following building module will be utilized:

<i>Bed cluster</i>	<i>Count</i>	<i>M<sup>2</sup> net</i>	<i>Area</i>
Workstation, incl. storage	1	12	12
Medicine locker	1	6	6
Room	8	15	120
Toilet/shower	4	5	20
Break/conference room	1	10	10
Storage, equipment	1	15	15
Dialogue/ family member stay	1	16	16
<b>Total 1 bed cluster, intermediate observation</b>			<b>199</b>

*Table 5.9.3 Model for area division intermediate observation*

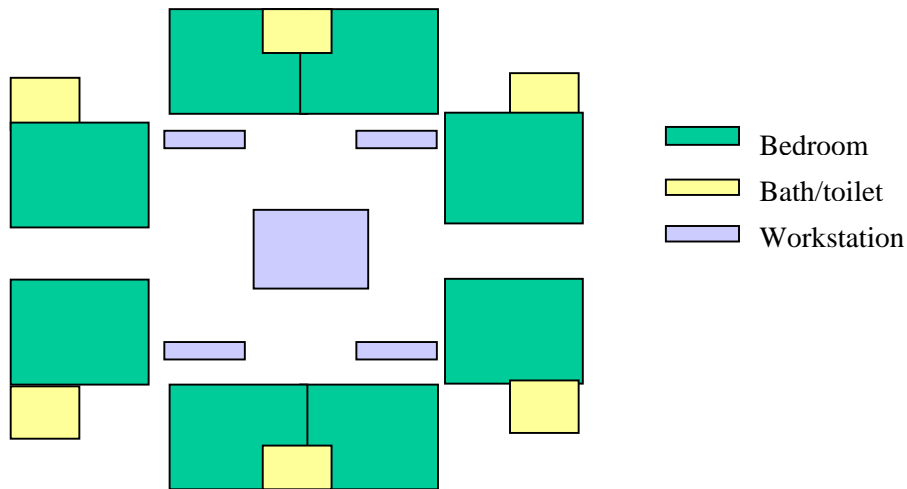
This area division follows standard rooms for intermediate observation, but only half of the bedrooms have private shower/toilet. This is acceptable because here there are patients unable to utilize them. In connection with the workstation there will a need for a medicine room for preparing and storage of medicines. There is need for a dialogue/waiting room for family members due to the patients in these areas are acute, critically ill and have many of their close ones there.

This gives an additional area of 52m<sup>2</sup> for a bed cluster (6.5m<sup>2</sup> extra per bed) and presuming intermediate observation is a part of the ward and can be utilize joint support rooms with the remaining ward.

### **5.9.2 Model for ward**

The wards are shielded from traffic in and out of the building. In the General center the top floors are best described for these functions. Here it is set up for best daylight and views. Main arrival to all the wards should be on the same vertical line as the main vestibule and with good connection to treatment areas. Vestibules on each floor with registration are on the same vertical line on each floor.

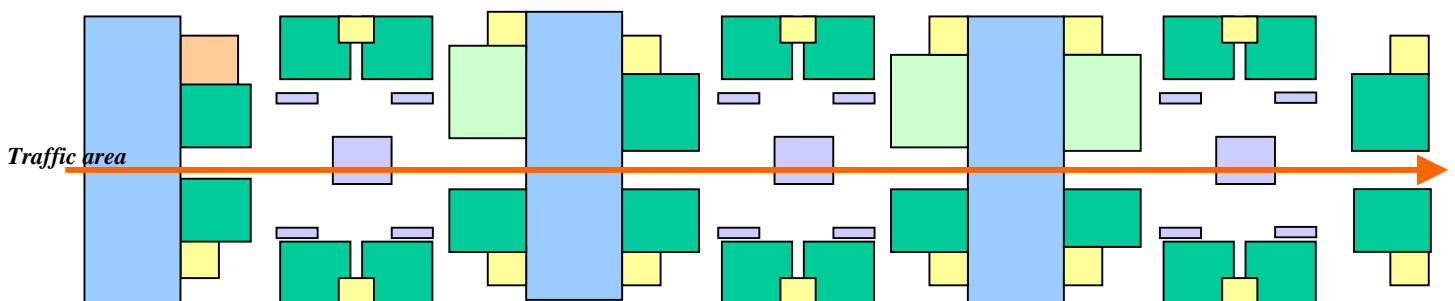
The following model drawing shows the building principle of **bed clusters, bed wings and wards**. By projecting and further planning this will be adjusted to the building structure and the limitations that are in this.



*Illustration 5.11.1 Principle drawing bed cluster*

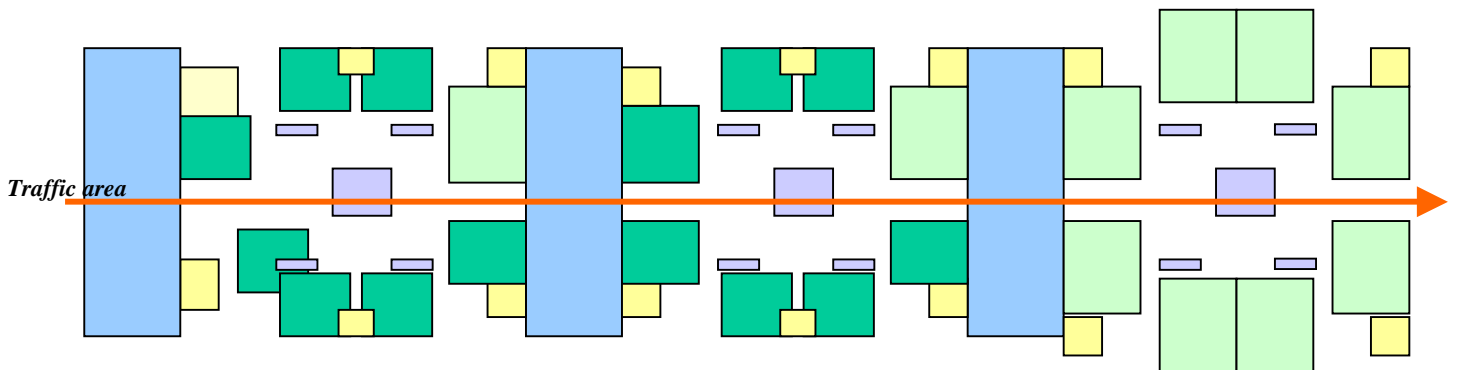
A bed cluster; (the smallest “building block” in the ward) consists of 8 bedrooms, bath/toilet and a workstation for the personnel incl. supply storage. This is planned with single rooms with own or shared bath for 2 single rooms. All have access directly from room.

In each bed cluster there is a workstation that consists of writing areas (not stationary), linen storage, fluids and supplies. There has to be the largest possible degree of visual contact from the bedrooms to the workstation.



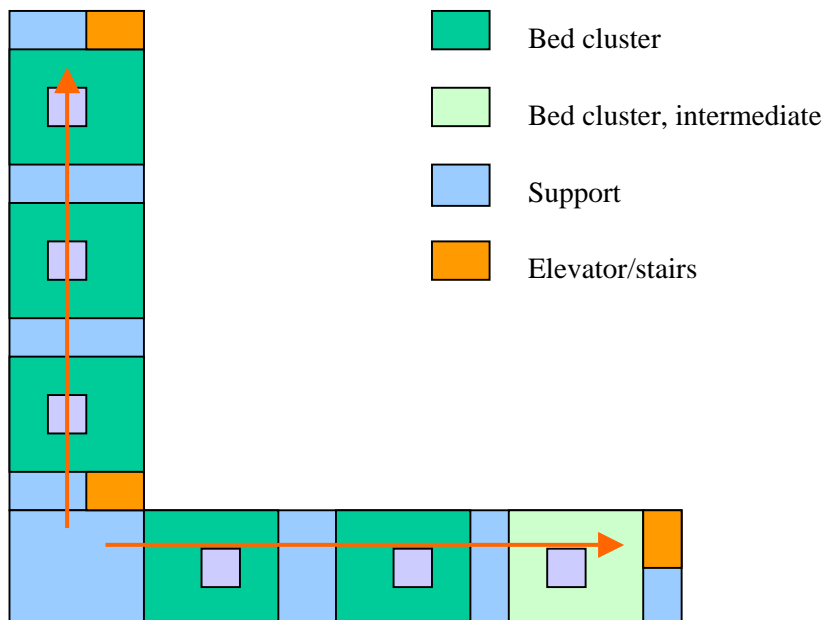
*Illustration 5.11.2 Principle drawing of bed wing*

In a bed wing, there will be 3 bed clusters with adjacent support room. The support rooms are among other things a wash room, waste room, kitchen/dining room and exam/treatment room. The bed wing also has also three extra large bedrooms and an extra large bath/toilet. The placement of the three large bedrooms, the large bath and traffic area/corridor will be adjusted to the actual building set up and needs through the work of planning the buildings.



*Illustration 5.11.2 Principle drawing bed wing with intermediate observation*

The wards are set up for placement of additional functions, like physical therapy, nutrition, ergo therapy, teaching and research areas.



*Illustration 5.11.2 Principle drawing ward incl. Intensive observation*

In the ward, which in principle consists of two bed wings, there will in addition be other joint support rooms that are placed centrally between the areas. Registration for the floor, library, dialogue room for patients/family members as well as offices.

## **6 OUT PATIENT CLINICS, SPECIALTY ROOMS AND DAY TREATMENT AREAS**

### **6.1 Developing trends**

Due to new treatments and demands for more effective activities, patients that would have previously been admitted are to a much large degree examined and treated in outpatient clinics and day-units. The number of outpatient dialogues increased in Norway from 2000 to 2001 by 3%, while the number of day treated patients increased by 10%. This increase is expected to continue and the reason behind this is changes from admitted to day and outpatient treatment and new treatment offers.

The situations for patients that comes for an outpatient dialogue and day-treatment differs from admitted patients that the timeframe for examinations, treatment and information is shorter. Patients receiving information about a serious, maybe chronic diagnosis shall receive and understand this and the medication or other treatments in a short timeframe. The compromised time for communication demands presence from competent personnel.

Outpatient clinics were previously mainly staffed by doctors and office workers, but changes in patient composition and the treatment, exams and information they need entails other professions to have the outpatient clinic as their workplace. Nurse operated outpatient clinics, cross-professional teams with physical-and ergo therapists, sociologists and psychiatrists that require medical technical competency entails a change in the outpatient clinics function.

It is especially within specialty areas like cancer treatment, dialysis as well as other types of day surgery that the development of day treatments has come furthest. Day surgery has increased considerably in Norway the last few years, and in 2002, 50-55% of all elective surgeries were performed as day surgeries.

It is for day patients as well as for admitted patients and outpatients important to have the possibility of screening. This can happen in cubicles (the disadvantage is no shielding from noise) or in private rooms. This has to be adapted to the actual unit and a combination of rooms and cubicles will more than likely be the best solution.

### **6.2 Description of functions, specifications and definitions**

#### ***6.2.1 Outpatient clinic and specialty room***

The activity in the outpatient clinics will be anything from short doctor dialogues to longer medical examinations and outpatient treatment (i.e. minor surgeries and medicinal treatment). Most patients come from Trondheim County, but several travel a good distance, and will have the need for overnight stay in connection with the dialogue.

Patients enter the centers main entrance to the centers reception, and will then be sent to registration for the out patient area they are going to. Several patients bring family members or helpers. At registration they are registered and shown to the outpatient clinics "inner" waiting area if everything is according to schedule. If the patient has to wait, they can get a pager, so they can go to the cantina, cafe or the centers gardens.

For many of the patients arriving at the outpatient clinic, sample takings are needed at the centers satellite laboratory. Its presupposed operations hours are the same as the outpatient clinic, i.e. 10 hours.

If there is a need for undressing during the dialogue, this will take place behind a screen in the exam/treatment room. Exam/treatment rooms are not used as private offices. Teaching of patients takes place individually or in groups or close to the outpatient clinic.

Widespread teaching-and research activity is connected to the outpatient clinics. Individual exam/treatment rooms and group rooms integrated in the outpatient clinics are being planned, as well as research areas close to a part of the outpatient clinics. Here we show the general programs for teaching and research, GROUP 8.

**Definitions:**

To the day treatment areas, specialty rooms and medical service functions that is performing outpatient clinics. A definition to outpatient clinic operations outside St. Olav's is also important.

**6.2.2 Day area**

Operations in day treatment areas will be connected to longer stay (4-5 hours or more) for examinations and treatment (i.e. minor surgeries and medicinal treatment). Many patients will have the need for overnight stays in hotels in connection with the dialogue due to risks for complications and the need for acute help close by.

Patients arrive from the centers main entrance to the centers reception, and will be shown to the registration in the day area they are going to. Several patients have family members or helpers with. In the registration they are registered and shown to the day treatment units "inner" waiting areas if all is on schedule. There is a need for storage of patients' clothes and personal belongings in a joint wardrobe or private lockers. Patients in a day treatment unit will either be in bed or get all treatment in the day treatment unit (i.e. cyst static treatment or similar), they are in a wheelchair, or sitting regularly and is arriving to/from different exams/treatments. Some patients are staying for a longer period and need a light meal sometime during the day. Teaching of patients takes place either individually or in groups or close by the clinic.

The day treatment areas function is dependant of what medical profession they are connected to. I.e. surgical activity will be closely connected with surgical units and observation units, while outpatient clinics that perform detailed medical treatment will first of all have the need for connection to polyclinics or specialty laboratory.

**Definitions:**

The day area when it is connected to a day surgical operation will have a definition against post op observation. When it is a part of an outpatient area the definition against another outpatient operation and use of specialty rooms is important. Collaboration between day treatment areas and the patient hotel is considered an important factor in the success, as several patients in the day area has the need for stay in the patient hotel

**6.3 Criteria and parameters for calculations of capacity and dimensioning**

Patient composition and demands for types of stay is rapidly changing with medical/technological development and treatment of patients on different levels in the health service.

At HFP a need for a total of 65 outpatient rooms has been calculated for phase 2. According to HFP the amount of outpatient dialogues are 163.700. That means 2.500 dialogues per room per Year. With a utilization of 230 days a year, that is 11 examinations per room or day, and with a 10 hour workday the average is about 1 hour dialogue time per patient in the outpatient clinics rooms.

Additionally, capacity of the joint resource that the specialty rooms totals, a large portion of specialty rooms will be used in outpatient dialogues.

The functions of the specialty rooms are diverse in phase 2

<i>Center</i>	<i>Specialty rooms, type</i>
<b>Mobility Center</b>	Orthopedics: Cast and changing room
	Orthopedics: Additional 25 m <sup>2</sup> for national function orth.implants
<b>Abdominal Center</b>	Gastro medicine: Endoscopy room + Stomi room
	Gastro surgical: changing area, ultrasound + room for 3D ultrasound
	Endo medicine: Diabetes
	Endo surgical: changing area
	Urology: Urodynamic lab, cystoscopy room
	Nephrology: National function for photoferesic treatment
	Oncology: Brachytherapy + cytostatical preparing
<b>Environmental Center</b>	Skin: bath, light treatments and laser room
	Pain management: Special invasive techniques, neurological exams and physical therapy.
	Cardiology: Cardiothoracic Center
<b>Cardiothoracic Center</b>	Cardiology: Cardiothoracic Center
	Cardiology: Angio room, echocardiography, work related EKG
	Cardiology: changing room/pacemaker
	Lung: Lung physiology, allergies, bronchoscope
<b>Emergency Center</b>	Emergency medicine: ER and trauma room

*Table 6.3 General view from HFP of types of specialty rooms in phase 2*

Specialty rooms are planned for functions that require special equipment, organization or special consideration during building. During planning of specialty rooms, general guidelines and specialty rooms will be utilized as much as possible. Table 6.3 is not a full description of the specialty rooms. This will take place during the programming of functions in the individual centers.

In HFP it has been calculated a need for 176 day areas (incl. psychiatry with 12 areas) in the new university hospital. 70 of these are planned in phase 1. 94 are planned for somatic patients in phase 2. According to HFT the amount of day patients are 29.300. That means 312 patients per place per year. With a utilization of 230 day/year there is a capacity for 1.3 patients per place per year. This means each patient can be in their day place on an average of 7.4 hrs. with a utilized time of 10 hrs/day.

A part of the patients will utilize day-patient-and specialty rooms during their stay. This will constitute an addition to the dialogue time in these rooms.

## 6.4 Service functions

### 6.4.1 Medical service

#### Laboratory services

Sample taking and labs will be done in outpatient clinics and day treatment areas during opening hours within the 10 hours. Many of the patients coming for outpatient dialogues and day treatment will also have samples taken at the same time. To limit the distances for the patients there is a need for short distances between the outpatient clinic and sample taking. The samples are sent to the labs for analysis. Local analyses only take place with exception.

#### Physical-and ergo therapy

There is a need for physical therapy services of patients in some outpatient-and day treatment areas. In addition to nearby treatment-and exercise rooms, the physical therapist has the need for a work place for documentation, planning etc. Sociologist, ergo-and speech therapist and others can utilize existing dialogue rooms in the outpatient clinic unit.

## **Image diagnostics**

There is a need for same day x-rays for many of the patients in the clinics. That is why it is so important the distances are short to the various examinations.

### **6.4.2 Non-medical service**

#### **Supplies- and waste handling**

In FUE there are principles set up for transport and delivery that will have importance for the outpatient clinic and day treatment areas. The principles are described in chapter 6.5

For outpatient clinic and day treatment areas the following consequences are:

All samples are sent by pneumatic tube from sample taking unit near the clinic area directly to the Laboratory center.

Waste, plastic, confidential papers and regular paper are sent in waste disposal system from the waste room.

Clean linens are delivered in carts, transported by AGV. When the cart is empty it is placed in the waste room for filling with dirty linens.

Dirty laundry is temporarily stored in carts in the waste rooms, and pushed manually to the collection rooms by the elevators, where the cart is collected by AGV.

Hazardous waste is temporarily stored in carts in the waste rooms in the wards, pushed manually to the collection room by the elevators, where the cart is collected by AGV.

All supplies, fluids, medicines and sterile goods are delivered in carts/AGV. The carts are delivered by elevator, and pushed manually to the bed clusters where they are unloaded and pushed back to the collection areas by the elevators for collection by AGV.

Supplies, linens and fluids are stored directly in the units' supply lockers without temporary storage. Supply lockers are module based 40x60 modules.

All ordering of supplies are done electronically.

It is not the responsibility of the health personnel for delivery of supplies.

In all day treatment areas there will be a need for delivery of food to the patients. Dishwashing takes place in the centers main kitchen?

New conditions increase the need for additional area in outpatient clinics from 5 to 8m<sup>2</sup> in the waste areas. This is area that earlier was set up for waste rooms in the basement. It is presupposed that this area is being transferred to outpatient clinic area.

Areas are being planned for carts on each floor. This area for carts and AVG is defined as transport area.

#### **Housekeeping**

There is a need for housekeeping services from designated personnel connected to the centers housekeeping station. Additionally there is a need for ability to clean up spills when housekeeping personnel is not available.

#### **Administrative services**

In the outpatient clinic and day treatment areas, there is a need for designated personnel for registration that can take care of all inquiries, answer telephones, distribute and file mail, register patients, coordinate planned examinations and treatments and set up schedules.

#### **Medical technique**

For the units with advanced medical technical equipment, there is a need for easy accessible medical technical personnel for teaching, maintenance and repairs

## **6.5 Hygiene demands**

In outpatient clinics and day treatment areas the patients are exposed to a large amount of people in a strange environment. A combination of this combined with reduced resistance to germs, increases the danger of infection.

The best efforts against spreading of germs are by hand washing and physical barriers between the patients. The patients with the longest amount of stay, has the largest risk of infection. That is why planning for a portion of the day rooms (4 per 12) is done for single rooms. Good routines and separate rooms for handling of waste and dirty linens will reduce the danger of infection. So are also routines set up for handling and distribution of food/drink and medications.

## **6.6 Flexibility and generality**

Outpatient clinics, day treatment areas and specialty rooms should be planned for flexible uses on both a short and long term basis. Changed patient composition and new treatment methods influence amounts and types of dialogues. All outpatient clinic rooms and day areas should have generality so that different patient categories can utilize the area.

It is presupposed that outpatient clinics for several specialties are coordinated.

It is presupposed a generality with planning of rooms for distinct building efforts, as well as specialty rooms is in a lesser degree usable on a short term basis Therefore one should evaluate special placement of these, so they don't disturb changes and adjustment in the general areas.

## **6.7 Need for close proximities, externally and internally**

The need for close proximities between part functions and rooms are based on 5 main momentums:

- PAS: Comfort and accessibility for patients/family members.
- ORG: Organization; i.e. joint personnel man/operate more functions/rooms on the same shift.
- TRA: Transport; minimize amount of transport and/or transports over longer distances because of discomfort/risk for patient or time taken in moving for the personnel.
- UTS: Equipment; joint use of equipment that is stationary, or requires too many resources to move.
- FOU: Common area to support research, teaching and development for patients/family members, employees, students, university- or hospital personnel.

There is a separation between absolute and relative need for close proximity, where the absolute are demands where close proximity must be attended to, while the relative is in the category "should".

Matrix for absolute need for close proximities

<i>Part function</i>	<i>Part function</i>	<i>Reason</i>	<i>Comment</i>
Outpatient clinic	Specialty room	UTS, TRA	Concerns the specialty rooms that is primarily for outpatient dialogues
Outpatient clinic	Group room	FOU	
<i>Room</i>	<i>Room</i>	<i>Reason</i>	<i>Comment</i>
Exam/treatment room	Work station	ORG, PAS	Visual contact
Rest areas	Work station	ORG, PAS	Visual contact
Dialogues	Work station	ORG, PAS	Visual contact

Table 6.8.1 matrix for absolute need for close proximities in outpatient clinics and day treatment areas

Matrix for relative need for close proximities

<i>Part function</i>	<i>Part function</i>	<i>Reason</i>	<i>Comment</i>
Clinic, registration	Reception	PAS, TRA	Same floor
Outpatient clinic	Labs	PAS, TRA	Sample taking areas are localized near the centers reception and the outpatient clinics registration
<i>Room</i>	<i>Room</i>	<i>Reason</i>	<i>Comment</i>

Table 6.8.2 Matrix over relative need for proximity in outpatient clinics and day treatment areas

Specialty rooms that primarily have outpatients should be placed in connection to the outpatient clinic areas, but specialty rooms that is connected to surgery or image diagnostics should be localized close to these functions.

## 6.8 Special demands to environment, building and equipment

Patients that are in the day treatment areas will be in there for several hours. They will go through examinations and treatments, a lot of information and have the need for surroundings that reduces stress and has good daylight and views.

In the outpatient clinics extensive treatment will take place, which require advanced medical technical equipment. There is a need for storage with charging units for mobile equipment that is utilized in several rooms.

## 6.9 Standard room

The outpatient clinic consists of the following categories of standard rooms\*:

\*GROUP 2 concludes in table 6.9.1 with changed area sizes on some rooms

<i>Function room #</i>	<i>Room designation</i>	<i>Exists in some outpatient clinic areas</i>	<i>Area Net m<sup>2</sup></i>
GS.01.020	Housekeeping, rinsing room		9
GS.01.021	Storage, waste, dirty		5
GS.01.031	Workplace, workstation		13
GS.01.055	Storage, equipment		15
GS.01.057	Storage, medicines, large		6
GS.01.011	Library, patient		15

GS ..032	Registration		18
GS ..040	Conference		20
GS ..014	Dialogue room		10
GS 12.038	Group room, teaching	X	20
GS ..045	Exam/treatment room		20
GS ..044	Exam/treatment room		16

Table 6.9 Actual standard rooms for outpatient clinics and day treatment areas

Description of the function in each room is described in RFP for standard rooms  
 Additionally there will be treatment-or exercise room for physical-and ergo therapy in some outpatient clinics.

### 6.9.1 Area standards outpatient clinic and day area

Area standards per outpatient clinic room incl. support room are 30m<sup>2</sup>. For specialty rooms the area standards varies between 30 and 70m<sup>2</sup> including support rooms. In most cases the specialty rooms are a part of an outpatient clinic or day area that utilizes a joint support room.

With new conditions of increased area in waste rooms, the area frame per outpatient clinic area is increased to 30.21m<sup>2</sup> (for a clinic consisting of at least 2 outpatient clinic units). Therefore 3m<sup>2</sup> per outpatient clinic area is presupposed transferred from transportation/supply area.

There will in addition be an increase of the area frame by group rooms of 20m<sup>2</sup>, have a 50/50 division of area for hospital functions and training-and research functions\*.The area frame will then increase with 20m<sup>2</sup> for an outpatient clinic area to 30.93m<sup>2</sup>/outpatient clinic room. Presumptions for a joint group room for hospital and training is that the room can be used flexibly. It is then presupposed that more rooms are seen that way. This concerns dialogue rooms, break rooms and conference rooms.

In the document "Utredning og utforming av poliklinikker" (HBMN) in connection to the drawing projects, it is suggested that dialogue rooms and exam/treatment rooms are the same size. This is a solution that will give the possibility of flexible use of the rooms. The area for the workstation (which is an open plan solution) is the same as the wards, where the function is comparable with the wards workstation. The workstations have primarily the need for close proximity to exam/treatment rooms and resting areas, not to other workstations. It is important that the resting areas have good daylight and views, since the patients stay in this area over a longer period of time. The principle with building modules in the outpatient clinic areas where the outpatient clinic is the smallest unit, gives the following consequences for area:

\*It is still not clear if the 50/50 separation will be a joint ownership to the rooms, or separate ownership to every other room, with (user rights for all) this will be cleared up in GROUP 8

<i>Outpatient unit</i>	<i>Count</i>	<i>M<sup>2</sup> net</i>	<i>Area</i>
Workstation, personnel, incl. Storage linens, supplies and sterile equip.	1	12	12
Storage locker, medicines	1	8	8
Dialogue room	1	16	16
Exam/treatment room	5	16	80
Exam/treatment room	1	20	20
Toilet/patients	1	2	2
Waiting area	1	8	8
Total, 1 outpatient clinic unit (:7			

outpatient clinic rooms)			146	
<b>Total outpatient clinic area(:2 outpatient clinic units)</b>			<b>292</b>	
<b>Joint for 2 outpatient clinic units</b>	<i>Count</i>	<i>M<sup>2</sup> net</i>	<i>Area</i>	
Storage, equipment	1	15	15	
Cleaning/ rinsing room	1	9	9	
Toilet, personnel	2	2	4	
Toilet, HC visitors	1	5	5	
Registration	1	18	18	
Conference room	1	25	25	
Group room	1	20	20	
Waiting area with play room and wardrobe	1	15	15	
Library, teaching, patient	1	15	15	
Storage, waste	1	8	8	
<b>Total outpatient clinic area(:2 outpatient clinic units)</b>			<b>134</b>	
<b>Joint for 2 outpatient clinic units(2 outpatient clinic units)</b>	<i>Count</i>	<i>M<sup>2</sup> net</i>	<i>Area</i>	
<b>Total area outpatient clinic area</b>			<b>426</b>	<b>30.43 m<sup>2</sup>/outpatient clinic room</b>

Table 6.9.1 Model for area division, outpatient clinic

With this division of area, each outpatient clinic area will have an additional 7m<sup>2</sup> for flexible use.

In the outpatient clinic areas the outpatient clinic unit is the core of all activities and support rooms is placed for joint use by two or more units in a special area. Specialty rooms and day areas can be added to the outpatient clinic areas and use the same support rooms that the outpatient clinic units does.

With this division of area, there will be 30.43m<sup>2</sup> net program area in an outpatient clinic area consisting of 14 outpatient clinic rooms. The area standard for dialogue rooms are increased, so these can be utilized flexibly. Dialogue rooms are considered on the same level as an examination room in the area standards for an outpatient clinic room.

Day area is divided area wise as following:

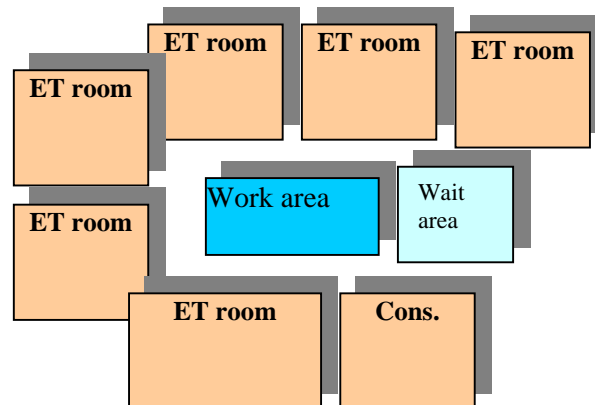
<i>Day treatment unit</i>	<i>Count</i>	<i>M<sup>2</sup> net</i>	<i>Area</i>	
Workstation, personnel	1	12	12	
Dialogue	1	12	12	
Rest area	8	10	80	
Resting room	4	12	48	
Toilet, personnel	1	2	2	
Toilet, patients	1	5	5	
Storage, medicines	1	8	8	
Cleaning/rinsing rooms	1	9	9	
Small kitchen	1	5	5	
Area day treatment unit			181	
<b>Total area for day treatment unit</b>			<b>181</b>	<b>15 m<sup>2</sup>/day place</b>

Table 6.9.1.1 Model for area division, day area

Exam-/treatment rooms are utilized in outpatient clinic or of the specialty rooms. The same concerns storage, equipment, waiting areas, registration, conference rooms, waste rooms, group rooms etc. Area for workstations is the same as for wards, since these functions are similar.

It is presupposed that in each rest area/resting bed there will be room for storage of patients' outerwear,

#### ~~6.9.2~~6.9.2 Model for an outpatient clinic area

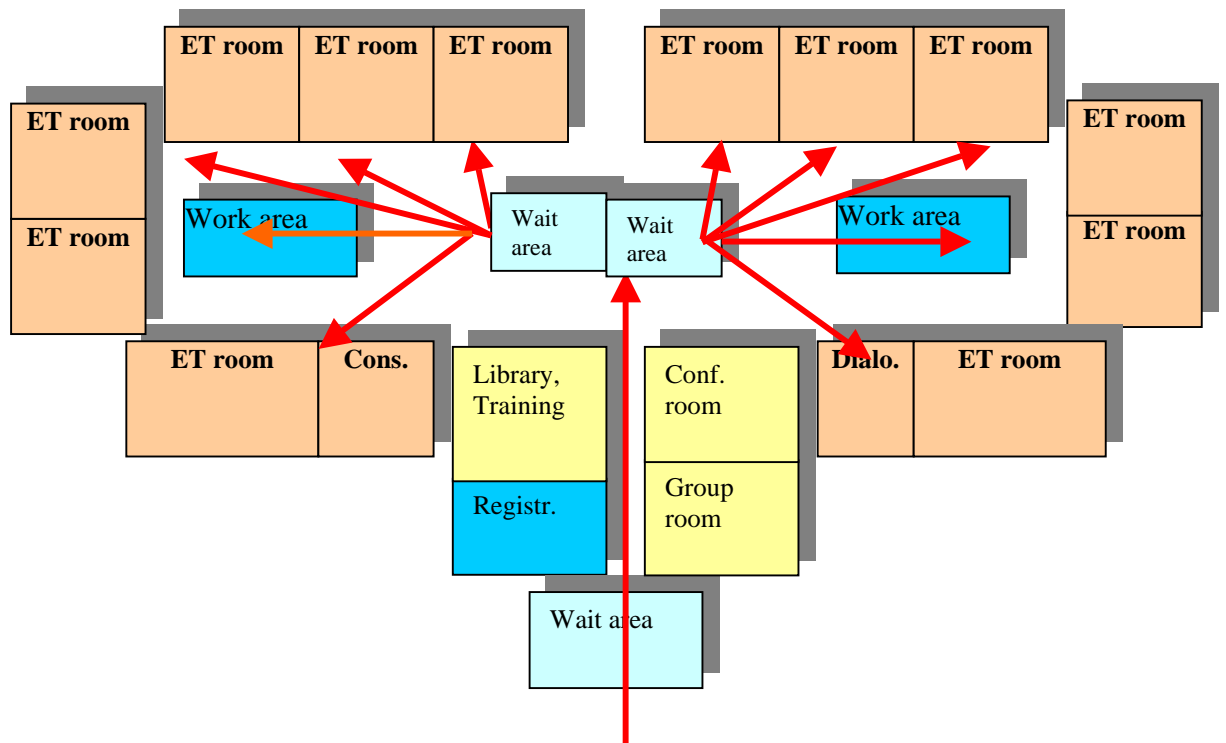


*Illustration 6.9.2 Principle drawing outpatient clinic unit*

The outpatient clinic unit consists of 7 outpatient clinic rooms (Six exam/treatment rooms and one dialogue room) with work base and waiting areas. One of the exam/treatment rooms is large (20m<sup>2</sup>)

In the revised main function program for phase 2 there are in each clinical, somatic center between 9 and 19 outpatient clinic rooms (average 13 outpatient clinic rooms). Therefore, the outpatient clinics consist of max. 2-3 units. There will be the same need for support rooms if there are 1, 2 or 3 outpatient clinic units connected to the outpatient clinic area. An exception can be the amount of toilets for the personnel and waiting areas for the patients if one gets about 3 outpatient clinic units. All centers with exception of the Administrative center have outpatient clinic rooms. An outpatient clinic area consisting of 14 outpatient clinic rooms will be a starting point that can easily be changed to suit the needs each center has.

Area standard per day place is 15m<sup>2</sup>. For specialty rooms the standard is 50m<sup>2</sup> incl. support room. Day areas will always be a part of an outpatient clinic area of surgical area/observation and share resources with them

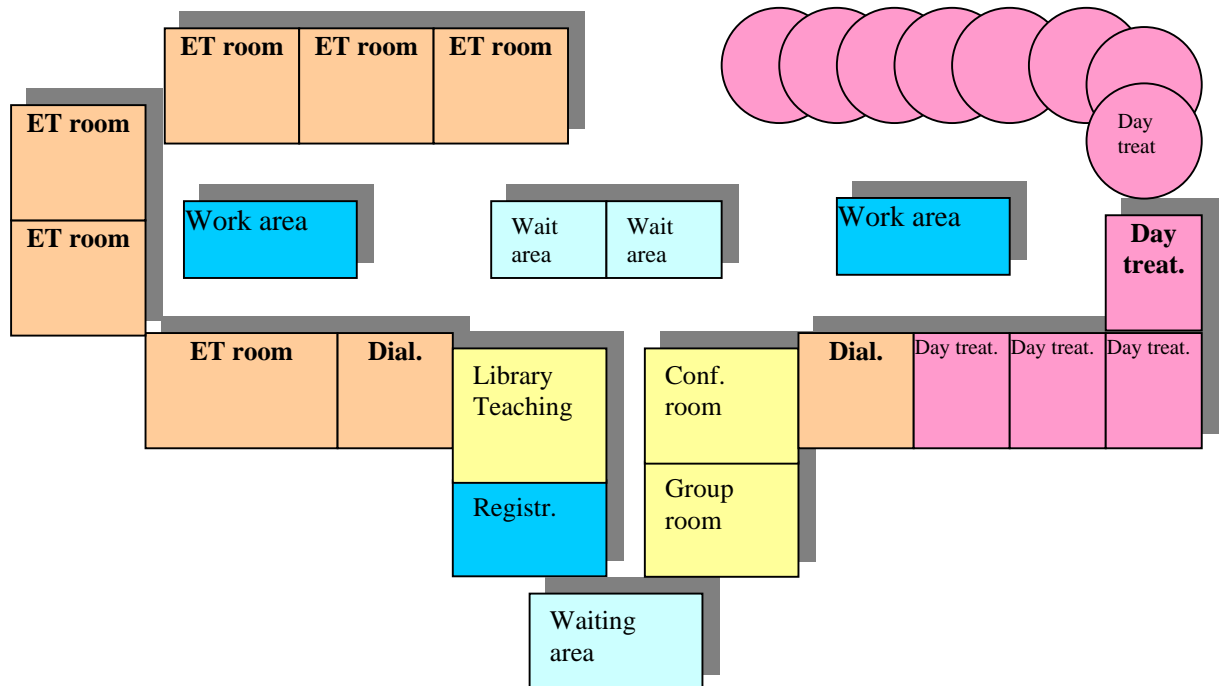


*Illustration 6.9.2 Principle drawing outpatient clinic area*

The outpatient clinic area here consists of 2 outpatient clinic units with a total of **14** outpatient clinic rooms (exam-/treatment- and dialogue rooms). Smaller support rooms like storage, medicines locker, cleaning/rinsing room, toilets etc has been included in the calculation table 6.9.1, but has not been illustrated in the principle drawing. Patient logistics are drawn with **red** arrows.

### 6.9.3 Model for a day area

In the same manner as the outpatient clinics, the day area can be divided into smaller units and be built as modules. Joint day treatment areas for more medical specialties give flexibility for utilization of joint resources.



*Illustration 6.9.3 Principle drawing for day area in outpatient clinic*

In the same manner as the outpatient clinics, the day area can be divided into smaller units and be built as modules. Joint day treatment areas for more medical specialties give flexibility for utilization of joint resources.

The outpatient clinic area consists of 7 outpatient clinic rooms (exam-/treatment-and dialogue rooms) + day area with 8 rest areas and 4 resting rooms. Patients in rest areas will have the need for some screening.

In the day area it is planned for one toilet per 12 patients accessible for wheelchair users.

One can choose to have one or more outpatient clinic units connected to the day area. More outpatient clinic units give a larger resource to a joint support room.

Day surgical units are based on the same module, but have the need for close proximity to observation/surgery to a larger degree than outpatient clinics does.

## **7 PATIENT SERVICES AREAS**

### **7.1 Developing trends**

Patient services areas are a group of part functions of different sorts. It has been especially focused on these in the later years as people are setting higher service demands to the hospitals above the medical examination and treatment.

The hospitals are profiling themselves now in a larger degree than before by placing service functions for patients and family member in front, like receptions, cafe's, kiosks/gift shops and different forms of information areas. A combination of hospital functions and commercial functions (shops, restaurants etc.) has become normal.

For many international hospitals the patient service areas are used to support the hospitals functions with illness prevention and healthy living promotions

Hospitals are also putting weight on religious services, or ceremonies connected to different religions. The focus has been on peoples needs to step back from a hectic hospital environment and get support for their spiritual needs.

The family member's situation in a newer hospital has changed due to new laws allowing the parents to be with their children in the hospital, and it is more normal now that family members are with the patients for longer periods of time and in more situations than earlier.

Newer hospitals are planning their facilities so that family member can stay at the hospitals and observe a situation where they can be a resource as well if they wish." Care partner" rooms are planned in several new hospitals, where bedrooms are planned large enough for family or friends of the patient can stay overnight if needed. In addition to overnight stay availability that can also be in the bedrooms, in own family rooms or at the patient hotel, there is also a need for the family to eat and relax.

Large weight has been put on children's needs in hospitals. Children as patients have been taken care of to a large degree through regulations, and there is now more focus on the needs children has as family members in a hospital.

### **7.2 Description of part functions, tasks and definitions**

#### ***7.2.1 Vestibule w/switchboard***

The vestibule with switchboard is at the centers/quarters main entrance for walking and visitors driven by taxi, private car etc. There is waiting- and areas to stay with traffic area incl. reception, telephone booths, play area, changing rooms, toilets and also HC-accommodation, as well as place for wheelchairs. Cafés/kiosks are considered businesses and are therefore included in the planning of rental area.

The centers reception in connection to the vestibule has a switchboard manned around the clock, incl. shift and information service for patients and visitors who either shows up in person at the counter or by telephone.

#### **Definitions:**

In addition to the vestibule/reception each center has a registration area on each floor that receives visitors, and has switchboard functions and mail distribution.

An important patient service function like information operations for patient on a waiting list is not being discussed any further in this chapter. This will be connected to further planning of the office function in the programming of the individual centers.

### ***7.2.2 Health resource center/Patient library/ Patient organizations***

The health resource center at St. Olav's Hospital shall generally be directed towards the general populous, specifically in correlation to patients and family members. The goal is to run information operations connected to different illnesses and treatment methods, as well as healthy living promotions and illness prevention information.

The patient library, which is a part of the health resource center, can offer library services to children and adults, patients, family members and personnel. The library services consist of lending of books and music, as well as access to electronic information. The patient library is in joint collaboration with the medical library. Joint localization can have huge advantages, but it is not a requirement. The patient library can eventually localize the Health resource center. In HFP the Health resource center is area wise added to the Administration center.

#### **Definitions:**

Patient libraries in the clinical centers are satellites, and have a well defined limit towards the Health resource center.

### ***7.2.3 Family member room/Next of kin***

Family rooms are used in the cases where the family members do not have room in the bedroom for an overnight stay and in crisis situations where the patient hotel is too far away. The room with toilet and shower has been set up for stay and possible overnight stay for one or more family members, and shall only be used by families of one patient at the time. The room can also be utilized for other purposes, i.e. dialogue.

Family members can eat at the patient hotel, the centers cantina, or together with the patient in the ward.

#### **Definitions:**

In addition to family rooms, it is planned that the family members can stay overnight in the bedroom if requested. Family members can also stay at the patient hospital.

### ***7.2.4 Priest services (in HFP called clerical service)***

The priest services will have their workplace in all the centers, where bedrooms, quiet rooms and joint areas can be utilized for the needed services. In addition the administrative functions and joint church hall (or other name?) will be taking care of in the Administration center.

#### **Definitions:**

Dialogue rooms, viewing room where patients/family members and priest or others can hold conversations and the dead can be cared for/viewed is defined within other functions of the priest services. This especially concerns the chapel for the Laboratory center for view of- and memorial for deceased patients and a joint church hall in connection to the Administration center.

### ***7.2.5 Education and play areas***

It is presupposed that areas for children in the other centers are set up inside the frames that have been set by HFP. This can concern areas for children in ER, ICU, central image diagnostics area, joint x-ray areas etc.

#### **Definitions:**

The education function takes place in phase 1 in the Woman-child and Neuro center.

## **7.3 Criteria and parameters for calculations of capacity and dimensions**

Area in phase 2 for reception/patient services (incl. library/information, ombud, café/kiosk, wheelchair access, toilets etc.) is a total of 539m<sup>2</sup> net. Seating/waiting area in the vestibule constitutes an average of 20 per center. 15m<sup>2</sup> is given to each center for library, information, ombuds function.

The area is divided according to revised main function program center wide as follows:

<i>Center</i>	<i>Area, net</i>
Movement center	128
Abdominal center	125
Environmental center	136
Cardiothoracic center	135
Emergency center	15
<b>Total area</b>	<b>539</b>

Table 7.3.1 Area division to vestibule/reception in phase 2

With this area division the Emergency center will have joint vestibule and reception area with cardiothoracic center. In addition there is area set aside in HFP for switchboard function in each center.

#### 7.4 Need for close proximity, externally and internally

The need for close proximities between part functions and rooms are based on 5 main momentums:

- PAS: Comfort and accessibility for patients/family members.
- ORG: Organizing; i.e. joint personnel man/operate more functions/rooms on the same shift.
- TRA: Transport; minimize amount of transport and/or transports over longer distances because of discomfort/risk for patient or time taken in moving for the personnel.
- UTS: Equipment; joint use of equipment that is stationary, or requires too many resources to move.
- FOU: Common area to support research, teaching and development for patients/family members, employees, students, university- or hospital personnel.

There is a separation between absolute and relative need for close proximity, where the absolute are demands where close proximity must be attended to, while the relative is in the category “should”.

Matrix for absolute need for close proximity

<i>Part function</i>	<i>Part function</i>	<i>Reason</i>	<i>Comment</i>
<b>Room</b>	<b>Room</b>	<b>Reason</b>	<b>Comment</b>
Room for wheelchair access	Vestibule	TRA, PAS	Close to front door

Table 7.4.1 Matrix over absolute need for close proximity in patient services areas

Matrix for relative need for close proximity

<i>Part function</i>	<i>Part function</i>	<i>Reason</i>	<i>Comment</i>
<b>Room</b>	<b>Room</b>	<b>Reason</b>	<b>Comment</b>
Patient services Patient organizations	Vestibules, public areas		Localize in areas where there is a lot of public activity

Table 7.4.2 Matrix over relative need for close proximities in patient services area

## 7.5 Special demands to environment, building and equipment

All areas for patient services are set up to lessen the institutional feel, with good access for children and adults, and those who are both physically able and physically disabled.

For church hall, meditation room or spiritual rooms, it is important that the physical conditions are set up so people of all religions can use them for ceremonies, and quiet time. (Also called “interdenominational chapel”)

## 7.6 Standard room

The following standard rooms are current when programming of the patient services area:

<i>Room function</i>	<i>Room designation</i>	<i>Area Net m<sup>2</sup></i>
GS.01.010	Patient stay, over night stay, visitors, personnel	12
GS.01.011	Patient services, library	15
GS..018	Sanitary, toilet, HC	5
GS..016	Sanitary, toilet	2
GS.07.013	Patient services, play	10
GS.07.069	Work place, reception	25
GS..042	Storage, copy room	5

*Table 7.3 View of actual standard rooms for patient services areas*

~~7.6.1~~ Description of functions of each room is described in RFP for standard rooms

### 7.6.1 Area standards patient service

<i>Area reception/vestibule</i>	<i>Count</i>	<i>M<sup>2</sup> net</i>	<i>Area</i>
Work place, reception	1	25	25
Storage, copy room	1	5	5
Library, information, patient org/ombud	1	15	15
Place for wheelchairs	1	5	5
Sanitary, toilet, visitors	4	2	8
Front room, toilet	2	2	4
Sanitary, toilet, HC	1	5	5
Breast feeding-/changing room	1	5	5
Telephone booths	1	1	1
Waiting areas	1	25	25
<b>Total area for reception area</b>			<b>98</b>

Table 7.6.1 Area division patient services in reception

Overnight stay rooms for family members are programmed inside the frame for wards, observation or ICU where it is needed.

<i>Center</i>	<i>Area, net</i>
Mobility center	98
Abdominal center	98
Environmental center	98
Cardiothoracic center	98
Emergency center	15
<b>Total area</b>	<b>407</b>

Table 7.6.2 Area division per Center for vestibule/reception

The remaining area for patient services at 132m<sup>2</sup> is suggested to be looked at for prioritizing the increase of the area of kitchen/eat-in. An increased area for the kitchen/eat-in gives better maneuverability for wheelchair users and patients that utilize other help aids, and more room for the dishwashing function.

A new area division gives:

	<i>Amount wards</i>	<i>Amount kitchen/eat-in</i>	<i>M<sup>2</sup>/room</i>	<i>Add. area</i>
Mobility center	2	4	6	24
Abdominal center	3	6	6	36
Environmental center	2	4	6	24
Cardiothoracic center	3,5	7	6	42
Emergency center	0,5	1	6	6
<b>Total</b>		<b>22</b>	<b>6</b>	<b>132</b>

Table 7.6.3 Area division per center for kitchen-eat-in

## 8 DEPARTURES FROM DOCUMENTATION OF BASICS

For all functions changed presumptions connected to supplies-and waste handling have consequences for the function and the areas in the wards, outpatient clinics and day treatment areas. Provisional notes from HBNM give the reasons for changes. The most important changes in connection to the documentation of basics are:

- Delivery of supplies/clean linens and collection of dirty linens by AGV
- Waste cans are being replaced with waste disposal system
- Linen shoot for dirty laundry is omitted
- Dirty lines are temporarily stored in waste rooms, and the area is increased from 5 to 8m<sup>2</sup>

There are still uncertainties surrounding dishwashing of plates and silverwares. It is presupposed that changed routines will not get area or functional consequences for kitchen/dining area.

### 8.1 Wards, including intermediate observation

For the area in the wards there are some considerable changes from the programming handbook. These are:

- Workstation is suggested at 12m<sup>2</sup> in GROUP 2. A reduction (from 13m<sup>2</sup> in phase 1) to 9m<sup>2</sup> will give critically small areas for the functions, especially concerning the delivery functions that to be able to handle changes.
- Isolation rooms in standard wards are omitted. This happens because of changed guidelines and presumptions about single rooms where 50% has private toilet/shower.
- 3 large bedrooms at 16m<sup>2</sup> and 3 large bathrooms per bed wing is changed to 3 large bedrooms at 15m<sup>2</sup> and 1 large bathroom per bed wing.
- Exam/treatment rooms are changed from shared area teaching/research to total hospital area.
- It is suggested 1 dialogue room per ward in GROUP 2. Reason is there are only single rooms.
- Waste rooms are changed from 5 to 8m<sup>2</sup> in conjunction with new function of the room.
- Kitchen-eat-in is changed from 30 to 36m<sup>2</sup> after transfer of area from patient services.

Model for area division in wards departs from the programming handbook in the following points (marked in yellow):

<i>Bed cluster</i>	<i>Count</i>	<i>M<sup>2</sup> net</i>	<i>Area</i>	<i>Area ihht Programming handbook</i>
Workstation, incl storage	1	12	12	9
Bedroom	8	12	96	72
Bedroom, large	0	16	0	16
Bedroom, isolation	0	12	0	13
Toilet/shower	6	5	30	10
Toilet/shower, large	0	8	0	8
Toilet/shower, isolation	0	6	0	6
<b>Total 1 bed cluster</b>			138	134
<b>Total ward (:6 bed clusters)</b>			<b>828</b>	<b>804</b>
<i>Joint for 3 bed clusters</i>	<i>Count</i>	<i>M<sup>2</sup> net</i>	<i>Area</i>	
Area part large bedroom	3	3	9	0
Area part extra large bath/toilet	1	3	3	0
Storage, medicines	1	8	8	8
Storage, waste	1	8	8	5
Storage, equipment	1	15	15	15
Kitchen, eat-in	1	36	36	30
Break room, personnel	1	10	10	10

Cleaning/rinsing room	1	9	9	9
Exam-/treatment room	1	16	16	8
Group room, teaching	1	10	10	10
Dialogue room	0	10	0	10
Total joint for 3 bed clusters			125	105
<b>Total ward (:6 bed clusters)</b>			<b>226</b>	<b>210</b>
<b>Joint for 1 ward</b>	<b>Count</b>	<b>M<sup>2</sup> net</b>	<b>Area</b>	
Storage, copy room	1	5	5	5
Registration	1	12	12	18
Waiting area	1	8	8	9
Library, patient	1	15	15	15
Toilet/shower	1	5	5	5
Exam-/treatment room	1	20	0	20
Dialogue room	1	10	10	0
Office, secretary	1	9	0	9
Overnight stay, family member	1	10	0	10
Toilet, shower, family member	1	5	0	5
Office, large	1	15	15	0
Toilet, personnel	2	2	4	6
Receiving area	0,33	20	0	6,7
Conference room	1	20	20	20
<b>Total ward (:6 bed clusters)</b>			<b>95</b>	<b>128,7<sup>1</sup></b>
<b>Total amount ward</b>			<b>1173</b>	<b>1142,7<sup>2</sup></b>

Table 8.1 Comparison area GROUP 2-Programming handbook, wards

The consequence of this area division is among other things that in the area standard for wards one has group rooms for teaching and conference rooms in addition to HiST/NTNU area, the hospitals teaching area and the center specific conference room areas.

## 8.2 Outpatient clinic areas and day treatment areas incl. specialty rooms

Model for area division in outpatient clinic departs from the programming handbook in the following points (marked in yellow):

<b>Outpatient clinic unit</b>	<b>Count</b>	<b>M<sup>2</sup> net</b>	<b>Area</b>	<b>Area ihht Programming handbook</b>
Work base, personnel, incl. storage linens, supplies, sterile supplies	1	12	12	0
Storage , medicines	1	8	8	0
Dialogue room	1	16	16	20
Exam-/treatment room	5	16	80	48
Exam-/treatment room	1	20	20	40
Toilet, patients	1	2	2	4
Toilet, personnel	1	2	0	4
Waiting area	1	8	8	0
<b>Total 1 outpatient clinic unit (:7 outpatient clinic rooms)</b>			146	116
<b>Total outpatient clinic area (:2 outpatient units)</b>			<b>292</b>	<b>232</b>

<sup>1</sup> According to the programming handbook the total area is 137.7m<sup>2</sup> calculation mistake

<sup>2</sup> According to the programming handbook the total area is 1152.7m<sup>2</sup> calculation mistake

<b>Joint for outpatient clinic area: 2 outpatient units + joint support room</b>	<b>Count</b>	<b>M<sup>2</sup> net</b>	<b>Area</b>	
Work base doctor/nurse	1	16	0	16
Dialogue room	1	10	0	10
Exam-/treatment room	1	24	0	24
Wardrobe, patients	1	10	0	10
Group room	1	10	10	10
Storage, equipment	1	15	15	0
Storage, medicines, fluids	1	10	0	10
Storage, linens (cabinet)	1	2	0	2
Storage, sterile	1	6	0	6
Cleaning/rinsing room	1	9	9	9
Toilet, personnel	2	2	4	0
Toilet, HC, visitors	1	5	5	5
Registration	1	18	18	0
Conference room	1	25	25	0
Waiting area w/play area and wardr.	1	15	15	20
Library, teaching, patient	1	15	15	0
Storage, waste	1	8	8	0
<b>Total support room for 2 outpatient clinic units</b>			<b>124</b>	<b>122</b>
<b>Total outpatient clinic area</b>			<b>416</b>	<b>354</b>
Reception	1	18	0	18
Waiting area	1	30	0	30
Quiet room	1	20	0	20
Sample taking	1	24	0	24
Conference/break room	1	20	0	20
Day bedroom	1	24	0	24
UB room for ergo-/physio therapy	1	40	0	40
Storage, help aids	1	10	0	10
Work place	1	12	0	12
Storage, copy room	1	5	0	5
Storage, waste	1	8	0	8
Storage, dirty linen	1	4	0	4
<b>Total support rooms for 2 (or more) outpatient clinic units</b>			<b>0</b>	<b>215</b>
<b>Total area outpatient clinic area</b>			<b>416</b>	<b>569</b>

Table 8.2 comparison area GROUP 2-Programminghandbook, outpatient clinics

According to the programming handbook an outpatient clinic area, if it consists of 2 outpatient clinic units, constitute a total of 16 outpatient clinic rooms\*\*, with an area standard of 35.6m<sup>2</sup>/outpatient clinic rooms. If the measures from the programming handbook with an outpatient clinic area consisting of 3-5 outpatient clinic units shall be followed,

\* 7 outpatient clinic rooms according to the programming handbook

\*\* Presupposed that both the dialogue room and exam-/treatment rooms are considered outpatient clinic rooms

this will give outpatient clinic areas with 24-40 outpatient clinic rooms. The area per outpatient clinic room will then decrease, but to use such a solution, one might have to join the functions together for more centers.

According to GROUP 2 an outpatient clinic area, if it consists of 2 outpatient clinic units consist of a total of 14 outpatient clinic rooms\*, with an area standard of 30m<sup>2</sup>/outpatient clinic room.

### 8.3 Patient services

Area for the vestibule/reception totals 98m<sup>2</sup> per center. The remaining area of 132m<sup>2</sup> net is programmed to increase the kitchen/eat-in area. This gives a change from HFP that follows:

	<i>HFP</i>	<i>GROUP 2</i>
Mobility center	128	122
Abdominal center	125	134
Environmental center	136	122
Cardiothoracic center	135	140
Emergency center	15	21
	<b>539</b>	<b>539</b>

*Table 8.3 New area division for patient services*

## 9 COMMENTS FROM PERSONNEL AND USERS

### 9.2 Wards incl. intermediate observation

### 9.2 Outpatient clinic areas and day treatment areas incl. specialty rooms

### 9.3 Patient services

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\* Presupposed that both dialogue, exam/treatment rooms are considered outpatient clinic rooms

## ENCLOSURE

### Enclosure 1

<i>IT-system</i>	<i>Description</i>	<i>Localization; special req. and more</i>
ADG	Electronic entrance with use of card reader, retina or fingerprint reader.	Used by personnel for medicine cabinet , or other special rooms
PAS OVERV	Observation systems for observation of ICU patients. Connected to EPJ	In intermittent observation
EPJ	Electronic patient journal. Electronic observation registration. Automatic transfer of information from observation equipment	Used in all work areas. Connected to observation equipment, i.e. wireless connection. Connected to the patient terminal.
PAS	Administrative patient system.	Used in all work areas.
PACS	Electronic system for filing and distribution of x-rays.	Used in all work areas. Connected to the patient terminal
TREATMENT	Registration system for results, lapses, deviations.Connected to EPJ:used for quality control, research and teaching	
LAB	Laboratory system. Ordering and answers of samples at clinical, chemical laboratory.	Used in all work areas...
SHIFTPLAN	Scheduling systems	Used by managers and personnel.
BOOKING	Internal booking of services. Book all types of resources and activities.	Used in all work areas.
MEDICINES	System that show the proper dosage for each patient.	Used in all work areas.
CALLING	Two-way wireless communication” low frequency cell phone or DECT where one can communicate directly without having to use a reg.phone.	Used by all nurses and doctors. Connected to the patient signal from each patient.
PROCEDURES	Register for registrations of performed procedures in all units.	Used in all work areas.
SERVICE	The hospitals internal service-net; menu from the kitchen, GROUP /Radio stations, information of operating hours, different offers from patient organizations etc.	Used by all patients/family members. Connected to the patient terminal.
INTERNET	Access to the internet, for gathering of information.	Used in all work areas. And the patient terminal.
EQUIPMENT	View over med-techn. Equipment area. Connected to a central equipment pool.	Used in all work areas.
SUPPLIES	Electronic registration system for supplies, linens, fluids and more for planning of delivery.	
EQS / KS-WEB	Quality control documentation	Used in all work areas.

## Enclosure 2

<http://www.helse-midt.no/mestring>

Quality center for patient information and patient training (KPI) shall through research, training, procurement and development be a resource for health professionals and health enterprises in Helse Midt-Norge.

The project started summer 2002 with one project manager. The project phase will gradually change to establishing and operation of the Quality center.

KPI falls administratively under Fagavdelinga to Helse Sunnmøre. The base grant comes from Helse Midt-Norge. The projects that KPI is in the start up faze with are being carried out by collaborating partners and are financed by them or external sources.

The main focus for KPI will be patient information, but KPI will also have a separate responsibility for networking between Training and ability centers in Helse Midt-Norge.

The quality center for patient information and patient training is established in Volda and is collaboration between Helse Sunnmøre, The graduate college in Volda and Møre research.

**Enclosure 3**

List over input to general guidelines-GROUP 2

<i>Date</i>	<i>Form of communication</i>	<i>Sender</i>	<i>Subject</i>
17.12.2003	E-Mail w/note	V Hartmann P Ingdal	Un-clarified cases GROUP 8, FUE treatment. Con. Group rooms integrated in clinical area.
12.12.2003	E-Mail	H Tradin G Håberget	Comments con. Specialty room in Emergency center.
12.12.2003	E-Mail	H Tradin S Sunde	Comments con. Specialty room in Cardiothoracic center.
12.12.2003	E-Mail	H Tradin B Langås	Comments con. Specialty room in Environmental center.
12.12.2003	E-Mail w/doc. comment	H Tradin B Bakken	Comments con. Supply delivery and waste handling.
19.12.2003	E-Mail w/meeting notes	H Tradin L Furre	Meeting 12/18 con. Dishwashing in the wards in phase 1. Change of room function.
13.01.04	E-Mail	Birgith Berg	Comments con. Single rooms and size of large single room.

<b>Handling procedure:</b>			
Sent for handling	Expected date of handling	Instance	Date of handling
		Committee FUE	20.02.04

<b>Document status</b>					
06	20.02.04	End documentation	HTR	HTR	<i>B. Ystgaard</i>
05	02.02.04	Advisory for comments	MLA	HTR	
04	08.01.04	Secretary FUE	MLA	KST	
03	01.12.03	Draft for general guidelines GROUP 2	MLA	KST	
02	10.11.03	Draft for general guidelines GROUP 2	MLA	KST	
01	25.09.03	Draft for general guidelines GROUP 2	MLA	KST	
<b>Rev. status</b>	<b>Rev. date</b>	<b>Revised text</b>	<b>Perform ed by signed</b>	<b>Checked by signed</b>	<b>Approved signed</b>