

# A survey of the availability of specialist dental and oral medicine services at hospitals in Norway

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## Abstract

In Norway, dental care and general health care are provided and financed by different organisations. Most dental care is provided in the private sector and most specialist dentists work privately in the south of Norway. There is little information on the supply of and access to specialist dental or oral medical services and the hospitals' role in the delivery of such care. **Aim:** The aim of the study was to investigate oral medical and dental services provided by hospitals in Norway in 2008. **Methods:** A short, piloted questionnaire consisting of five structured questions and space for free comments was sent to all 67 hospitals in Norway. The questions considered the employment of general or specialist dentists, the type of dental or oral medical treatment provided, an evaluation of the available services in relation to treatment needs of patients, the role of the hospital as a referral centre, and the perceived need for hospital dentists and dental specialists. **Results:** A total of 44 (65.7%) responses were received. A third (29.5%) of the responding hospitals employed dentists or dental specialists. Twelve hospitals (27.3%) provided a broad selection of oral medical and dental specialist services. Most hospitals (56.8%) felt that their existing (or non-existent) oral medical and dental services were insufficient in relation to patients' needs. Half (50.0%) of the respondents felt they could have use for hospital dentists and 11 respondents (25.0%) felt a great need for oral surgeons or other dental specialists. Only 25.0% of the respondents considered their hospitals as places where dentists and dental specialists could refer their most difficult cases for consultation and treatment. **Conclusions:** Today, there is no formal hierarchical organisation (care chain) for dental services in Norway for patient referrals. The Public Dental Service employs few specialists, and most hospitals do not have dental personnel. Thus, there are obvious problems organising the most demanding oral medical and dental services and a lot of patients with severe diseases are not likely to have proper dental treatment in a vast country as a result of access difficulties relating to the small number of hospitals that provide specialist dental services and the distances from patients' homes to such hospitals.

*Key Words: Hospitals, Norway, Oral Medical Services, Specialist Dental Care*

## Introduction

In Norway, the provision of dental care and general health care is administered by different organisations. The system of health care provision is based on a decentralised model. Local municipalities have responsibility for organising and financing primary health care, including both preventive and curative treatment (such as health promotion, child and school health services, antenatal care, vaccinations) and diagnosis, treatment and rehabilitation including responsibility for general medical treatment, emergency services and physiotherapy. Municipal departments (for treatment and care) also organise health services provided by institu-

tions such as nursing homes. At a higher level, regional health authorities organise somatic and psychiatric hospital services through Regional Health Care Trusts. The state is heavily involved in the organisation and financing of hospital services as it owns the Regional Health Care Trusts.

Oral health care services are provided by both the public and a private sector. Since 1984, children and youngsters have been offered free dental care in the Public Dental Service (PDS), run and financed by the 19 provinces (county councils) spread over the country. Today, the PDS also caters for people with a mentally disability, elderly people living in institutions or subject to home nursing,

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and some smaller special-needs groups—altogether some 1.4 million people out of the total national population of 4.8 million. The PDS may also offer treatment to other adults when it is considered feasible and is necessary locally. Private practitioners provide most dental care for adults. Almost all private dental treatments for adults are paid direct to their dentist by patients, without any reimbursement from the state or from private insurance. About 75% of Norwegian dentists' annual working hours are spent in the private sector.

Interestingly, the PDS has a principal responsibility, at a provincial level, to ensure availability of the necessary dental services, including specialist services, for the whole population; meaning that the PDS must also ensure availability of services that private dentists do not provide. However, the PDS does not have the resources to do this and, according to the provincial chief dental managers, fulfilling this responsibility was, in general, not achievable because there were few ways of influencing private practitioners to achieve this goal [1]. An earlier study [1] showed very uneven access to specialist dental care because more than 80% of the approximately 400 specialist dentists in Norway worked as private practitioners and mostly in the bigger cities in Southern Norway and few were employed in the PDS or in hospitals. According to the chief dental managers of the PDS, the small number of specialists in the PDS was partly due to lack of resources in the PDS and partly due to unwillingness of the dental specialists to work in less central areas. There is little information on the hospitals' role in providing specialist oral medical services and their position in oral health care in the hierarchy of primary, secondary, or tertiary oral health care.

### Aims

The primary aim of this study was to investigate whether there were dentists or specialist dentists employed at hospitals. Secondary aims were to investigate what kind of oral medical or dental treatment was offered at the hospitals and how appropriate it was in relation to the needs of the patients served by the hospitals in question.

### Methods

In the spring of 2008, a short, piloted questionnaire consisting of five structured questions and space for free comments was sent to all 67 hospitals in Norway, which had been identified and listed by the

Norwegian Directorate for Health and Social Affairs. The questions considered the employment of general or specialist dentists (*Table 1*), the type of dental or oral medical treatment provided (*Table 2*), an evaluation of the available services in relation to treatment needs of patients (*Table 3*), the role of the hospital as a referral centre, and the perceived need for hospital dentists and dental specialists. The initial mailing was sent to the oto-rhino-laryngology departments. However, when it became apparent that many hospitals did not have such departments, the next mailing was sent to the hospital directors of those hospitals that did not respond to the initial mailing. As the questions related to an evaluation of current treatment practices and no personal data were collected, approval by an ethics committee was not required.

Because of the small number of hospitals involved statistical analyses were not used.

### Results

Data are presented by health region and province. There were responses from 44 hospitals, an overall response rate of 66%. The geographical distribution of the responding hospitals is presented in *Table 1*. The response rate was somewhat lower from hospitals in the south-east region, where half of the hospitals in Norway are situated, than from hospitals in the other regions.

#### Dentists working at hospitals (Question 1)

Of the 44 hospitals that responded to the questionnaire, 13 (29.5%) reported that they employed dentists or dental specialists. Seven of these were university hospitals. In addition, four hospitals bought services from private practitioners. Most respondents mentioned that they commissioned care from the Public Dental Service (PDS), especially for ordinary dental treatments requiring general anaesthesia. Such treatment was mainly for children or mentally disabled adults. Hospital staff provided the general anaesthesia and a PDS dentist the dental treatment.

All four health regions and 11 of the 19 provinces had at least one hospital employing one or more dentists. Two other provinces reported that they had hospitals that used private dental services (*Table 1*).

Six respondents provided additional information when answering question 1. Two claimed that they had very long waiting lists for dental treatments requiring general anaesthesia. A further two complained about major problems relating to the

treatment of dental emergencies and two more were worried about having to refer seriously ill patients to their own (sometimes rather inexperienced) private dentists for necessary dental treatments, because there were no dentists at the hospital or specialist dentists in the province.

#### Type of dental care provided at hospitals (Question 2)

Dental care involving general anaesthesia was the most widely provided treatment and it was provided by 27 (61.4%) of the responding hospitals. Serious oral diseases, trauma, congenital defects, and examination and treatment of oral infections in special patient groups and in-patients with acute dental problems were reported as being treated at

16 hospitals (36.4%). Twelve (27.3%) commented that they provided other types of advanced treatments e.g., orthognathic and mandibular joint surgery, implants, transplants and orthodontic treatment (*Table 2*).

#### Supply of services in relation to perceived needs (Question 3)

At 26 hospitals (56.8%), the respondents' experience was that their oral medical and dental services were inadequate or very inadequate to meet patients' needs. Such hospitals could be found in all four health regions and in almost all provinces. Five hospitals (15.9%) in five provinces and three regions answered that they had satisfactory services (*Table 3*). Eight respondents did not answer the

**Table 1.** Distribution of the Answers and Numbers of Hospitals Employing Dentists or Buying Services From Private Dentists

Regional Health Authority	Province	Hospitals (n)	Answers (n)	Response rate (%)	Hospitals employing dentists (n)	Hospitals buying dental services from private dentists (n)
South-Eastern Region	Østfold	1	1		0	1
	Hedmark	5	3		0	
	Oppland	2	2		1	
	Oslo	5	4		3	
	Akershus	6	1		0	
	Buskerud	4	2		0	
	Telemark	4	3		0	1
	Vestfold	3	3		0	
	Aust-Agder	1	0		0	
	Vest-Agder	3	2		1	
Total		34	21	61.8	5	2
Western Region	Rogaland	3	3		1	
	Hordaland	5	3		1	
	Sogn og Fjordane	4	2		1	
Total		12	8	66.7	3	0
Central Region	Møre og Romsdal	4	3		1	
	Nord-Trøndelag	2	1		0	
	Sør-Trøndelag	2	2		1	
Total		8	6	75.0	2	0
Northern Region	Nordland	6	3		1	
	Troms	5	4		1	1
	Finnmark	2	2		1	1
Total		13	9	69.2	3	2
All regions		67	44	65.7	13	4

**Table 2.** *Type of Oral Medical or Dental Treatments Provided at Norwegian Hospitals According to the Respondents (N=44)*

Type of treatment provided	Hospitals n (%)
Serious oral diseases, trauma and congenital defects	16 (36.4)
Infection focus examinations and other oral medical examinations	16 (36.4)
Necessary dental treatments before radiation therapy to the head or neck	13 (25.0)
Dental treatment for patients whose general health status requires hospital care	11 (25.0)
Dental treatments under general anaesthesia	27 (61.4)
Emergency treatments for hospitalised patients	16 (36.4)
Difficult treatments that other dentists or specialists were unable to provide	11 (25.0)
Acute dental/oral infections or bleeding outside dentists' ordinary working hours	14 (31.8)
Other treatments	12 (27.3)
No answer	3 (6.8)

question and seven answered that they were unable to make a judgement. It was also noticeable that although one hospital in a province was satisfied with its dental services, another hospital in the same province could have problems.

**Table 3.** *Respondents' Opinions on the Adequacy of Oral Medical and Dental Services at Their Hospitals in Relation to Patients' Needs by Health Region and Province*

Health region	Province	Satisfactory	Deficient
South-Eastern Region	Østfold		1
	Hedmark		1
	Oppland		1
	Oslo	1	3
	Akershus		
	Buskerud		1
	Telemark		2
	Vestfold	1	
	Aust-Agder		
Western Region	Vest-Agder		
	Rogaland		3
	Hordaland		1
	Sogn og Fjordane	1	1
Central Region	Møre og Romsdal		3
	Nord-Trøndelag		
	Sør-Trøndelag		2
Northern Region	Nordland	1	2
	Troms		2
	Finnmark	1	2
All regions*	4	3	1
All provinces	19	5	14

\* Regions having at least one hospital satisfied with their services.

#### Need for 'hospital dentists' (Question 4)

The respondents were asked for an opinion on the need for 'hospital dentists' according to the Swedish model. These are dentists who have additional education in general medicine and practical training in in-patient care. Twenty-two (50%) respondents felt that they would like to employ 'hospital dentists' at their own hospital, nine (20.5%) said no, and 13 (29%) did not answer the question or answered 'do not know'. Eleven respondents made comments: six of them felt that there was a great need for oral surgeons at their hospital and five felt a need for other dental specialists.

#### Dental referrals to hospital (Question 5)

The last question was, 'In the other Nordic countries, hospitals are places where dentists or dental specialists both from the public and private sectors can refer the most difficult cases and most complicated treatments they are unable to treat themselves: does your hospital provide this service?' Eleven respondents (25.0%) answered yes and 22 (50.0%) no. Two respondents did not know and nine did not answer the question.

#### Additional comments from respondents

Seventeen respondents (38.6%) felt that the questionnaire considered an unsolved problem. One of the respondents highlighted the need to clarify the system for financing dental care provided at hospitals. Two respondents recommended (and were willing to participate in) a working group in order to plan how dental care should be properly organised at hospitals.

#### Discussion

The response rate (65.7%) must be considered rather good especially because the questionnaires

were not addressed to named persons. This and the many spontaneous comments received from the respondents indicated that organising oral medical and dental services at hospitals is a current issue in Norway. Such services are needed for different reasons. Serious diseases, trauma and congenital defects often need to be treated by both doctors and dental specialists, some dental treatments are needed to support ongoing medical treatments, some patients can be too frail to receive dental treatment in an ordinary practice, and some cases can be too difficult for ordinary dentists or even for specialists and need to be referred further. In addition, in-patients may have emergencies that need rapid help or are long-term patients who just need ordinary treatment.

Today, there is no formal hierarchical organisation (care chain) for dental services in Norway.

The plans for future organisation of dental care, made in the year 2000, included the establishment of a number of so called 'competence centres' i.e. bigger specialist dental units, one in each health region [2]. These should function as 'out-reach' specialist education units under supervision of the universities and provide specialist care for local people [3]. For the educational part of their work, the specialist units were planned to be financed by the state and for their dental services by the local provinces and patient fees. However, only two of the planned centres have so far been opened, one in Tromsø in the North of Norway and one in Arendal in Southern Norway. One in Trondheim is under construction and two are still in the planning phase. As regards decentralised specialist education and future chances of getting specialists to more remote areas in Norway, the specialist education units might be useful. However, it is difficult to see how a handful of new PDS specialist units could make a big difference in treating medically complex patients when respondents from 25 hospitals felt that their oral medical and dental services were insufficient in relation to needs.

Only a fifth (22.7%) of the respondents reported that their hospital provided all kinds of specialist oral surgical, medical and dental treatment. A few of them (university hospitals) provided even the most advanced treatments. Norway is a large country (385,000 km<sup>2</sup>) and the distance from the southernmost point to the northernmost point is 2500 km. In addition, numerous fjords and high mountains all over country make travelling complicated. Thus it was obvious from the study that the supply of oral medical and dental services at one hospital in a province was not sufficient. Concentrating the most advanced oral medical

services at a few university hospitals is current practice in many countries. In Norway, the smaller hospitals reported that they experienced a great need for less advanced dental services as relatively few specialist dental services were available in most parts of the country.

In the sparsely populated neighbouring countries, Sweden and Finland, the PDS has a much greater role in provision of specialist dental services for the populations. In Finland, where the organisation of primary health care, including dental services, is the responsibility of (a large number of) local municipalities each municipality has to belong to a hospital district in which the district hospital organises specialist oral medical and dental services. Both public and private dentists and specialists in the area of district hospitals can refer patients to these hospitals especially when they cannot treat the patients themselves or the patients need a specialist consultation. Furthermore, hospital districts belong to university hospital regions that offer the most advanced services. Thus, in Finland specialist oral medical services are provided at all the 21 district hospitals and the five university hospitals [4].

In Sweden, all regional hospitals responsible for advanced medical treatment employ specially educated and trained hospital dentists and dental hygienists. They offer the necessary oral medical and dental treatment and follow up to immunocompromised in-patients, patients with head and neck cancer, patients needing heart surgery and organ transplants, and other seriously ill patients. The hospital dentists are part of the medical team and have close contact with the medical doctors when treatments are planned. In addition, most provinces have dental teams trained and educated to provide out-reach oral care to patients in need of special care, for example frail elderly patients or patients with a serious illness living at home. These dental teams are linked to the hospital dental clinics. Almost all dental treatments, except the most advanced prosthetics, are free of charge for the patients in the same way as other somatic care. In addition to hospital dentists, all regional hospitals employ oral surgeons who provide advanced treatments such as orthognathic surgery, mandibular joint surgery, and implants [5]. Organising 'ordinary' specialist dental care is the responsibility of the PDS in Sweden.

In Denmark too, a relatively small country where patients are usually within one hour's travelling time from a hospital, local districts are obliged to organise oral medical specialist services at hospitals [6].

In Norway, it seems that there are many seriously ill patients unnecessarily suffering from oral and dental problems during medical treatments or while being unconscious for longer periods of time or in palliative care. Neglect of treatment will cause great suffering for the patients, may aggravate their medical conditions and also increase the costs for the health system. When the education and health care provision systems are separated during undergraduate medical and dental training programmes, many medical doctors and nurses are not aware of the oral health status of their patients. The knowledge of what happens in the oral cavity when someone is seriously ill is sparse, even among dentists and chief dental managers. Today, it is of great importance to enhance this knowledge as advanced medical treatments enable most patients to survive their medical conditions but in many cases with worsened oral health. It is well known that the most frail elderly and seriously ill patient groups even today have relatively worse access to dental treatment than healthy younger patients.

The respondents in our study pointed out that there was a great need for oral surgeons and other dentists with special competences at their hospitals. Half of the respondents supported the idea of having hospital dentists at their hospitals, even though in the questionnaire there was no definition of the term 'hospital dentists'. In Sweden, almost all hospital dentists have undertaken university courses in general medicine. One region in southern Sweden has for the last five years offered an experimental three-year specialist education in orofacial medicine leading to hospital dentistry as a specialty. This education is likely to become formalised to meet the future healthcare needs and demands of the aging population [7].

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An earlier study [1] showed that the chief dental managers of the Norwegian PDS had relatively little knowledge of dental personnel working in hospitals and the treatments that were provided there, even though they should have an eye on the whole oral health care provision system, which in practice is probably an impossible task. Norway, with the highest per capita income in northern Europe, can hardly complain about a lack of financial resources. One explanation for the relatively poor provision of dental care in hospitals is that the recent big organisational reforms in hospital administration and medical care have captured all the political attention and the problems in oral health care have been forgotten. Furthermore, the majority of dental care for adults in Norway is provided by private dentists and it appears that in countries with predominantly private oral health care systems, the dental profession does not spontaneously initiate and start reforms leading to more social responsibility within the health care provision system [8].

## Conclusion

Today, there is no formal hierarchical organisation (care chain) for dental services in Norway for patient referrals. The Public Dental Service employs few specialists, and most hospitals do not have dental personnel. Thus, there are obvious problems organising the most demanding oral medical and dental services and many patients with severe diseases are not likely to have proper dental treatment in a vast country as a result of access difficulties relating to the small number of hospitals that provide specialist dental services and the distances from patients' homes to such hospitals.