What does information about referrals reveal about the service network?

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ABSTRACT

Objective  To identify the most important referring parties in the Finnish health care system.

Design  A record linkage study based on nationwide administrative registers.

Setting  The hospital discharge register during 1996 to 2000.

Subjects  The total Finnish population and the population of four hospital districts.

Main outcome measures  Discharges of individuals by the most important referring parties.

Results  The five most important referring parties in order of magnitude are as follows: health centre, no referral, clinic/unit of the same hospital, hospital other than a health centre, and private health care. The five most important referring parties for those aged over 75 are the same mentioned above. There were regional differences in referral practices.

Conclusions  Differences or changes in referral profiles as a function of time cannot be taken as a direct measure of the impact of possible interventions or as an indication of an actual difference between the areas compared. One should also always be aware about any related metaknowledge.

Keywords: administrative registers, referrals, service network

Introduction

In recent years, attempts to investigate functional reforms in social and health services have mainly focused on factors related to the structure of the service. However, the greatest challenges for co-ordination of the information system and related activities are represented by the need to promote continuity in care and care pathways.

There is a significant question about the extent of the linkage between patients' or clients' degree of freedom to select their own place of care or service and the activities of local clinical professionals: is there any relationship between the demand for services, the need for services and the supply of services? 1-3

International comparisons between referral practices are difficult to carry out as there is wide variation in ways of organising health care. Across Europe, referral to hospital care takes place either by 'gatekeeper systems' driven by general practitioners (GPs) or by systems which offer greater freedom in seeking access to hospital care. Both kinds of referral system are illustrated by the following examples:

• People in the United Kingdom are entitled to select their own GP. Every citizen is eligible to register with a GP and virtually all have chosen to do so.
The GP is the first-line provider of medical care – gatekeeper to secondary and tertiary care in the National Health Service (NHS).4

- In Italy, access to inpatient care is only possible with a referral from a GP, or a paediatrician for children up to the age of 14. Direct access to an independently practising specialist is possible, but a referral is still usual. In metropolitan areas direct access to private specialists is becoming more frequent, with GPs being consulted secondarily by patients, in order to gain access to the public health service for diagnostic procedures or treatment.

- Germany has no gatekeeping system, but patients are free to consult a sickness fund-affiliated doctor of their choice. According to the Social Code Book, sickness fund members select a family practitioner, who cannot be changed during the quarter relevant for reimbursement of services for that patient. Since there is no mechanism to control or reinforce this self-selected gatekeeping, patients frequently choose direct office-based specialists.5,6

- Finnish citizens may choose freely between public or private physicians. In the public sector, in all non-emergency situations the patient is expected to use the services of the GPs in the health centres which have been designated by municipal residency. In the private sector the choice is free and patients may see specialists without any referrals. According to Finnish legislation, a patient must be referred to hospital by any licensed physician (except in emergency situations). In rural areas the health centre GPs act as gatekeepers since there are usually no other physicians available locally, whereas in urban municipalities it is more common for private or occupational health physicians to make referrals. The patient can also first see the public health nurse.

In Finland, around 5% of all visits to a health centre doctor lead to a hospital referral. About 56% of referrals to central hospitals and 65% of those to district hospitals come from health centre doctors. Most of the remaining referrals come from other hospitals’ doctors and private doctors. Around 30–40% of patients who access specialised care do so through the hospital emergency units as acute cases. In the private sector there is direct access to private specialists, and either private GPs or specialists can refer patients to public hospitals.7,8

To a certain extent the referral system can be seen to describe the way in which control is exercised in the healthcare field as a whole. In the past few years the trend in Finland as well as in many other European countries has been towards dismantling control systems based on strict regulations and norms. It has become easier for health centre physicians to refer their patients to hospitals in other districts or to the private sector.9 In different parts of the country, negotiations have been conducted on a local level between primary and specialised healthcare practitioners to work out principles concerning the organisation of health care at the different levels. These principles have then been incorporated in guidelines targeted to all physicians in the area. In the past few years, general recommendations on care and on the provision of care at the different organisational levels have also been given on a national level.

Referrals in supporting care pathways

Primary health care includes healthcare activities which are available for all and form the basis of the national healthcare system. In most cases, physicians practising within primary health care are consulted for medical advice.10 Specialised health care refers to an organisational level of the healthcare system where care is mainly provided by specialists. Specialised health care also includes specialist-operated hospital activities in health centres. In primary health care, inpatient care in health centres and hospitals includes care provided in the specialty of general practice. In specialised health care, it includes care provided in the other specialties. In accordance with the Act on Private Health Care (152/90), a private healthcare provider refers to a company, co-operative, association, other community or foundation or an individual person who maintains a unit providing healthcare services. These services are defined in the Act.11

Efficient flow of information between primary and specialised health care is a precondition of good care.12 In Finland there is reason to ask who governs, who makes decisions and who is in control of the whole.13 The number of patients referred to specialised health care from emergency departments has declined with the system of population responsibility.14 The question to be asked is to what extent referrals are made outside the system.

Studies conducted in Finland indicate that unnecessary referrals account for about 10% of all hospital referrals and those by health centre physicians. In the Netherlands, the figure is again about 10% in internal medicine, while in Great Britain, for instance, it amounts to 43% in orthopaedics and to 34% in all medical specialties.15 It has been found that the referral rate among private doctors in Finland is high in municipalities in which the referral rate among health centre physicians is low.16 In a study conducted in Finland, an intervention was made in the referral procedure whereby the physicians were encouraged to discuss the patient’s need for hospital care before referral.17 Compared with the referral rate of other municipalities,
a statistically significant decrease occurred in the number of referrals. After the intervention, however, the referral rate rose to the previous level. What is the role of referrals then? Care pathways may have been built on jointly agreed service plans, but it is equally possible that the pathways have been formed randomly without any advance planning. Different pathway segments may have been planned carefully using a specific system for controlling referral to treatment, for instance.

Use of register data in analysing care pathways

The national care registers record information on who has referred the patient into institutional care. When register data are used for the analysis of care pathways, the analysis is limited by the register’s data content, geographical coverage, conceptual definitions, classifications etc. The present Finnish system of social welfare and healthcare statistics is static and one-dimensional in nature. It has been developed for the purpose of registering data on structures and static phenomena, such as location of people in certain care institutions. Registers on institutional care only provide indirect information on flows of clients between different institutions through data entries concerning the referring institutions and those for continuing care. A care pathway analysis in turn requires a dynamic system which also registers data on activities and client flows in outpatient care and related decision making.

With a view to monitoring, any traces left by a specific client in the service system are followed in the statistical data sets to find out what services they have used, and different visits around a specific problem are combined into a logical whole – a care pathway.

A number of methods for the analysis of care pathways have been developed in the context of the evaluation of an extensive project on social and health services development in Finland. All these methods, which are still being tested, are based on the available static and one-dimensional register data, which are used to indirectly estimate flows of clients between social welfare and healthcare institutions and related decision making in outpatient care as well. The methods are as follows:

- calculating the percentage of ‘shared clients’
- analysing care and service periods prior to a decision on long-term institutional care
- identifying profile changes in referrals to institutional care
- determining changes in the probability of staying in institutional care.

There are no measures of performance for the entire care pathway model, but the methods under discussion provide means for measuring certain segments of the care pathway process. The methods can be used to analyse changes over time within a specific area or to assess a specific area by comparing it with other areas. Furthermore, they could be used for producing a description of an ideal situation or a situation that calls for intervention.

Purpose

The purpose of this study was to identify the most important referring parties with regard to both the Finnish population as a whole and those over 75. The aim was to provide information for the use of senior officers in social welfare and health care to support their efforts in service system management.

Data sets

The method was tested by using both figures for the whole country and data sets for four hospital districts – Satakunta and its three control districts, Kymenlaakso, Itä-Savo and Central Finland – during 1996–2000.

Methods

The analysis of referring parties was based on data obtained from ‘Net Hilmo’, an Internet-based statistical database on social welfare and healthcare in Finland. For the purposes of categorisation, ‘referring party’ has been defined as follows:

- This information indicates the unit or institution whose physician has referred the patient to hospital or into other institutional care. The categorisation used here is as follows: health centre, hospital other than a health centre, clinic/unit at the same hospital, occupational health services, mental health outpatient unit, social services institution/unit, private health care, other party referring and no referral.

Results

An analysis of the situation in the whole country and in all age groups in 1996–2000 shows that the five most
important referring parties in order of magnitude are as follows:

- health centre
- no referral
- clinic/unit at the same hospital
- hospital other than a health centre
- private health care.

This is shown in Figure 1, the vertical axis measuring inpatient episodes of care. These are followed by:

- other party referring
- occupational health services
- mental health outpatient unit
- social services institution/unit
- the referring party is unknown (data missing).

The least frequent five are not shown in Figures 1 and 2 because the numbers are very small.

When the data are broken down by age (see Figure 2), it can be seen that the five most important referring parties for those aged over 75 are the same as for the total population. These are followed in order by:

- other party referring
- social services institution/unit
- data missing
- mental health outpatient unit
- occupational health services.

There are fewer self-referrals and more hospital referrals in the over 75 group. Just as interesting is the fact that hospital referrals have become (slightly) more common without referrals for the over 75s. Compared with the population as a whole, the social services institution/unit as a referring party is, of course, of greater significance among those aged over 75.

When considering whether there were regional differences in referral practices, only the data concerning the hospital districts were looked at (there are 20 hospital districts in Finland). In other words, only referrals to service units managed by the hospital districts of Satakunta, Kymenlaakso, Itä-Savo or Central Finland were included in the analysis. The referring party was health centre, clinic/unit at the same hospital, private health care or no referral. All these referring parties are large in volume and clear changes have taken place in the volumes. While the referral does not necessarily originate from the hospital district concerned, the receiving party is always one of the four hospital districts, the focus being on the referring parties which make referrals to these hospital districts.

The health centre as a referring party increased its share of referrals to the Satakunta hospital district by about 17% from 1996 to 2000, while the total number of referrals in Finland increased by about 6% in the same period. The corresponding figures for service providers in the other hospital districts also increased (in Kymenlaakso 12%, Itä-Savo 13% and Central Finland 32%). Furthermore, in Satakunta, the share of referrals by private health care increased by 39% from 1996 to 2000, and by 13% in Itä-Savo and 29% in Central Finland. In contrast, in Kymenlaakso it decreased by 7%. The share of a clinic/unit at the same hospital as a referring party decreased by 60% when looking at the number of referrals made to the

![Figure 1](image-url)
service providers of the Satakunta hospital district. In all the other hospital districts under analysis, the share of a clinic/unit at the same hospital increased.

In 2000, the proportion of no referral amounted to 20% of all referrals to service providers in the Satakunta hospital district, and since 1996 varied between 18% and 21%. Between 1996 and 2000 the corresponding figure for Kymenlaakso varied between 25% and 28% and for Itä-Savo between 27% and 29%. In contrast, the figure for the hospital district of Central Finland decreased from 12% in 1996 to 9% in 2000.

**Discussion**

The client-centred perspective of care pathway thinking in service system analyses represents a major challenge to the organisation of social and health services today. Referrals in turn play an intermediary role in the care pathway. From the perspective of process thinking, a referral constitutes a critical link in the care pathway as it pertains to the selection of the next stage of the process. Referrals may form part of rather a random process of sending patients to continuing care or they may form an integral part of a care plan which has been agreed on/formulated in advance. In the most random case, the person who makes the referral may completely shrug off the responsibility, the case being left to the discretion of the receiving party. In the most systematic case, the shift of responsibility has been agreed on and the referring and receiving parties are both well aware of the principles to be applied, the care practices, and the available skills, competencies and resources.

A statistical analysis of referral practices may reveal a lack of systematic approach/systematic planning, uneven distribution of resources etc. at the local level. In order that referral practices can be analysed more closely, it might be necessary to focus on specific groups of patients. Similarly, a closer analysis of cases with no referral could reveal the extent to which these patients are at the mercy of random processes and the extent to which they have had an acute, unpredictable problem which explains their seeking care without referral. At best, systematic local monitoring of referrals could provide a tool for client-centred control of health services across operational boundaries.

Conclusions on the performance of care pathways require that any measurable impacts on the system of social and health services should be monitored over a longer period of time. The assessment of the appropriateness of the organisation of medical care across the different levels requires a critical approach and readiness for changes which may prove necessary.

Referral practices often reflect the way health services are organised at the local level. They may also describe other common procedures agreed between healthcare professionals. In addition, they may reflect the preferences of the population and the tradition of services used. Changes in statistical practices may also occur, especially regarding the way in which referrals within the same hospital are entered in the information systems. This is why differences or changes in referral profiles as a function of time...
cannot be taken as a direct measure of the impact of possible interventions or as an indication of an actual difference between the areas compared. On interpreting research findings one should also always be aware of any underlying phenomena, referred to as meta-knowledge.\footnote{22} When this metalevel is taken into account in the interpretation of results, optimally carried out together with those who are responsible for the provision of health services in the area concerned, the results may be used in the development of the service structure.

From the viewpoint of the central government, the following conclusions could be drawn from the research findings: it is important to monitor changes in referral practices both locally and regionally in order that any guidelines issued and interventions made can be taken into account in the assessment of changes. In this way the impact of specific interventions on the functioning of the service system can be assessed relatively rapidly. A more profound analysis, however, requires detailed information on activities within other care pathway segments, particularly within primary health care.

REFERENCES


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