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Consultation-Liaison Services in Aarhus: A Service Organization Proposal

by

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Master's dissertation in

Mental Health Policy and Services

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2016

Contents

Abstract

Several programs and services' organizations are to be found in the context of Consultation-Liaison (C-L) psychiatry around the world.

In Denmark, the links between psychiatry and the other specialities are organized in different ways.

In Aarhus, elective C-L services are available twice a week to patients admitted to the general hospital and these consultations are provided by 2 consultant psychiatrists who work daily in the emergency psychiatric department. This department is a part of Department P - Department for Psychosis of Aarhus University Hospital and it provides services not only to the acute external referrals from the general practitioners but also to acute referrals from other specialities.

Moreover, there is a research Clinic for Functional Diseases under the Department for Clinical Medicine of Aarhus University but presently there is no formal collaboration between this research department and the C-L services provided by the emergency doctors.

This dissertation aims to present a literature review about the different models of C-L services followed by the description of the historical background as well as by the highlighting of the strengths and weaknesses of the existing C-L services in Aarhus.

Moreover, the author will identify the service needs, the barriers and facilitating factors to an eventual reorganization and finally propose a new, more efficient and integrated solution for C-L services in Aarhus.

Resumo

São diversos os programas e tipos de organização de serviço que podem ser encontrados no contexto da Psiquiatria de Ligação (PL) por todo o mundo.

Na Dinamarca, a relação entre a psiquiatria e as outras especialidades está organizada de diferentes maneiras a nível nacional.

Em Aarhus, estão disponíveis duas vezes por semana a consulta programada para os pacientes admitidos no hospital geral e esta consultas são fornecidos por 2 psiquiatras consultores que trabalham a tempo inteiro na urgência de psiquiatria. A urgência de psiquiatria faz parte do Departamento P - Departamento das Psicoses do Hospital Universitário Aarhus e fornece serviços não só para as referências externas agudas dos médicos de clínica geral, mas também para referências agudas de outras especialidades.

Além disso, há uma Clínica de Investigação de Doenças Funcionais integrada no Departamento de Clínica Médica da Universidade de Aarhus, mas atualmente não há nenhum tipo de colaboração formal entre este Departamento de Investigação e os serviços de PL prestados pelos médicos de emergência.

Esta dissertação tem como objetivo apresentar uma revisão da literatura sobre os diferentes modelos de serviços de PL existentes, seguido da descrição do contexto histórico, bem como os pontos fortes e fracos dos serviços de PL existentes em Aarhus.

Além disso, o autor irá identificar as necessidades de serviço, as barreiras e os fatores facilitadores para uma eventual reorganização e, finalmente, propor uma solução nova, mais eficiente e integrada de serviços de PL em Aarhus.

Resumen

Varios programas y organizaciones de servicios se encuentran en el contexto de la Psiquiatría de Interconsulta y Enlace (IE) en todo el mundo. En Dinamarca, el vínculo entre la psiquiatría y las otras especialidades se organiza de diferentes maneras.

En Aarhus, los servicios electivos de IE, para pacientes ingresados en un hospital general, es realizado dos veces a la semana por dos Facultativos Especialista de la área de Psiquiatría, adscritos al departamento de Psiquiatría de urgencia, donde realizan su actividad diaria.

Dicho departamento es una parte del Departamento P - Departamento de las Psicoses del Hospital de la Universidad de Aarhus. Ofrece servicios no sólo a los pedidos externos agudos de los médicos generales, sino también a los pedidos de interconsultas agudas de otras especialidades.

Además, existe la Clínica de Investigación de Enfermedades Funcionales dependientes del Departamento de Medicina Clínica de la Universidad de Aarhus, aunque actualmente no existe una colaboración formal entre este departamento de investigación y los servicios de IE proporcionados por los médicos de emergencia.

Esta tesis tiene entre sus objetivos presentar una revisión de la literatura sobre los diferentes modelos de servicios de IE; realizar una descripción de los antecedentes históricos, y de las fortalezas y debilidades de los servicios de IE existentes en Aarhus.

Además, el autor identificará las necesidades del servicio, las barreras y los factores que facilitan a una reorganización eventual y proponer una nueva, más eficiente y integrada solución para servicios de C-L en Aarhus.

Acknowledgements

I would like to express the deepest appreciation to my supervisor Graça Cardoso, Professor at the Nova University of Lisbon for her knowledge, guidance and encouragement throughout this project and to my co-supervisor Lisbeth Uhrskov, Professor, consultant at Department R - University Hospital of Aarhus -Risskov for the support, knowledge and constructive remarks. Without their supervision and constant help this dissertation would not have been possible.

I would also like to show my gratitude to Ulla Bartels and Mikkel Rasmussen, consultants from the Psychiatric Emergency Room at the Aarhus University Hospital for sharing their experience and contributing to the idea of a Consultation-Liaison team in Aarhus.
I am also immensely grateful to Teresa Maia for the inspiration and discussion on the Consultation-Liaison topics and to my current leader Merete Bysted, head of department P – Aarhus University Hospital-Risskov who has provided me with the time to write this manuscript.

Finally I would like to thank my immediate family, my husband Ricardo and my children Beatriz and Ricardo João, to whom this thesis is dedicated, who have supported me throughout the entire process with their love and encouragement. A final word of gratitude goes to my parents, who have always believed and supported me throughout my personal, professional and academic life.

Part I Background

1 Background and literature review

1.1 The case for Consultation-Liaison psychiatry

Since the 1950s, Consultation-Liaison (C-L) psychiatry has been struggling to establish its identity and, in some countries, its independence as a sub-specialty.
There is, nowadays, a broad understanding of the advantages of the provision of C-L psychiatric services to patients who suffer from both physical and psychiatric conditions [1].

The prevalence of psychiatric disorders in the general population has been a subject of interest in the literature and there is a broad consensus that about a quarter of adult population around the world suffers from any type of affective, anxiety or substance misuse disorder in the last year, whereas 0.4% from psychosis [2].
It has also been demonstrated that only a minority of people receives specific mental health treatment and most people seek help at the general medical facilities, where psychiatric disorders risk not be detected and treated. The global World Health Organization study has stated that the most common disorders presenting at the primary care level are depression, anxiety, neurasthenic and alcohol misuse disorders, most of them accompanied by co-morbid physical symptoms [3].
This fact is in contrasting with the strategies adopted in the psychiatric services' organization as the focus of psychiatric services continued to be the group of people with severe mental illnesses treated most of the time away from the general medicine setting, either in psychiatric hospitals or in psychiatric community centres as the base for community psychiatry [4], also contributing to the segregation of people with psychiatric disorders.
These events have contributed to the underdevelopment the C-L psychiatry services by shading the relevance of the integration of the psychiatric services in general medicine and driving the attention of the several stakeholders to other subjects.
Nevertheless, the interest for C-L psychiatry has been growing in the last decades.

The European Consultation-Liaison Workgroup (ECLW) Collaborative Study, carried out in 11 European countries, showed that most of C-L services were developed through the efforts of individual C-L psychiatrists rather than according to patients' needs. This has contributed to huge differences in the types of care provision found in the countries that contributed to the study.
This has been a barrier to the development of research in C-L psychiatry across countries as it is difficult to find a standard model at the service organisation level that could allow comparisons [5].

In the last 10 years several reports and international organisations have supported the development of C-L psychiatry in several settings [6,7].
The focus has also been in the training of C-L psychiatry and psychosomatics by the creation of guidelines [8] and recommendations [9].

It is now unquestionable that C-L psychiatry services contribute to more comprehensive and better quality care of patients admitted to the general hospital and in some countries the C-L services are expanding to be present in community settings both for follow-up, consultation and prevention as outlined in the briefing from the Mental Health Network-NHS Confederation [10].

1.2 Rationale and evidence for Consultation-Liaison services

Consultation-Liaison psychiatry services normally operate in general hospital, in direct connection with emergency departments, wards, and medical and surgical outpatient clinics.
C-L psychiatry teams are usually multidisciplinary, generally led by psychiatrists and they gather health care professionals with a highly specialised training in general adult psychiatry, and in some cases also supported by the existence of a sub-specialty in liaison psychiatry. Many of the C-L staff members also have highly specialized training in general medicine or general practice.

The epidemiology of C-L psychiatry

There is strong evidence from epidemiologic research documenting the high prevalence of co-morbidity of medical and psychiatric disorders, leading to increased rates of mortality and morbidity, loss of quality of life and excess utilization of health care services [11-15].
Despite this evidence, mental disorders often go unrecognised in patients with physical illness both in hospitalized patients and in the primary care [16-19].

Conversely, people with mental illness have reduced life expectancy and die five to ten years earlier than the general population [20-21].
Furthermore, people with mental illness are more prone to have poor physical health and serious conditions such as respiratory and cardiovascular diseases. Also diabetes, cancer and epilepsy are frequently present in patients with mental illness [21-25].
Medically unexplained symptoms (MUS) have a prevalence of 20% of new presentations to primary care. Regarding newly referred medical outpatients this rate can rise up to 40% [26-28].

Effectiveness of C-L psychiatry Services

The effectiveness of C-L psychiatry services has been fairly studied around the world and the recent systematic review of Wood and Wand in 2014 included 40 studies on that subject.

However, the large variability between different models of C-L psychiatry services and the lack of consistency of some of the studies has made direct comparisons quite difficult [29].
The evaluation of outcomes in C-L psychiatry has been difficult. In fact, C-L psychiatry's interventions cannot be studied independently because of both the multiplicity of its interventions and the presence of concurrent factors that also influence the outcomes. As outlined by Fossey and Parsonage in their report "Outcomes and performance in liaison psychiatry" [30], the different C-L psychiatry interventions are difficult to compare as the work of a liaison psychiatry team operating 24 hours a day in the emergency department of a large acute hospital and another one providing psychological treatment in outpatient clinics for patients with medically unexplained symptoms and related syndromes during office hours have relatively little in common.

A good example of concurrent factors is the potentially important outcome that refers to the length of stay. Studies have shown a reduction in the length of stay in patients that received some intervention of C-L psychiatry but there is a wide range of factors influencing the time that patients spend in hospital. These include, for example, advances in the medical technology, in the quality of medical care and also the availability or not of post-discharge support services in the community. These factors can strongly influence the length of stay and are independent from the intervention of C-L services [30].

The descriptive evidence of outcomes, however, has shown that C-L interventions were associated with decreased length of stay, reduced psychological distress, improved service user experience and in enhanced knowledge and skills of general hospital clinicians [30-40].

The economic arguments

Cost-effectiveness studies have supported the evidence on the advantages of integrating C-L psychiatry both in acute services and in comprehensive assessment and treatment of patients with co-morbid disorders. The classical study on the clinical and cost benefits of Liaison Psychiatry by Levitan and Kornfeld in 1981 [41] and replicated in 1991 by Strain *et al* [42], were the first studies to show a clear reduction in the costs of medical care (reduced length of stay

and increased number of patients returned home rather than being discharged to a nursing home or other health-related institution).
Since then several other studies have settled the case for the cost benefits of C-L psychiatry services at different levels.

In England, Naylor *et al*. in 2012 [43] have pointed out in their report "Long-term conditions and mental health: the cost of co-morbidities" that treating long-term conditions for those with mental health problems implies an additional cost in England between £8-13 billion a year. Several of the recommendations found in this report are connected with the need of a better integration of psychiatric and general health services at both primary care and hospital levels and it gives great relevance to the development of C-L services.
It is estimated that the cost of medically unexplained symptoms in the National Health Service in England is over £3 billion every year [44] due to the fact that these patients are often subject to high levels of diagnostic investigation and unnecessary and costly referrals to secondary care [45].

The Rapid Assessment Interface and Discharge Liaison (RAID) model

In 2011, Fossey and Parsonage presented in their report "Economic Evaluation of a Liaison Psychiatry Service" [46], the cost benefits of an award winning C-L psychiatry service based at Birmingham City Hospital. This service has based its intervention in the Rapid Assessment Interface and Discharge model (rapid response by a C-L multidisciplinary team, with a target time of one hour to assess patients referred from the emergency room and 24 hours for assessing patients referred from the medical and surgical wards).
It offered comprehensive, 24/7 mental health care support to all patients aged over 16 admitted to the hospital and was based on the ability to contribute to faster discharge from hospital and to fewer readmissions.
The number of inpatient bed/days was significantly reduced and the length of stay was reduced by 3.2 days. All together the C-L service accounted for a saving of around 14,000 bed/days in one year.

The service has been economically evaluated by the London School of Economics, who estimated cost savings in the range of £3.4–£9.5 million a year after the introduction of the RAID service.

As so, the financial savings generated by the RAID programme have significantly outweighed the costs of running the service by a proportion of 4:1 and therefore represent good value for public money by both reducing the costs and improving quality of life of people treated by the C-L service.

1.3 Consultation-Liaison psychiatry in USA and Europe

Since the early 1950s, a large number of studies have supported the appeal for the development of Consultation-Liaison Psychiatry services in the interface between psychiatry and other specialities [47].

USA is the country where C-L had a stronger impact, probably because of the different services' organization compared to European countries. In Europe, the health care systems are traditionally organized by national policies and plans and depend financially from the state. This could have delayed the establishment of C-L services as the policies in the mental health field in Europe around 1970-80s were focused mainly in deinstitutionalisation and the development of community psychiatry [4,32].

USA:

The modern Consultation-Liaison psychiatry has its roots in USA around 1920. Several general hospitals and somatic services began to employ psychiatrists in order to participate in the integrated assessment and treatment of admitted patients.

In the following years some psychiatric units in general hospitals were created and the interest for the field expanded rapidly.

In 1954 the Academy of Psychosomatic Medicine was founded in USA, which contributed to the consolidation of the area by the production of consensus documents as well as guidelines and research.

C-L psychiatry was formally recognized a sub-specialty by the American Psychiatric Association in 2004. After some debate about the name, the term Psychosomatic Medicine was settled owing to the historical origins, the fact that it alludes to the psychiatric care of patients with complex and/or chronic medical, surgical, or neurological conditions, and due to the already established name of leading journals, societies and organizations [48].

Europe:

Consultation-liaison psychiatry services started in Europe mostly as the result of individual local initiatives. Several barriers were identified in the last decades like inadequate resources, lack of recognition from psychiatric colleagues, and difficulties in integrating C-L with comprehensive systems of psychiatric care, which are mainly oriented towards community care [49].

In 1987 the European Consultation Liaison Workgroup (ECLW) was created, contributing to an in-depth research about C-L services' organization across Europe. Ten years later it developed into the European Association of Consultation–Liaison Psychiatry and Psychosomatics (EACLPP) with the goal to promote and develop the field of C-L psychiatry and psychosomatics in Europe. It consists of individual members, who do not officially represent the European national authorities and it functions as a Europe-wide forum for leading European C-L experts. The published guidelines for training in C-L psychiatry and psychosomatics have been one of the main projects of the EACLPP. In 2013, this association became the European Association for Psychosomatic Medicine (EAPM) and held its first annual meeting in Cambridge.
Another important European association, formed in 2007, is the Section on C-L Psychiatry of the EPA and it has its focus on the improvement of the quality of mental health care throughout Europe.

Several National C-L psychiatry sections and working groups within national psychiatric societies exist in Austria, Belgium, Croatia, Denmark, Finland, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

In Europe, C-L psychiatry has been officially recognized as a psychiatric subspecialty of special competence only in the UK (liaison psychiatry), Finland (general hospital psychiatry), Germany (psychiatry, psychotherapy and psychosomatics in the consultation-liaison service), and Switzerland (consultation-liaison psychiatry) [50].
C-L services in European countries are mainly emergency psychiatric services and perform an important bridge function between primary, general health, and mental health care [5].

The evolution of C-L services in several countries is described below in more detail.

In Great Britain, a development similar to USA's took place in the early 1980s. Until then only a small number of specialised consultant posts were established but there was no officially recognised body to represent liaison psychiatry.
The growing interest for the area arose from informal discussions and a consensus emerged that liaison psychiatry would be best served by establishing a group within the Royal College of Psychiatrists. After several meetings, the College agreed to recognise Liaison Psychiatry as a special interest group and it became a Faculty in 1997. Liaison Psychiatry was then recognised as a subspecialty of General Psychiatry in Britain [51].

In the Netherlands, the growth of C-L psychiatry has happened around 1970s, considerably later than in the USA, and it was strongly influenced by social psychiatry. The lack of government support for clinical care, research, and especially for training available to the Dutch psychiatry has also contributed to this late development of C-L services. In the last decades however, a growing interest of doctors from both psychiatry and other specialties has helped the establishment of formal C-L services aside the less formal collaborations under the form of units focused in suicide prevention, pregnant women with psychiatric disorders, geriatric population, and other areas [52,53].

In Germany, side by side with the deinstitutionalization movement, there was a growing development of psychiatric departments in general hospitals since the 1970s. In the 1990s the number of psychiatric departments in general hospital was over 100 and they integrated a C-L clinical as well as a research role in the area. Today the close collaboration between C-L units and other specialties is regarded as standard of care.
In Germany two distinct physician specialties exist for the care of psychologically ill patients: one is called 'psychiatry and psychotherapy' (psychiatry); the other one, existing since 1992, is called 'physician for psychotherapeutic medicine' (psychosomatics). It is estimated that 95% of existing hospital C-L services are provided by psychiatry, and, due to some overlap, 20% by psychosomatics. Genuine psychosomatic service delivery main focus is on dealing with unexplained physical complaints but these patients are also frequently treated in the C-L services. The other main difference between the Psychosomatic Services and the C-L psychiatry services, underscored in some comparative studies, relies in the amount of

psychotropic drugs' prescription for similar diagnostic groups, although it lacks measures of severity. Both have independent wards but the Psychosomatic Services have their wards integrated with the rehabilitation services [54].

In Portugal the establishment of C-L services came from individual initiatives around 1960-70s.
In the following years several research projects with psychosomatic approaches paved the way to informal collaboration between psychiatry and other specialities and in 1986 a first C-L psychiatry service was formally established at a university hospital in Lisbon.
In the 1990s several societies and groups were created and their scope has been focused in organizing conferences and promoting research in the area.
The Portuguese Society of Psychosomatics was created in 1993, the Portuguese Association for Liaison Psychiatry in 1995, and the Portuguese Group for C-L Psychiatry and Psychosomatics in the late 1990s [55].

1.4 The state of the art in Denmark

Denmark's health care system

Denmark's health care system is a universal, free, public healthcare system of high quality predominantly financed through general taxes. It is geographically organised in five major counties (regions), which have the responsibility to provide primary and secondary health care to their populations. The two main sectors work in close collaboration. The primary sector includes family doctors and municipality health and rehabilitation centres. The secondary sector includes the care provided by the central hospitals, and it generally requires a referral from the family doctor.

Within the five counties, different approaches to C-L psychiatry are to be found. They range from informal regular contacts between family doctors and the psychiatric teams (for example, old age psychiatry team) to more structured units settled in general hospitals, which have a formal collaboration with the somatic departments and a well-established research function.

The C-L psychiatry services in Denmark

C-L psychiatry is assumed to have different scopes in Denmark and as a result of that it is not uncommon to find different kinds of services within the same region and even within the same hospital.

Liaison psychiatry was introduced in Denmark in 1994 by professor Per Fink and in 1999 the first C-L unit called Research Clinic for Functional Disorders and Psychosomatics was established by the initiative of the Aarhus county authorities and the University Hospital. The department is part of the neurocenter at the Aarhus University Hospital and affiliated with the Aarhus University. Since 2005 this unit offers clinical outpatient assessment and treatment to patients with medically unexplained symptoms [56, 57].

In 2001 a liaison clinic was created in Copenhagen Psychiatry Center at Bispebjerg Hospital with the following goals:

- to provide consultation visits to the 3 somatic inpatient units (Neurology, Cardiology and Palliative medicine),
- to provide out-patient care to patients with somatoform and functional diseases and
- to do research on psychosomatic disorders.

Furthermore, this unit participates in regular clinical meetings with other departments contributing both to the clinical management and the staff training in the somatic departments.
In 2013, the Copenhagen Psychiatry Centre created the Research Centre for Functional Disorders, which, in collaboration with the Liaison Clinic, provides assessment and treatment to patients with complex somatoform disorders and hypochondria.
At present, Copenhagen city bears several types of collaboration between psychiatry and somatic departments, and other liaison units have been created as in the case of the Liaison Unit at the Hvidovre Hospital.

In 2006 the Clinic for Liaison Psychiatry was created in Vordingborg. Today this Clinic has its head office in Køge and satellite offices in Vordingborg, Slagelse and Roskilde. It provides outpatient assessment and treatment as well as consultation visits to patients admitted to selected somatic inpatient units and it contributes to research in psychosomatic disorders. The Clinic has other units under its management: the Competence Centre for Shared Care and the Clinic for Suicide Prevention.

In 2013 a Clinic for Liaison Psychiatry was created in Aalborg, which provides scheduled consultation visits to the patients admitted to the somatic departments. It also provides outpatient assessment and treatment to patients with ICD-10 diagnosis F44 and F45 and to patients whose psychiatric symptoms affect the somatic condition.

At Odense University Hospital, patients with somatoform and dissociative disorders can find assessment and treatment through an outpatient clinic integrated in the department of affective disorders. There is also an established collaboration between the psychiatry department and relevant specialties at Odense University Hospital.

Besides these units, there are several other types of formal and informal collaborations within the primary and the secondary sectors within the scope of C-L psychiatry. Another well-

established form of collaboration is to be found in most of emergency psychiatry departments and the somatic services.

The recent experience of Aabenraa hospital at the Region South and of Randers hospital at Region Midt, receiving both acute psychiatric and somatic patients in the same emergency department and providing comprehensive assessment and treatment to patients, has been appreciated by both psychiatrist and doctors from medical and surgical specialties [59].

The C-L psychiatry services in Aarhus

There are at present two types of established C-L units functioning in Aarhus: one is the Research Clinic for Functional Disorders and Psychosomatics under the organization of the somatic hospital and the other is the service provided by the acute psychiatric department under the regional psychiatry department. This department delivers 24/7 telephonic consultations to other specialties and provides acute and scheduled consultation visits to patients admitted to the somatic services. It also provides assessment and treatment to patients referred acutely by both the family doctors and the acute somatic emergency department e.g., after a suicide attempt.

Part II Personal Contribution

2 Proposal to establish a Consultation-Liaison service in Aarhus

2.1 Planning Consultation-Liaison psychiatric services

Two different models of mental health care have been under debate regarding modern mental health services organization. One of them is the model centred in the provision of mental health care in hospitals; the other is based primarily or even exclusively in community health care settings.

At a first glance, these two models seem incompatible; this is not however the case advocated by the World Health Organization (WHO) as pointed out by Thornicroft and Tansella in their paper "Components of a modern mental health service: a pragmatic balance of community and hospital care" published in 2004 [59].

In this review, a balanced approach of both community services and hospital based care is proposed as a standard. This approach follows a stepped care model taking into account the available resources of the country (and designed for countries with low, medium, and high level of resources) and it assumes that all previous steps are already established as a background provision of care when specialized clinics and services are present.

In order to plan a team for Liaison psychiatry, considered a specialized service, we need to be primarily aware of the current organization of the mental health services in place and to assess the needs for such a team.

Furthermore, as outlined in the previous chapters of this thesis, C-L psychiatry services have to deal not only with a great variety of medical and psychiatric conditions, but they also have to accomplish a large number of quite complex tasks.

Different models of C-L psychiatry services have their place in different contexts and the key to plan a comprehensive C-L service is to take in consideration subjects such as:

- The national and the local context,
- The local existing services,

- The populations they are aimed at,
- The way they collaborate with other medical and psychiatric services,
- Number of after discharge referrals, etc. [47,80,81].

Taking these topics in consideration and in order to advocate a reorganisation of C-L services in Aarhus, we will address the following subjects in the format of subchapters:

- Mental health services organization in Region Midt and in Aarhus – Chapter 2.1.1
- Existing policies, plans and reports – Chapter 2.1.2
- Existing Consultation-Liaison psychiatry services in Aarhus – Chapter 2.1.3
- The needs – Chapter 2.1.4
- The resources – Chapter 2.1.5.

2.1.1 Mental health services organization in the Region Midt and in Aarhus

Since 2007, psychiatry and mental health in Denmark have been formally working apart from the other specialties, operating under an independent leadership and having its own budget. Since then, the psychiatry clinical function is organised nationally under 3 levels responsibility according to a Specialty Plan published by the Danish Health and Medicines Authority, which aims to ensure high professional quality of treatment, overall patient treatment and the best use of resources. It also promotes the necessary building and maintenance of expertise, research and development to ensure the best treatment for patients. These three levels works in collaboration in order to provide specialised treatment, particularly to those patients who suffer from rare or complicated conditions.

- Level 1: the general level of psychiatric intervention (*hovedfunktion*):
    - The general level should be able to offer a wide knowledge and experience, and in addition should have special knowledge in different disciplines in psychiatry, as diagnosis, observation, treatment, care and rehabilitation of high-level ensured for both inpatients and outpatients. Generally all psychiatric departments in Denmark fulfil this level.
- Level 2: the regional level of psychiatric intervention (*regionsfunktion*):
    - The department's regional level will typically also include the general level for one diagnosis or groups of diagnoses for the entire region and it ensures adequate general experience with these diagnoses as a basis for development and maintenance of specific experience in the field. They normally provide assessments and treatments to complex cases and serve as a reference place for training and research in the specific diagnostic area. The existence of a regional level of intervention in few departments is supported by several factors, as for example: low prevalence disorders or diagnosis and treatment requiring special skills. Almost every region in Denmark has at least one department with regional level of intervention to the majority of psychiatric diagnoses.
- Level 3: the highly specialised level of intervention (*højt specialiseret funktion*):
    - A department with a highly specialized level will typically also include the regional and the general level within the same diagnosis as a basis for development and maintenance of specific experience in the most difficult and

complex treatments. It must be possible at a highly specialized level to get assistance in a short time from a specialist in psychiatry. The highly specialized level of intervention is typically placed in 1-3 departments in the country and frequently has a population base of 2 - 5.5 million and a patient volume from a few to up to 100 patients annually [60].

Mental health services organization in the Region Midt

Mental health services in the Region Midt are responsible for the care of patients with psychiatric disorders and they serve a population of 1,281,239 inhabitants distributed throughout 19 municipalities [61].
The Plan for Psychiatry in the Region Midt 2013-2016 [62] describes the ongoing development of psychiatry, from geographically anchored general psychiatry to diagnosis centred treatment. These specialized treatments and the level of function are distributed throughout several departments in the Region Midt according to the Specialty Plan, which is revised annually [63].

Two types of services provide psychiatric care in the Region Midt: the services for children and adolescents and the services for adults (over 18 years old). Each service functions as one regional unit although it encompasses wards and outpatient clinics in several different hospitals in Herning/Holstebro, Viborg/Silkeborg, Aarhus, Randers and Horsens.
In 2014, 49 beds were available in the Child and Adolescent psychiatry services (with a rate of 0.18 per 1,000 inhabitants) and 482 beds were available in the Adult psychiatry services (with a rate of 0.48 per 1,000 inhabitants). Regarding adult psychiatry, this rate has been the lowest at the national level since 2009.
The Child and Adolescent psychiatry services employed 67 doctors, 104 psychologists, 118 nurses and 107 other health care professionals. They were responsible for 327 admissions of 249 patients and 20 309 outpatient visits of 4,714 patients.
In the same period, the Adult psychiatry services employed 240 doctors, 176 psychologists, 706 nurses and 542 other health care professionals. There were 8,249 admissions of 4,607 patients and 258,461 outpatient visits of 26,103 patients [64].

Psychiatry service organization in Aarhus

The scenario in Aarhus is in fact a specialized and complex one as psychiatric care is provided by several University psychiatric services, each one offering inpatient care and a wide range of specialized out-patient clinics.

In the end of 2015 there was a reorganization of the psychiatric departments in the region, which led to the following distribution of the psychiatric departments at Aarhus University Hospital from January 2016 on:

- Department P for Psychosis and Schizophrenia;
- Department Q for Affective Disorders;
- Department R for Forensic Psychiatry;
- Centre for Child and Adolescent Psychiatry.

Department P consists of four wards, 3 with 17 beds and 1 with 21 beds with a total of 72 beds. They all collaborate with the following outpatient clinics:

- Clinic for psychiatric assessment APE, M and OPUS
- Ambulant unit for psychosis (APE), which includes a neuropsychiatric unit and a mobile team.
- Clinic for Specialized Assertive Intervention for First Episode Psychosis (OPUS)
- Ambulant unit for double diagnosis, dementia, organic and neurodevelopment disorders (M)

Department P has two other units with transversal functions:

- Research unit
- Psychiatric Emergency Room, which receives acute ambulatory patients and has an acute ward with 10 beds, directed at short admissions (less than 48h).

Department Q consists of four wards of 17 beds each with a total of 68 beds. Recently it has established an acute team, which has assigned 16 beds to patients who only require low intensive treatment. All wards collaborate closely with the department's outpatient section. This includes:

- Clinic for psychiatric assessment
- Clinic for personality disorders
- Clinic for Obsessive-Compulsive Disorders, Anxiety Disorders and Suicide Prevention.

- Clinic for PTSD and Trans-Cultural Psychiatry
- Clinic for Mania and Depression
- The hospital's ECT unit is part of the Outpatient Clinic for Mania and Depression together with a neuropsychiatric team.
- Clinic for Suicide Prevention
- Research unit

Department R is responsible for forensic psychiatry and it has 3 wards with 16 beds each and a ward with 18 beds for forensic patients coming from Greenland and an outpatient clinic, with a total of 66 beds.

The level of care offered by the psychiatric services at Aarhus University Hospital is very specialized. The access to the services happens mainly by referrals from the GPs.
Elective referrals are managed by the Psychiatry Central Visitation, with a team of healthcare workers who qualifies the referral and distributes the patients through the outpatient clinics around the region according to age, diagnosis, and waiting lists.
According to the current Danish law, both medical and surgical services as well as the psychiatric services in the region have to provide full assessment and treatment to patients within 30 days of referral. If that is not possible within the region, patients have the right to opt for a private service and the region will cover the expenses. Most of the referrals regarding patients living in Aarhus municipality are distributed to the services of Aarhus University Hospital.

In this way, patients are offered very highly specialized psychiatric care at the university hospital where the teams that provide this kind of specialized treatment are the same that provide the care at the general level. This means there is no differentiation in the resources and expertise used in both general level and the highly specialized level of intervention. In this context, the patients are referred to the psychiatry departments according to their diagnosis as different teams/units/clinics and sometimes departments treat different diagnosis. A few departments in Region Midt also provide community mental health care (*distriktpsykiatri*) at the main level but this is not the rule as this kind of not specialised work is frequently seen as a very basic and traditional kind of work.

Every time the patient's diagnosis is ruled out and patients no longer meet criteria for the diagnosis group of that specialized team/clinic, they are referred to another clinic and so on.
In the case of co-morbidity, it is often very difficult to find out which is the main diagnosis and, with a few exceptions, it is not allowed to receive treatment at the same time in two different clinics.
This kind of organization favours patients' dropouts, as it shifts the focus from the patient to diagnosis. Although services provide a high quality psychiatric care, they often are less flexible than general mental health teams in the community and, as a result, many patients end by being referred to the emergency psychiatry services as they provide general assessment and treatment 24/7.

Emergency Psychiatry Room - Aarhus University Hospital (AUH)

The Emergency Psychiatry Room AUH is a central psychiatric service available to all patients with acute psychiatric disorders that live in the municipalities of Aarhus, Favrskov and Silkeborg. There is an additional agreement in which it also receives patients from Randers municipality in the case of complex detoxification or unclear clinical needs.
Almost all referrals come from family doctors, the medical and surgical departments and the psychiatric outpatient clinics. Self-referrals are usually accepted although not encouraged.
The number of contacts per year is around 6,000 and this number has been relatively stable since 2011. The emergency room has 10 acute beds, intended to receive very short admissions (no more than 48 hours). In the last 5 years the number of these admissions has been around 1,000 [65].
Furthermore, it has an open telephone number 24/7 for direct contact with the services. In 2012 it received 13,584 calls (around 35 calls per day), of which 11,463 came from patients, 1,704 from families and 417 from partners (family doctors and institutions) [66].

The Psychiatry Emergency Room in AUH is usually the main door of access to psychiatric treatment as it works 24/7, is backed up by adult and child and adolescent psychiatrists (both staff specialists and consultants) and works transversally throughout somatic and psychiatric departments.

The Psychiatry Emergency Room AUH presents itself as a key point in the interface between somatic and psychiatric services and between the primary and secondary sectors.

Several collaboration agreements between primary and secondary sector can be found regarding management of patient care at a national and regional level.
Primary and secondary care services do work together in a base of shared care of patients but in practice these two levels remain apart and the communication between them works mainly trough referrals, discharge summaries or other types of letters. In some selected patients, a cross-sectorial meeting is arranged before discharge.

The majority of contacts from the somatic departments to psychiatry are made by telephone to the Psychiatry Emergency Room as this is the section responsible for the acute and scheduled consultation-liaison visits and because a psychiatrist is easily accessible 24/7.
Likewise, the psychiatric services contact directly by telephone the somatic emergency services in order to discuss any somatic problem or to arrange a visit to an admitted patient.
These contacts are usually not formally registered.

2.1.2 Existing policies, plans and reports

The first and only document regarding organization of C-L services in Aarhus was published in 2004. Its goal was to gather all information regarding the existing services, international experiences and focus areas, and to propose their reorganization in order to improve service use and to ensure formal collaboration between all stakeholders. The commission included key persons, as Professor Per Fink and senior consultant Ulla Bartels.

The main recommendation was focused in the recruitment of a senior consultant in psychiatry and a senior nurse in order to ensure the following:

- Establishment of a formal collaboration between the psychiatric team that performs the scheduled consultations of patients admitted to the general hospital.
- Formal training and education of the group of professionals from both psychiatric and somatic departments.
- Establishment of a network supported by regular meetings with the Centre for Suicide Prevention and the Research Clinic for Functional Disorders and Psychosomatics.
- Adequate registration of the acute consultation visits.

Other recommendations were focused in the provision of services to General Practitioners from the municipalities of Randers, Silkeborg and Aarhus, and the establishment of dedicated services to treat people with functional diseases allocated to the Research Clinic for Functional Disorders and Psychosomatics.

With the exception to the last one, no other recommendations were carried out until present.

Other documents as the “Global health risks: mortality and burden of disease attributable to selected major risks.” published in 2009 by the World Health Organization [82], and the article “Outcomes of Nordic mental health systems: life expectancy of patients with mental disorders" by Wahlbeck K, *et al*. [67] have influenced several reports, policies and plans, as well as the establishment of priorities in psychiatric services’ organization.

Examples are the report “Psychiatric diseases and lifestyle changes” by the Danish Council on Health and Disease Prevention [68] and the Plan for Psychiatry in the Region Midt 2013-2016 [62].

The Plan for Psychiatry in the Region Midt 2013-2016 supports the vision "Better treatment and longer life to more people with psychiatric disorders" ("*Bedre behandling og længere liv til flere med psykisk sygdom*") and it is focused in 3 main areas:

- **Better treatment** (to ensure better quality, safety and more specialized treatments as well as to increase clinic research)
- **Longer life** (to reduce mortality among patients with psychiatric disorders, to strengthen the collaboration and integration of psychiatry with the other specialties)
- **To more people with psychiatric disorders** (to make psychiatry as an integrant part of a coherent health care system and to increase productivity and effectiveness in psychiatry) [62].

The two major consequences of this plan are the integration of the psychiatric and somatic emergency room into a common emergency room and to move the facilities from the Aarhus University Hospital-Risskov to the general hospital.

The Region Midt is one of the first regions in Denmark that takes one step forward in the integration of psychiatry with the other medico-surgical specialties. This is the future for a well-coordinated and coherent health care system, in order to ensure better overall health response to acute illness for the mentally ill patients. In this matter, two subsidiary reports exist that are of extreme importance:

- Statement on cooperation between psychiatry and somatic departments, by Region Midt, 2011 [69];
- Regional framework for developing common psychiatric and somatic emergency department in Region Midtjylland, Health Planning, by Region Midt, 2014 [65].

Although these reports recommend many specific measures related to the function of C-L Psychiatry Services, incomprehensively, they do not mention the creation of a specific C-L service/unit/team and alternatively place these functions in the hands of doctors working in the joint emergency room in collaboration with the psychiatric staff that is on call.
The last report also emphasises the need of following up of the patients with psychiatric symptoms that are admitted to other medical and surgical services and the ones who are discharged to the community. There is, once more, no reference for this follow up to be achieved by a C-L team. The report recommends that local and flexible solutions should be

found in order to facilitate the collaboration and communication between the joint emergency unit and the several settings to where the patients can be referred.

Another area of recommendation regards the training and education of the diverse groups of professionals that integrate the future joint emergency room.

C-L psychiatry services could certainly function as a key partner in putting in practice the recommended measures, ensuring the follow up throughout the different sectors and, most of all, contributing to the training and education of the staff working in the joint emergency room.

2.1.3 Existing Consultation-Liaison psychiatry services in Aarhus

The Research Clinic for Functional Disorders and Psychosomatics

The Research Clinic for Functional Disorders and Psychosomatics was founded in the spring of 1999 by initiative of the Aarhus county authorities and Aarhus University Hospital. The department is part of the neurocenter at Aarhus University Hospital and is affiliated to Aarhus University. The clinic is headed by Professor, MD, PhD, DMSc Per Fink [57] and primarily oriented to research projects but it also provides assessment and treatment to patients with functional diseases. Furthermore, the clinic participates actively in the dissemination on functional disorders and in pre- and post-graduates training of health-care workers such as medical students, fully trained doctors, GPs, social workers, health care workers and psychologists.

The research activities at the clinic are based on an interdisciplinary approach to functional disorders and in close collaboration with various disciplines and subject areas.

In 2014, the clinic had under its responsibility 10 PhD Projects, 2 of which were completed and discussed in 2014 and published 21 scientific articles in international peer-reviewed journals.

The Research Clinic has, since 2005, been assessing and treating 200-250 patients every year, many of which participate in research projects. In 2014, the clinic received 509 referrals, of which 295 fulfilled the criteria for either Bodily distress syndrome or Health anxiety (hypochondriac disorders) that were assessed and/or treated there.

A great deal of its clinical work consists in giving guidance and supervision of cases to family doctors, doctors from other specialties and to social institutions and authorities.

The clinic has also an established agreement with the department for infectious disorders regarding consultation psychiatry [70].

Referrals:

The Research Clinic for Functional Disorders and Psychosomatics offers assessment and treatment of patients with health anxiety and chronic functional disorders. There is no geographical restriction, which means that patients from the whole Denmark can be referred to the clinic.

The referral criteria to the clinic are stated in its website and consist of the following:

1. For chronic functional disorders:

Inclusion criteria:

- Age 20-50
- Presence of multiple physical symptoms from at least three different organ systems without any specific medical explanation
- The symptoms are affecting daily activities
- The functional component of the disorder can clearly be separated from a well-defined chronic somatic disease (e.g. COPD, diabetes)
- The patient has experienced symptoms for at least 2 years
- The patient must be born in Denmark or have Danish parents and be able to understand, speak, write and read Danish.

Exclusion criteria:

- Acute psychiatric disorders requiring treatment or with suicidal risk
- Alcohol abuse or addiction, addiction to drugs and (non-prescription) medicine
- Current or former diagnosed psychosis, manic disorder or depression with psychotic symptoms
- Pregnancy.

2. For health anxiety:

Inclusion criteria:

- Age 20-60
- Uncontrollable rumination with (intrusive) thoughts about suffering from an illness

  Worry about and focus on the body or health-related issues. Fear of contamination, poisoning or suggestibility, i.e. a tendency to think that you will get same disease that you have just read or heard about
- The symptoms are very distracting or affecting daily activities
- The condition has lasted most of the time for at least two weeks
- The patient understands, reads, speaks and writes Danish.

Exclusion criteria:

- Acute psychiatric disorders requiring treatment or with suicidal risk
- Alcohol abuse or addiction, addiction to drugs and (non-prescription) medicine
- Pregnancy

- Current or former diagnosed psychosis, bipolar affective mental disorder or depression with psychotic symptoms.

The patient must be reasonably assessed prior to the referral and understand and accept the referral. It is expected that standard screening blood test results are available, e.g. vitamin D, TSH and haemoglobin [71].

The Research Clinic for psychosomatic disorders and psychosomatics has a well establish liaison role with family doctors, primarily focused in patients with unexplained medical symptoms. The research in this subject accounts for most of the research activity in Liaison psychiatry in Denmark.

The Psychiatric Emergency Room

The Psychiatric Emergency Room is located in the building of the psychiatric hospital in Risskov, some kilometres away from the general hospital.
The department is divided into an area with waiting room, 6 interview rooms and a short-term inpatient unit with 10 one-bed private rooms. It works 24/7 all days and it serves as a back up unit for the hospital inpatient units out of working hours.
It primarily serves the Municipality of Aarhus and the surrounding municipalities corresponding to an area with 600,000 inhabitants. Until 2010 it was open to patients' self-referrals, and had around 6,000 contacts in 2010. From January 1, 2011 it receives primarily patients referred by the emergency physician or the family doctor. Presently, it also provides a 24/7 telephonic service of guidance and counselling to patients and families in case of an acute psychiatric crisis.
The department is leaded by Senior Consultant Ulla Bartels and has in its permanent team 2 other psychiatry consultants. A consultant for Child and Adolescent psychiatry is available on call 24/7.

The C-L role of the Psychiatric Emergency Room

The Psychiatric Emergency Room has under its responsibility the formal collaboration with doctors from the somatic hospital, namely from the medical endocrinology department. These doctors come regularly to the psychiatric hospital to assess patients admitted to the psychiatric wards presenting with complex somatic problems.

Presently, this collaboration with the somatic departments is mainly focused in the assessment of the patients admitted to the psychiatric departments. Because the facilities of the psychiatric hospital where the patient is admitted are not provided with as many technical devices as the somatic departments, the patients are frequently transferred to the general hospital to get specialized somatic assessment.

Aside from the general acute assessments of referred and self-referred patients, the Psychiatric Emergency Room has also a consultation function available to the somatic departments of the University Hospital, currently distributed in three different hospitals: Aarhus University Hospital (NBG) at Norrebrogade, Aarhus University Hospital at Skejby and Aarhus University Hospital at Tage-Hansens Gade (THG).
It provides both acute and scheduled consultation visits by psychiatrists or by supervised training doctors [72].

Scheduled consultation visits:
The scheduled consultation visits are normally a task of one of the psychiatrists that work fulltime at the Psychiatric Emergency Room, which daily evaluates and schedules the electronic referrals. The scheduled visits occur on working hours on Mondays and Thursdays.
The primary goal of these consultation visits is to provide guidance and support regarding diagnosis and/or treatment of the patients admitted to the medical and surgical departments. The proposed diagnosis, workup and suggested treatments are registered in the Electronic Patient Journal (EPJ).

Acute consultation visits:

Staff specialists or residents who are on duty in the emergency department are the ones that serve these visits. Consultants on duty usually supervise them.

The referrals occur by direct telephone contact from the attending physician in the somatic departments. In an effort to register and better document these contacts, the medical departments' doctors are usually asked to send an electronic referral after the patient situation is discussed. Unfortunately, this is not happening regularly.

Most of the acute referrals are cleared by guidance and counselling on the telephone. Others require the patient to be transferred to the Psychiatric Emergency Room for an assessment. There are however some situations where the psychiatric assessment requires the presence of the doctor of the somatic departments. These are normally situations when the mental health law is in question as in the case of a psychotic condition together with reasonable risk of self-injury or injury of others.

Other examples of collaboration between somatic and psychiatric departments

- Centre for Children and Adolescent Psychiatry and Internal Medicine department: assessment and treatment of medical conditions in patients suffering from eating disorders.
- Gerontopsychiatry team and Neurology and Geriatric departments: shared assessment.
- Ambulatory Psychosis Unit and Clinic for Mania and Depression cooperate with Gynaecology and Obstetrics especially in the assessment and treatment of pregnant patients with complicated schizophrenia and affective disorders.

2.1.4 Descriptive analysis of one-year referrals to acute and scheduled consultation visits at the Psychiatric Emergency Room in Aarhus

The implementation of electronic referrals for psychiatric consultation visits started in February 2014. Because it was a new procedure to the services, it took some months before the routine of sending a referral via the electronic system was fully disseminated throughout the medical departments. For this reason the author has picked out 12 consecutive months from June 1st 2014 to May 31st 2015.

In this chosen period the Psychiatric Emergency Room received 171 referrals, 156 of which were carried out, 5 were cancelled and 10 were declined.

The reasons for cancelling or denying the acceptance of the referrals were:

- 4 patients had already been transferred to the psychiatric department
- 1 patient was transferred to the intensive care unit
- 10 had no data available

Of the initial 171 referrals, 30 referrals were acute and 141 were scheduled.

Of the initial 171 referrals, 30 were acute and 141 were scheduled. Referred patients were predominantly male (57%) (Figure 1).

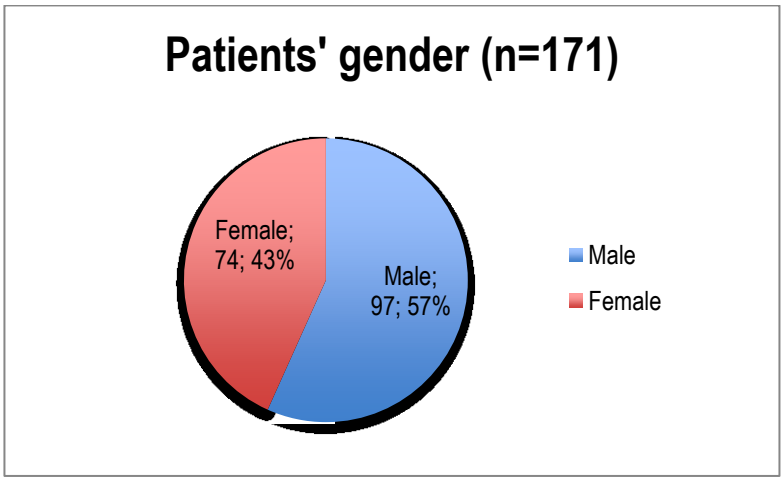

Figure 1 – Distribution of patients by gender

Most patients were over 45 years of age or older (Table 1) with around little over a 1/3 of patients aged ≥ 65 years.

Ages in years	Number of patients per group age	Percentage
<24	7	4,1%
25-34	7	4,1%
35-44	22	12,9%
45-54	36	21,1%
55-64	39	22,8%
65-74	41	24,0%
75-84	13	7,6%
>85	6	3,5%
Total	171	100,0%

Table 1 - Distribution of patients by group ages

The large majority of the referrals (127; 74%) came from the medical departments (Figure 2).

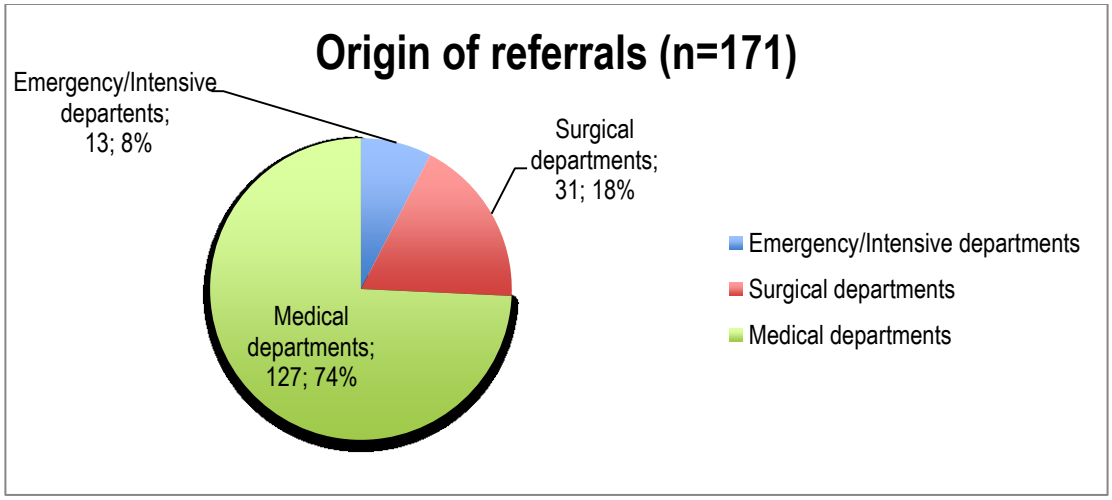

Figure 2 – Distribution of referrals by origin of referral

The two departments where most of the referrals came from were the Department of Hepatology and Gastroenterology (26, 15,2%) and the Department of Endocrinology and Internal Medicine (29, 17,0%) (Table 2).

Source of referrals	Number of referrals	Percentage
Emergency reception	7	4,1%
Department of Geriatrics	9	5,3%
Department of Hematology	7	4,1%
Department of Cardiothoracic Surgery	4	2,3%
Depatment of Cardiology	7	4,1%
Department of Skin and Venereal Diseases	2	1,2%
Department of Infection Medicin	9	5,3%
Department of Surgery (upper gastrointestinal and hepato-pancreato-biliary surgery)	17	9,9%
Operation room and Intensive Care Unit	6	3,5%
Department of Urology	1	0,6%
Department of Pneumology	4	2,3%
Department of Endocrinology and Internal Medicine	29	17,0%
Department of Hepatology and Gastroenterology	26	15,2%
Department of Neurosurgery	4	2,3%
Department of Neurology	18	10,5%
Department of Nephrology	12	7,0%
Department of Oncology	3	1,8%
Department of Otorhinolaryngology (ENT)	1	0,6%
Department of Plastic Surgery	1	0,6%
Department of Rheumatology	1	0,6%
Department of Orthopaedic Surgery	3	1,8%
Total	171	100,0%

Table 2 – Distribution of referrals by departments

The major reason for referral was depressive symptoms accounting for 60 (35.1%) of the 171 referrals, followed by psychotic symptoms (26, 15.2%), other reason (19, 11.1%) and confusion state (17, 9.9%) (Table 3).

Reason for referral	Number of referrals	Percentage
Depressive symptoms	60	35,1%
Psychotic symptoms	26	15,2%
Confusional state	17	9,9%
Suicide risk assessment	14	8,2%
Anxiety symptoms	9	5,3%
Dementia	6	3,5%
Maniac symptoms	5	2,9%
Pharmacologic optimization	4	2,3%
Assessment related to Psychiatric law (compulsory admissions)	4	2,3%
Other reason	19	11,1%
Unknown	7	4,1%
Total	171	100,0%

Table 3 – Distribution of referrals by reason for referral

An unknown number of acute patients who were previously assessed at the somatic emergency room were also seen in the Psychiatric Emergency Room. These were normally transferred automatically after telephonic contact.

Outside working hours a specialist is called to assess a patient with acute psychiatric conditions that need urgent assessment or treatment. These account for at least once every other day, probably more. No data is collected on with these emergent visits but the specialists attending the emergency room are unanimous about their frequency.

Furthermore, most of the activity of C-L psychiatry offered by the Psychiatric Emergency Room is not correctly registered. The quality of the offered assessment is quite variable as it depends on the personal knowledge of the specialist regarding different C-L topics. During working hours, the quality of the acute assessments is usually high because it is possible to discuss the patient with the consultants who work full time at the psychiatry emergency room, as they are the same who do the scheduled consultation visits.

2.1.5 Needs and demands

Needs related to the population:

A good quality C-L psychiatry service should be able to cover the needs according to:

- Number of inhabitants in the catchment area covered: ca.300,000;
- Number of beds in the general hospital: 1,150 in 2014;
- Number of admissions: 100,817 in 2014;
- Number of emergency episodes in the general hospital: 41,730 in 2014;
- Prevalence of psychiatric disorders in patients admitted to the general hospital:
    - Around 25-30% of patients consecutively admitted to a general medical setting have a psychiatric disorder [73-76] and more than 40% have subclinical psychological distress [76];
    - Depression and anxiety are twice as common in hospital patients as they are in the general population [6];
    - 60% of admitted patients over 65 years of age already present or will develop a mental disorder during their admission. Up to 40% have dementia, 53% depression and 60% have delirium [77];
    - Increasing demands following population ageing.

- Identification of special or vulnerable populations:
    - People who present self-harm behaviours
    - People with physical and/or psychological consequences of alcohol and drug misuse.
    - Elderly people with higher risk of delirium, depression and dementia
    - People with severe mental illness.
    - Vulnerable groups including homeless people, people with personality disorders, people who may be subject to domestic violence and abuse, children and young people at risk

Needs related to the human resources

These are usually related to staff needs. In the context of Aarhus University Hospital the following topics are of relevance to predict resources needs:

- The low number of referrals to consultation visits outlined in the previous chapter is surely alarming. This is probably due to the fact that staff from medical and surgical departments seldom identify psychiatric symptoms and disorders. – Accordingly, training of staff from several medical and surgical departments in the identification of psychiatric symptoms should be a priority;
- Misdiagnose of psychiatric conditions: data from a poster by Kirsten Abelskov in 2009 concluded that doctors working in the somatic wards interpret delirious symptoms as depression [78]. In the analysis of one-year referrals presented in the previous chapter, depression was by far the most frequent diagnosis identified by the referring doctors. Although depression is very common in patients admitted to the general hospital it is also possible that some of the cases were misidentified;
- The majority of cases referred to consultation visits came from 2 medical departments: Department of Hepatology and Gastroenterology and Department of Endrocrinology and Internal Medicine. A formal collaboration with a C-L team in these two departments would probably be needed, eventually establishing weekly meetings or by the presence of one member of C-L team in the rounds;
- The frequent informal contacts between the general emergency room and the Psychiatric Emergency Room are the rule as no formal collaboration between the two settings has been established. - The needs are clearly not met by the actual offer and there is a need to improve the communication and to establish a formal collaboration between both settings in order to achieve better outcomes;
- The Psychiatric Emergency room will be integrated in the general emergency room in 2018. It is already pointed out by several reports that staff training should be prioritized in order to ensure a comprehensive assessment of patients presenting with psychiatric symptoms. - Training in safety norms and increasing knowledge about psychiatric treatments should also be a priority regarding staff working in the general emergency room;
- Doctors in training in psychiatry are required to perform a certain amount of supervised consultations visits to the somatic wards in order to obtain the qualifications in C-L

psychiatry. They perform primarily acute consultation visits while on duty. Other than that, no formal training in C-L psychiatry is to be found. This is clearly not satisfactory as young doctors on duty are frequently presented with complex cases, which require the expertise of a C-L team. - Doctors in training should be allowed to allocate a specific period of their time to work in a C-L team.

2.2 The future Consultation-Liaison psychiatry team in Aarhus

The following topics, already addressed in the previous chapters, are of relevance when proposing a dedicated team for C-L psychiatry in Aarhus University Hospital:

- Needs and demands (chapter 2.1.4)
- Gap between the highly specialized services and the primary sector (Chapter 2.1.1)
- Psychiatry Service organization manly dependent on the diagnosis and therefore too rigid (Chapter 2.1.1)
- Psychiatry Emergency Sector AUH as a key point for both general adult and child and adolescent psychiatry (Chapter 2.1.2)
- Lack of registration regarding consultancy services - both ways (Chapter 2.1.2)
- Policies, plan and reports that can influence the organization of C-L services (Chapter 2.1.3)
- There is no formal collaboration between the Research Clinic and other forms of C-L services in Aarhus, probably because their patient target group is well delimited and defined.
- The Research Clinic for psychosomatic disorders and psychosomatics is the only clinic to produce research on C-L topics. No well-established ongoing research in this matter is to be found in the psychiatric departments.
- The future integration of the psychiatry emergency room in the general emergency room has to be addressed as a window of opportunity to raise attention to C-L psychiatry.
- Several experiences of collaboration between the psychiatric and the somatic departments are scattered and would benefit from a team able to coordinate these contacts.
- The registration of visits is poor and most of times inexistent.

Goals of the C-L psychiatry team:

- To improve clinical care by direct intervention in mental health and substance misuse problems;
- To advocate for physical management in severe mental illness and to promote referral to community-based services as needed;
- To facilitate general hospital staff management of mental health and substance misuse problems by direct intervention, advice to staff and training;
- To reduce inappropriate burdens of mental health problems in acute hospitals by reducing admissions, length of stay, readmissions, and clinical and organizational risks, and also to avoid inappropriate referrals into secondary mental health services from the acute hospital;
- To serve as a coordination team in the interface of physical and psychiatric conditions and to promote the collaboration between the already established C-L services in Aarhus University Hospital;
- To promote clinical research in C-L topics and services.

The C-L team should address two areas of intervention:

- C-L psychiatry in the hospital setting;
- C-L psychiatry outside the hospital.

C-L psychiatry in the hospital:

In Aarhus University Hospital, the C-L psychiatry team should cover the psychiatric care of the inpatients in medical and surgical wards as well as the needs of patients from other specialities units like pain clinics, and Obstetrics and for patients seen at both the medical emergency room and the Psychiatric Emergency Room:

- It should provide psychiatric care to cases referred from inpatient wards and the general emergency room;
- It should focus mainly on complex and costly cases;
- It should be a service providing support on an all-ages and all-conditions basis;

- It should provide regular training of staff from the general emergency room and from medical and surgical wards. Training should initially focus on identification of cases, safety procedures, psychiatric assessment and treatment.

C-L Psychiatry in the community:

The C-L team should offer outpatient services to the following group of patients:

- Patients in need of follow-up after discharge from the somatic wards or the emergency room when the psychiatric condition is associated with the somatic disorder;
- Patients with complex chronic co-morbidity with somatic disorders;
- Pregnant patients with severe mental disorders.

The C-L team should establish **a formal collaboration** with the following partners:

At the **hospital level**:

- General Emergency Room – daily presence in rounds, monthly training/supervision meetings;
- Department of Hepatology and Gastroenterology and Department of Endrocrinology and Internal Medicine – once every week, monthly training/supervision meetings;
- All the remaining wards – Training/supervision meetings once every 3 months.

At the **community level**:

- Team for Gerontopsychiatry and Geriatric teams, sub-acute psychiatric teams and mental disabilities team: once every other week;
- Research Clinic for psychosomatic disorders and psychosomatics – once a month;
- Clinic for Suicide Prevention – once a month;
- Center for Eating Disorders – once every 3 months;
- Centre for Children e Adolescent Psychiatry – every other month;
- Centre for Substance Abuse and Centre for Alcohol Problems in the municipality – every other month;
- Family doctors: Supervision/discussion of cases and training sessions – once every other month.

A specific amount of time to develop clinical research should be established in advance, and the research should be integrated and supported by both somatic and psychiatric departments.

The C-L team should be sieged in the vicinity of the general emergency room and provide services during working hours 5 days a week. The outpatient services could be integrated in the other outpatient clinics, probably getting most benefits if located in the vicinity of the somatic departments in order to facilitate referrals from the somatic departments and to contribute to reduce stigma of mental health patients.

It should integrate a multidisciplinary team that provides services during working hours to patients inside and outside the hospital (outpatient C-L services).
It should include the following professionals:

- Senior adult psychiatrists – 1 fulltime,
- Young adult psychiatrists – 1 fulltime,
- Senior child and adolescent psychiatrist – 1 on call,
- Psychiatric Nurses – 2 fulltime,
- Psychologists – 1 fulltime,
- Administrative staff – 1 fulltime.

A young psychiatrist on duty and a consultant on call already support the acute referrals outside working hours.

All patients referred to C-L psychiatry should be accompanied by a paper or computer referral. The registration of referrals, follow-ups, and outcomes will be crucial as it is the best way to allow audits, and thus advocate for more adequate and better C-L services.

2.3 Expected benefits and barriers

Expected benefits:

The expected benefits of the C-L Psychiatry team intervention will be in the management of the following areas:

At the **hospital level**:

- **Psychological reactions to physical illness** - by readily assessing and treating depression, leading to a reduction in health care costs;
- **Delirium and dementia** - by improving patient's outcome and decreasing length of stay;
- **Disturbed behaviour** - by counselling and helping the hospital staff with the management of these patients;
- **Self-harm** - by effectively assessing and treating self-harm, resulting in decreased psychological symptoms and decreased repetition of self-harm;
- **Medically Unexplained Symptoms** - by working in close collaboration with other specialties and providing rapid identification and referral of selected cases to the Research Clinic for psychosomatic disorders and psychosomatics;
- **Substance abuse** - by providing brief interventions and facilitating the communication and after discharge referrals to the Centre for Substance Abuse and Centre for Alcohol Problems;
- **Frequent attenders -** by counselling and supervision of hospital staff and by facilitating communication and referral to community services whenever needed;
- **Assessment of mental capacity** - by providing assessment by a consultant psychiatrist able to make a judgment about the mental capacity of patients with complex physical and psychiatric conditions;
- **Severe Mental Illness** - by responding rapidly and providing continuity of psychiatric care;
- **Increasing knowledge and awareness for mental disorders** - by training and education of the hospital staff;
- **Reducing stigma** - by promoting equality in the assessment and treatment of patients with psychiatric disorders.

At the **community level**:

- **Creating a bridge in the communication with General Practitioners** - by promoting education and supervision of cases;
- **Coordinating assessment and treatment of patients requiring the outpatient intervention of several specialities**;
- **Promoting mental health in community stakeholders** – by providing access to information and contributing to greater awareness and integration campaigns oriented to reduce stigma in mentally ill patients.

Expected Barriers:

The expected barriers to create a new C-L Psychiatry team are probably the following:

- Difficulties in **making the case for a dedicated C-L team** to policy makers and stakeholders:
    - Although the case for the integration of psychiatry in the general hospital is well documented in several reports, plans and policies of the Midt Region, they do no include the hypothesis of a multidisciplinary fulltime C-L team.
- Difficulties in **funding**:
    - Although the expected costs are not much different for what will be saved by both staffing the emergency room and improving outcomes, the Midt Region is under a considerable process of cost reduction that is expected to continue in the following years.
- Difficulties in **staffing**:
    - The number of psychiatrists in Denmark is alarmingly low and until 2020 a further reduction of 3.2% is expected. In 2030, however, an increase of 18.3% is expected, which means that this will probably be an issue in the first few years of the C-L team's establishment but is not expected to endure [79].
- Difficulties in **changing prejudice and attitudes** towards mentally ill patients:
    - That has been an expected consequence from keeping psychiatry apart of the other specialties. The C-L psychiatry team is, therefore, strategically

positioned in order to facilitate the education of staff and to contribute to reduce the stigma.

- Difficulties in **establishing contact with general practitioners**:
    - General practitioners are not part of the same system; they use a different electronic journal and have no specific time formally allocated to regular meetings with the secondary sector.

Part III

3 Conclusion

The provision of C-L services around the world differs widely and Denmark is no exception. This suggests that, in some countries, the benefits of C-L psychiatry services are probably overlooked or C-L psychiatry did not succeed in advocating for its position as an important field in psychiatry. This is particularly important in Denmark as in the last decades there has been an evolution in the organisation of services towards a specialization of psychiatry. Unfortunately this reorganisation has been primarily based on the psychiatric diagnoses and the focus has been kept away from the relationship of psychiatry to the general hospitals. Despite the presence of some good examples like the Research Clinic for Functional Disorders and Psychosomatics, which in the last two decades has strongly contributed to the research of C-L subjects at an international level, only a few services provide specialised C-L psychiatry care in the general hospital and no other research protocols are permanently established.
In Aarhus, the emergency team provides C-L psychiatry services to patients admitted to the general hospital but the number of referrals doesn't not match the expected number for a general hospital with over 1,000 beds. That means that there is still a long way to go in the integration of psychiatry with the other specialties.

In the last 5 years, however, several reports and plans from the Region Midt have set the focus back to the need of integration of psychiatry with the other specialties.
In Aarhus, there is currently a plan to move the physical facilities of the psychiatric departments to the general hospital, opening a unique opportunity for the creation of a C-P psychiatry team. The emergency room is also expected to become a common setting one for mental and physical disorders, with only one entry to all patients regardless of the diagnosis.

As in other places around the world, an increase in the number of referrals to psychiatry is expected if a C-L team is created and starts to intervene in the education of staff from the other specialties.
Furthermore, the staff working in the Psychiatric Emergency Room should not provide the C-L psychiatry care on top of the all the regular tasks in the Psychiatric Emergency Room. C-L intervention requires an expertise in complex cases where co-morbidity with serious somatic diagnosis is the rule.

That means that the proposed C-L psychiatry team will be able to provide highly specialised assistance to many of the cases currently presenting to the Psychiatric Emergency team.
An important shift of patients from the Psychiatric Emergency Room to the C-L psychiatric team is therefore expected and one of main advantages of this shift remains in the fact that such a C-L psychiatric team would use its network of contacts, referrals and collaboration with the different sectors in the general hospital (medical and surgical wards) and in the community (Research Clinic for psychosomatic disorders and psychosomatics; Team for Gerontopsychiatry and Geriatric teams; sub-acute psychiatric teams and mental disabilities team; Clinic for Suicide Prevention; Centre for Eating Disorders; Centre for Children and Adolescent Psychiatry; Centre for Substance Abuse and Centre for Alcohol Problems in the municipality; and Family doctors).
A C-L psychiatry team in Aarhus will thereby bring tremendous benefits in the continuity of psychiatric care and reduce the dropouts of mentally ill patients.

The creation of a C-L psychiatry team is therefore the next natural development in the reorganisation of psychiatry services in Aarhus as it is in full accordance with the topics advocated by the recent reports and plans regarding the integration of psychiatry with the other specialties.

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