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Strategic Intelligence Monitor on Personal Health Systems Phase 3 (SIMPHS3)

*SAM:BO (Denmark)
Case Study Report*

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Abstract

The SAM:BO case rests on an agreement that sets out guidelines concerning cooperation and communication among health care actors, together with principles on how to monitor the quality of the service provided and to support health care management processes by electronic communications.

It represents a joint strategy applied by 4 hospital units, 22 municipalities and about 800 practitioners operating in the Region of Southern Denmark.

SAM:BO is a formal framework of cooperation which aims to support treatment and intersectoral cooperation. It facilitates the exchange of experiences and guideline development, supports national coordination and the development of new national projects (e.g. the shared medical record, the Shared Care System), and promotes standards of IT communication.

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Preface

The Strategic Intelligence Monitor on Personal Health Systems (SIMPHS) research started in 2009 with the analysis of the market for Remote Patient Monitoring and Treatment (RMT) within Personal Health Systems (PHS). This approach was complemented in a second phase (SIMPHS2) with the analysis of the demand side, focusing on needs, demands and experiences made with PHS by healthcare producing units (e.g. hospitals, primary care centres), healthcare professionals, healthcare authorities and patients amongst others.

Building on the lessons learnt from SIMPHS2 as well as on the European Innovation Partnership on Active and Healthy Ageing initiative, SIMPHS3 aims to explore the factors that lead to successful deployment of integrated care and independent living, and define best operational practices and guidelines for further deployment in Europe. This case study report is one of a series of case studies developed to achieve these objectives.

The outcomes of SIMPHS2 are presented in a series of public reports discussing the role of governance, innovation and impact assessment in enabling integrated care deployment. In addition, through the qualitative analysis of 27 Telehealth, Telecare and Integrated Care projects implemented across 20 regions in eight European countries investigated in SIMPHS2, eight facilitators have been identified, based on Suter's ten key principles for successful health systems integration.

The eight main facilitators identified among these as necessary for successful deployment and adoption of telehealth, telecare and integrated care in European regions are:

- Reorganisation of services
- Patient focus
- Governance mechanisms
- Interoperable information systems
- Policy commitment,
- Engaged professionals
- National investments and funding programmes, and
- Incentives and financing.

These eight facilitators have guided the analysis of the cases studied in SIMPHS3 and a graphical representation with arrows whose length represents the relative importance of each facilitator is presented in each case study.

In addition to the above facilitators analysed in each case report, a specific section is dedicated to the analysis of care integration. It should be noted that the definition of vertical and horizontal integration used in this research is taken from the scientific literature in the field of integrated care¹ and differs from the one mentioned in the European Innovation Partnership on Active and Healthy Ageing Strategic Implementation Plan². We define horizontal integration as the situation where similar organisations/units at the same level join together (e.g. two hospitals) and vertical integration as the combination of different organizations/units at different level (e.g. hospital, primary care and social care).

¹ Kodner, D. (2009). All together now A conceptual Exploration of Integrated Care.

² http://ec.europa.eu/research/innovation-union/pdf/active-healthy-ageing/steering-group/operational_plan.pdf (page 27)

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Case outlook

The SAM:BO case rests on an agreement that sets out guidelines concerning cooperation and communication among health care actors, together with principles on how to monitor the quality of the service provided and to support health care management processes by electronic communications.

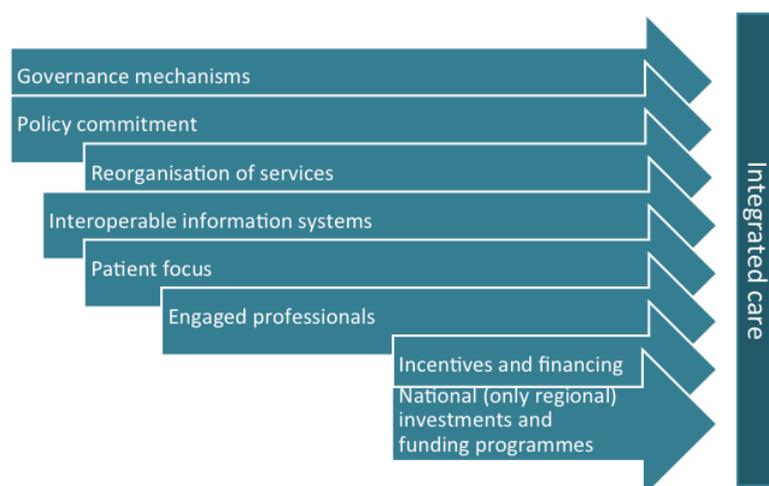
It represents a joint strategy applied by 4 hospital units, 22 municipalities and about 800 practitioners operating in the Region of Southern Denmark.

SAM:BO is a formal framework of cooperation which aims to support treatment and intersectoral cooperation. It facilitates the exchange of experiences and guideline development, supports national coordination and the development of new national projects (e.g. the shared medical record, the Shared Care System), and promotes standards of IT communication.

It has contributed to the transformation of the regional health system from a hospital-centred service to patient-centeredness. The agreement is still being implemented, and it does not, as yet, cover all pathologies and health and social care services fully. However, the performance results for the Region of Southern Denmark's health system indicate that it tends to perform better than the other four regions of the country.

The key driver of the initiative is the strong commitment of the regional government, which has led to the SAM:BO agreement and its subsequent implementation. The strong participation of the stakeholders in the implementation of the SAM:BO initiative has also been important. This has contributed to faster design and implementation of common quality services and standards across health care actors.

The initiative was also facilitated by the existence of an information and communication network infrastructure, which integrated all the health care actors in the region using shared interoperability standards, together with an already wide diffusion of eHealth applications. In addition, the Region of South Denmark has well-established and continuous health innovation processes involving all the regional stakeholders, which form another important key driver for the implementation of integrated care under the SAM:BO agreement.



1 Background

1.1 Danish social welfare and health care system

Denmark has a decentralised health system, in which responsibility for primary and secondary care rests at the local level. Health care services are provided to the entire population, with a wide range of services provided free of charge at the point of use. People are able to choose freely among hospitals to receive secondary care services.

The Danish health system is organised at state, regional and local level, each administrative level being in charge of distinct areas related to health service provision. Overall regulatory and supervisory issues are dealt with at national level under the responsibility of the Danish Health and Medicines Authority, which increasingly engages in specific planning activities, such as quality monitoring and the distribution of medicines to hospitals. The state also carries out fiscal functions. At regional level, the five regional administrations are in charge of hospitals and the self-employed care professionals, and they define and run hospital services. The municipalities in turn, engage in health promotion and disease prevention and share the responsibility for planning and regulation with the state.

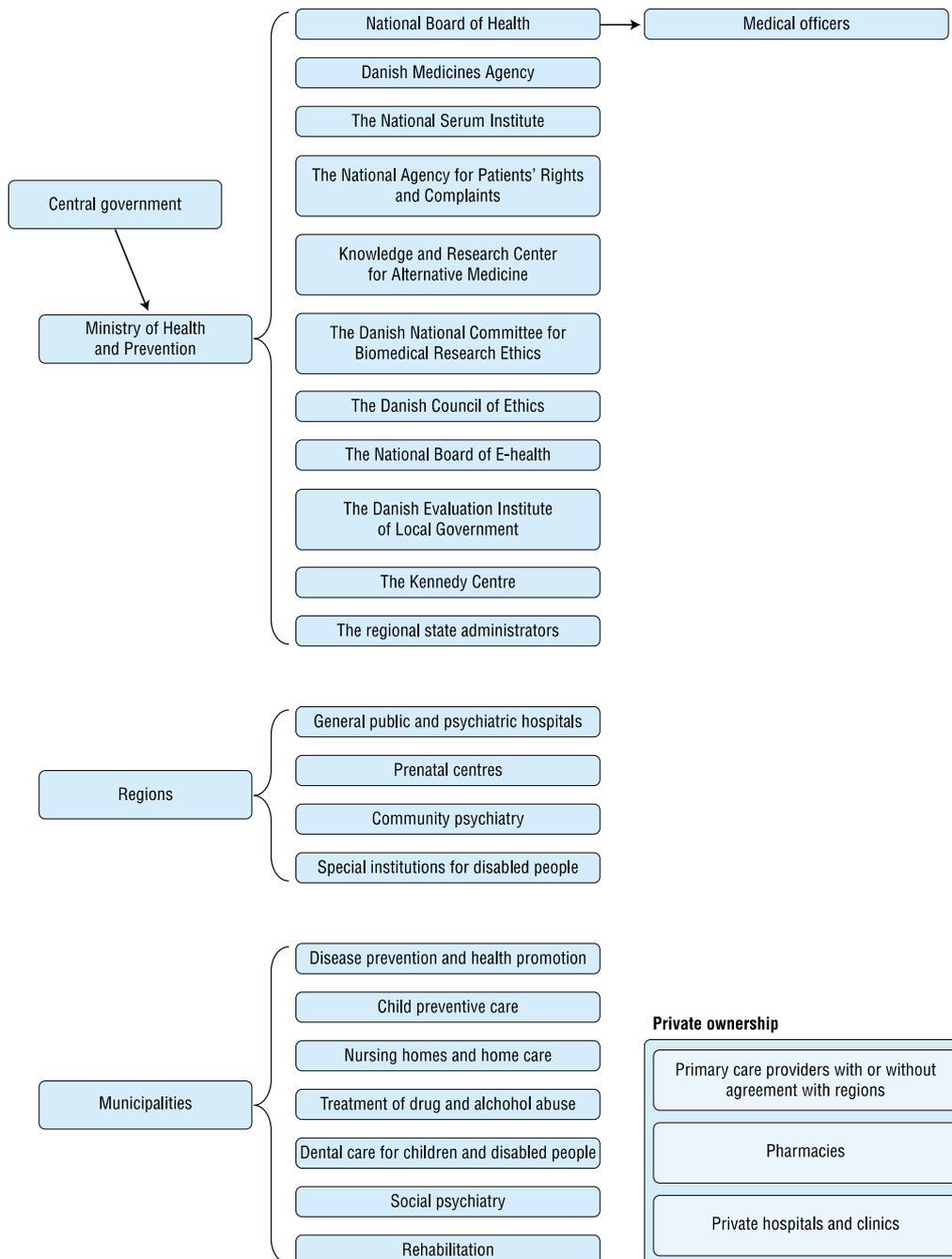
The publicly-financed health system covers primary, specialist and hospital services, as well as preventive services, mental health and long-term care.

In terms of service provision, the primary care sector comprises private or self-employed practitioners such as GPs, specialists, physiotherapists, dentists, and pharmacists, and services at municipal level, such as nursing homes, home nurses, health visitors and municipal dentists. The GPs function as gatekeepers for access to secondary care by referring patients to hospitals and specialised treatment. Hospitals offer both inpatient and outpatient care. The general hospitals are owned and operated by the regions, and most secondary and tertiary care services are undertaken there. The doctors and specialists working in these entities are paid salaries which consist of a combination of capitation (30%) and fees-for-services (70%).

Most of the public hospitals in Denmark are general hospitals that have different specialisation levels, whereas outpatient clinics are regularly used for post-hospitalisation diagnosis and treatment. The quality of primary and secondary care is monitored by the Danish Institute for Quality and Accreditation in Health under the Danish Healthcare Quality Programme.

The health system is financed mainly by taxation at the state level through progressive tax, and at the municipal level through proportional tax. More than 80% of the expenditure on health care is financed by the state through a mix of block grants and activity-based financing. The municipalities are mainly financed through income tax and block grants from the state, while the state and municipalities finance the regions. The municipalities are given financial incentives to provide health care services, as patients are entitled to choose a hospital after referral from their GPs and hospitals are financed according to activity. Additional out-of-pocket payments borne by patients mainly relate to pharmaceuticals, dental care and physiotherapeutic treatments.

Figure 1: Overview of the Danish health and social care system



Source: Olejaz (2012)

The Danish health system offers voluntary health insurance (VHI) for the population, which has become more and more popular in recent years. The increase in use of VHI reflects the wish of large parts of the population to reduce the costs related to additional payments for specialised services, and to secure access to private hospitals. Despite the major reforms that since 2007 have tried to tackle the fragmentation caused by the decentralised care structure, the system still struggles to provide continuity of care services, and suffers from the lack of integrated care. Mandatory health agreements between municipalities were introduced through the reform that served to promote improved coordination across

municipal care services, primary care and hospital care. Furthermore, the regions and municipalities implemented a range of measures to promote integrated care, such as training programmes for care staff, outreach teams from hospital teams for follow-up visits and the establishment of municipal units to facilitate communication.

1.2 The Region of Southern Denmark

The Region of Southern Denmark is one of the five regions in Denmark. It covers an area of about 12,200 km² and has a population of 1.2 million living in 22 municipalities with a density of 99 people/km². It is located in the Southern part of the country, bordering Germany. The region has an annual GDP of about €50 billion, with an annual GDP per capita of €38,200.

The average age of the population in the Southern region is 46, with 18% of individuals aged 64 and over. Current projections suggest that by 2020 the average age of the population will increase significantly with an average decrease of the population aged less than 50 and a considerable increase of the population aged 70 to 79 (OECD, 2012).

Therefore, the ageing population is an important and growing phenomenon in the Region of Southern Denmark, reflecting overall population trends in the country. The rate of ageing is very similar to the average rate in the EU28, which is close to 17.5%³.

In terms of health status of the population in the region, one out of three people in the region suffered from a chronic disease with a high presence of comorbidities in 2012. Chronic care currently absorbs 70-80% of the available resources in the health sector, and the number of chronically ill is growing because of increased longevity and unhealthy lifestyles. The responsibility for running the health service in Denmark is decentralised and lies mostly with the regional authorities. The Region of Southern Denmark currently has four hospital units running a total of 18 hospitals. The Region is home to one of Denmark's three university hospitals. Odense University Hospital & Svendborg Hospital (OUH) is a centre of major importance in the Danish hospital and specialist services system. The following table summarises the main figures on the South Denmark health care system:

Table 1: Health care system characteristics of the Region of Southern Denmark

Geographical coverage km²	12,206
Inhabitants per km²	99
Number of inhabitants	1,201,419
Life expectancy at birth, years	76.4 males – 81.3 females
Regional GDP (2012), billion €	45.9
Regional GDP per inhabitant (2012), €/inhabitants	38,200
General Practitioners /1.000 inhabitants (2010)	0.67
Specialists /1.000 inhabitants (2010)	2.75
Regional Budget for Health services management (2013), billion €	2.4
Health care professionals / 100.000 inhabitants	370
Regional health care budget, € per inhabitants (2013)	1,999
Hospital beds (2012)	4,100
Hospital beds/1.000 habitants (2012)	3.4

Source: Danish Government 2013

³ It represents the percentage of European population above 64 years (source: Eurostat, 2011).

1.3 The SAM:BO case

In 2009, the primary and secondary health care sectors in the region of Southern Denmark agreed on a common integrated care policy under the SAM:BO framework. The main purpose was to set standards and guidelines for communication and cooperation between hospitals and local communities in relation to hospitalisation and discharge of patients. The initiative was started by the Region under the umbrella of the Danish Health Legislation, which obliged the regional councils and the municipalities to sign an agreement on issues related to health and psychiatry. The idea was to strengthen cooperation between hospitals, municipalities and the general practices, and ultimately ensure continuity of care. Under this legal framework, most of the effort was devoted to dealing with the challenges of an ageing population with several initiatives that reorganised health care provision and used eHealth tools.

The SAM:BO agreement therefore provides guidelines on cooperation, communication, the handling of information exchange with patients and on how to monitor the quality of the service provided and how to support health care management processes with IT systems. Part of this initiative focuses on severely ill patients and patients with terminal diseases, and describes the requirements for collaboration, communication and information for these patients and their relatives, with a particular focus on the transitions between tiers of care. Another special agreement defined under SAM:BO addresses cooperation between all the sectors of health and social care involved in dementia interventions.

2 Integrated care analysis

2.1 Dimensions of integration

The SAM:BO initiative was initially developed to be generic and applicable to all health care processes provided to the population in the Region of Southern Denmark. However at the time of writing, it was used to design and implement care processes mainly for chronic diseases and more particularly, for vulnerable subgroups (e.g. patients with complex illnesses and people with disabilities).

The main reason for having concentrated the efforts on patients with chronic diseases and related comorbidities is that the number of these patients in the Region of Southern Denmark is growing. They represent a major cost for the regional health care system and the closely coordinated efforts of health and social care actors are required to provide them with continuity of care.

To tackle these challenges, the SAM:BO sets guidelines and protocols which allow both vertical and horizontal integration amongst the health care actors involved in the disease management processes. In particular, it defines guidelines on how to discharge patients from hospitals and to transfer the information about their treatment to GPs and nurses responsible for caring for them at home, in order to guarantee continuity of care. This transfer of information occurs via electronic messages based on the MedCom standard. It also provides protocols for inpatient and outpatient treatments and for the organisation of health-related information flow across primary, secondary and social care to guarantee a high quality level of service at lower cost.

The key focus of the SAM:BO implementation procedure is the integration of service delivery, focussing on the patient's needs. All the care organisations involved share the

same view of the care process through predefined and structured care pathways, and the provision of services is done through specific task assignment.

The main advantage of this approach is that each provider pays attention to its particular responsibility to the patient, and at the same time keeps in mind all aspects of the whole care process. In the cases where SAM:BO has been implemented, depending on the specificity of the disease and the characteristics of the vulnerable sub-groups of patients, several forms of integration amongst the health and social care organisations have been achieved, although this integration does not cover financial or administrative integration among the actors involved.

Currently, the SAM:BO protocols mainly address vertical integration among hospital units, primary care and social care professionals. Vertical integration is mainly achieved through sharing patient information data, and the design, implementation and monitoring of patient care plans. Both actions facilitate the continuum of care. However, horizontal integration amongst GPs or across hospital units, though it was foreseen in the generic protocols of SAM:BO agreement, is still rather limited or not implemented at all in current practice.

2.2 Impact

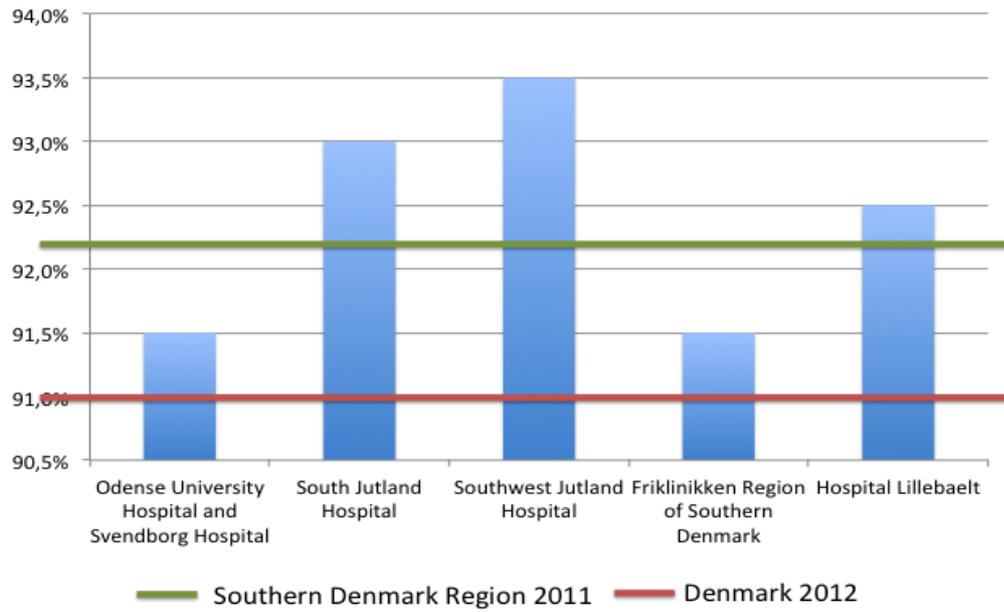
SAM:BO was initiated in 2007 and fully rolled-out in June 2009. Since then it has enabled the implementation of new and more integrated forms of collaboration among health and social care actors in the region. It is contributing to the transformation process of regional health systems from a hospital-centred service to a more patient-centric one.

The implementation of the agreement is still in progress, and it therefore does not fully cover all pathologies and health and social care services processes available to the regional population.

Nevertheless, an assessment of the performance of the Danish regional health systems provided by the Central Government of Denmark highlights how the Region of Southern Denmark has performed better in comparison to the other Danish Regions. Figures 2 to 4 below provide some evidence in relation to various impact dimensions.

More particularly, Figure 2 presents national statistics on the degree of patient satisfaction as regards the collaboration between health and social care.

Figure 2: Patients' satisfaction with Health and Social care collaboration

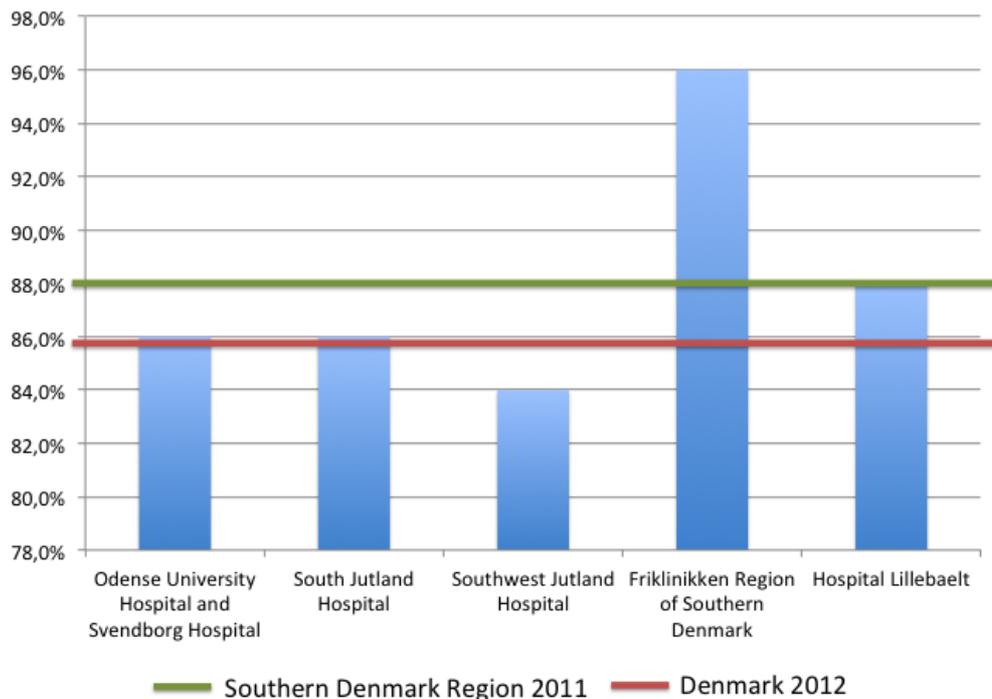


Source: Danish Government, 2013a

The figure shows the degree to which patients are satisfied with the main hospitals in the Region of Southern Denmark. While there is no counterfactual evidence, it is likely that the progressive implementation of the SAM:BO has helped the regional health care system move towards an integrated care service approach which in turn may have contributed to improving patient satisfaction.

Similar considerations can be made about patient satisfaction with regard to the collaboration between primary and secondary care.

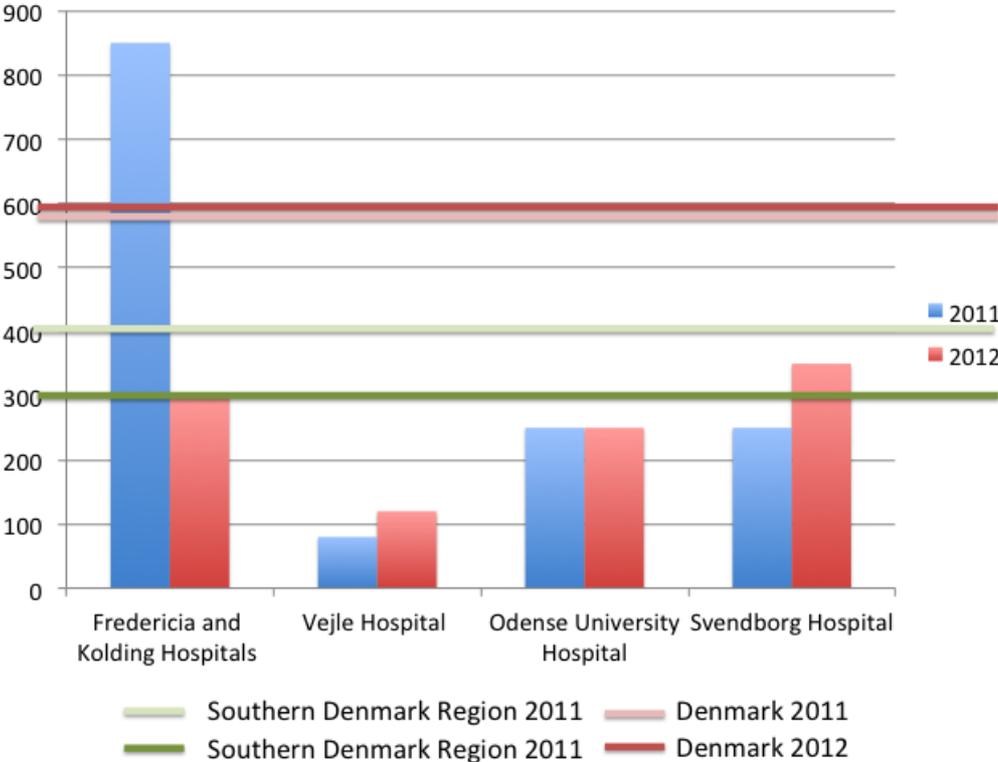
Figure 3: Patients' satisfaction Primary and Secondary care collaboration



Source: Danish Government, 2013a

Another interesting impact measure is the number of days saved through early discharge from hospital (see Figure 4), which compares the Region of Southern Denmark with Denmark as a whole for 2011 and 2012. In both years, the average length of stay in hospital was significantly lower in the Region of Southern Denmark than in the country as a whole. Particularly in 2012, the average length of stay in the Region of Southern Denmark was only half the national average. It can be deduced by extrapolation that implementing the health system of the Southern region to the whole of Denmark could save about 300 bed-days per 1,000 inhabitants. It is worth mentioning that it is very difficult to attribute these results solely to the SAM:BO initiative. Other factors undoubtedly have to be taken into account. However, it can be assumed that some differences have emerged in the Region of Southern Denmark that could be attributed to SAM:BO.

Figure 4: Average days in the hospital a year (x 1000 patients)



Source: Danish Government, 2013a

An evaluation system to measure the impact of the SAM:BO implementation is envisaged for the near future. It should measure not only patient satisfaction and cost savings for the regional health system, but also impact indicators related to quality of care, mortality reduction and improvement of quality of life.

2.3 Drivers and barriers

The strong commitment of the regional government was the main driver which led to the setting up of the SAM:BO agreement and its subsequent implementation. It helped start the initiative and aggregate all the relevant stakeholders, prioritising the operationalisation of the agreement according to specific target populations and diseases. As a result of this commitment, stakeholders have participated strongly in the implementation of the SAM:BO initiative. This has helped speed up the design and implementation of services of similar quality and to apply common standards across health care actors. This would not have

happened without an information and communication network infrastructure which integrated all the health care actors of the region, based on interoperability standards that support the integration of information systems of local actors with the whole national health care infrastructure.

The above mentioned interoperability goes with wide adoption of eHealth services by care providers. According to the experts we consulted, all GPs and specialists in Denmark use Electronic Health Records (EHRs) and there is a widespread use of Health ICT applications. This is certainly beneficial for faster implementation and take up of the SAM:BO agreement among regional care actors.

Lastly, according to Wanscher (2012), innovation is also a key driver for integrated care implementation in the Region of Southern Denmark and some of these innovations are linked to the SAM:BO agreement. In fact, the definition of standards and procedures implies having to make technological and organisational choices, whose implications for the care management processes have to be well understood a priori. In this context, a well-established innovation ecosystem helps anticipate organisational and technological issues before defining operational standards and procedures.

The main **barriers** to the adoption of standards and procedures implemented under the SAM:BO agreement appear to be the prevailing organisational culture and some resistance to change. The guidelines and procedures defined under the SAM:BO agreement, that have to be adopted by the care organisations, require a certain openness to changing current practices. The resistance of health care professionals to changing from usual practice to more collaborative forms of work could compromise the implementation of SAM:BO. The preparation of the discharge letter that two doctors have to exchange, when a patient moves from one health care organisation to another is an example of this problem. Under the SAM:BO agreement, the discharge information is foreseen as a digital process in which the transfer of responsibility from one doctor to the other happens through automatic registration. However, it is still common practice for doctors to have a written discharge letter prepared by their nurses, which reduces the benefits of SAM:BO and imposes an unnecessary administrative burden on nurses.

Another important barrier to the adoption of the new procedures is the lack of effort by the care organisation to finance education for the required changes. Training of health workers in adopting the new care process is a fundamental step for its adoption and to achieve the expected quality of service and related saving in the care process.

Legal issues such as the privacy and security of patient data still constitutes a barrier, especially in relation to the transfer of the clinical history of the patient from one care organisation to another. However, the Southern Denmark region is developing the Shared Care Platform that should help overcome these barriers. Moreover, a consistent legal framework for mHealth-based diagnoses and prescriptions is still lacking. This certainly hinders the diffusion of SAM:BO procedures in an otherwise favourable context of high smartphone penetration.

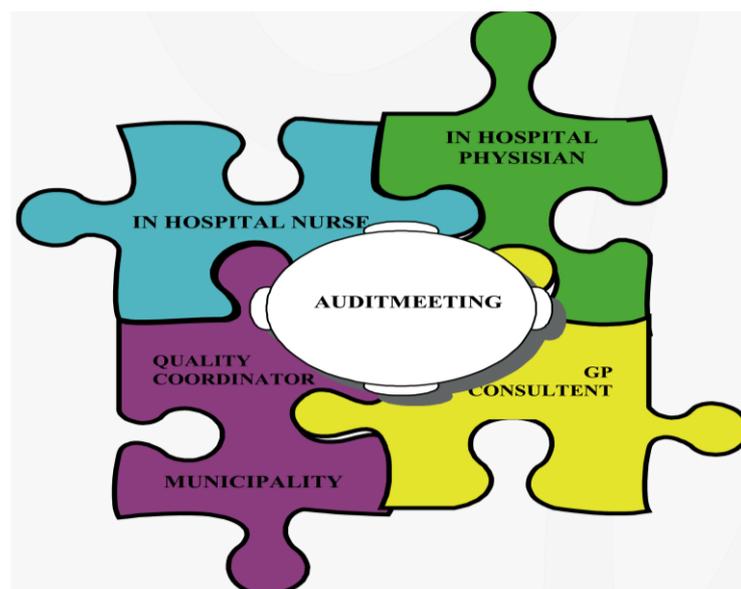
Lastly, even though the diffusion of Information and Communication technologies in the region of Southern Denmark is quite high, the full implementation of the procedures developed under the SAM:BO agreement requires a high degree of interoperability that not all the suppliers of technologies are able to support for the moment.

2.4 Organisation, health professional and patients

The main actors involved in the definition of the guidelines and procedures for the SAM:BO agreement are the Regional Government and national and local experts in the care processes. In particular, the regional government ensures that collaboration among the local actors which have to operationalise the agreement functions well, and supports the municipalities on disease prevention and healthy lifestyle promotions.

The actors in charge of the provision of the integrated care services under the SAM:BO agreement at local level are shown in Figure 5. In addition, the region also plays an operational role in running the four local hospital units. In practice, however, the 22 municipalities play a pivotal role in the implementation of the SAM:BO agreement, especially with regard to supporting home care services and rehabilitation assistance (except during hospitalisation). The municipalities also act as “quality coordinators” of the implementation, fostering the interaction among the different actors. The operational role played by GPs, specialists and nurses depends on the characteristics of the care pathway implemented and the assigned tasks. However, in all the care pathways developed under the agreement, the continuous communication and information sharing amongst the health care professionals is considered of great importance.

Figure 5: Some of the actors involved in the integrated care services under SAM:BO agreement



Source: Lindegaard et al. (2010)

General practitioners play an important role in the implementation of the SAM:BO agreement, since they are the first contact point and act as a gateway to health services. They provide the necessary co-ordination for all care actors, including secondary and social care actors which assist patients with chronic illnesses.

Specialists are involved in the SAM:BO agreement implementation in accordance with the type of care process to be implemented at local level. They contribute to the definition of the care process and the specification of roles and responsibilities for the various tasks.

2.5 Information and Communication Technologies

The diffusion of eHealth solutions across various actors of the care system is very high in Denmark and its Southern region. The Danish Health ICT system includes the ability to order tests and prescribe medicine electronically, the use of video-conferences, tele-radiology and e-learning in medical education. Moreover, a national organisation called MedCom⁴ manages the national health care network ICT infrastructure for the entire country, which is fundamental for the effective implementation of Health ICT at local level. It also actively contributes to setting standards for Health ICT systems and acts as a coordinating body to bring together health care providers, laboratories, vendors, and others for the development of interoperability standards.

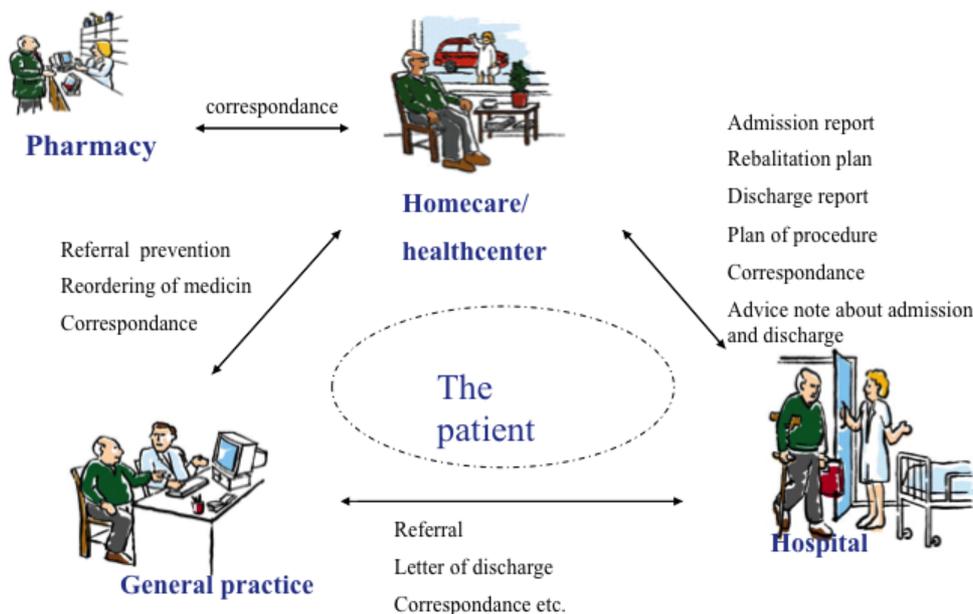
Furthermore, portals providing online access to health information for all citizens such as the eHealth portal (www.sundhed.dk) play an important role for the diffusion of online healthcare services in Denmark. This portal provides online access to the Danish healthcare services for the general public. Patients and their families therefore have access to many forms of relevant healthcare information, for instance "my e-journal" and "my medicine".

This is the technological context in which the SAM:BO agreement has been implemented in the Region of Southern Region.

From a technological perspective, the SAM:BO agreement involves a clear description of procedures and agreements on deadlines and formats for messages sent between hospitals, GPs and municipalities in relation to a patient's course of treatment. This ensures that patient data is sent digitally in a fast, safe and efficient way to the party that takes over the responsibility for the subsequent treatment of the patient.

The following figure provides an example of the information flows as implemented under the SAM:BO agreement amongst the care organisations of the regions.

Figure 6: Examples of electronic communication Homecare/Health centres -GP-Hospital



Source: Wanscher (2012)

⁴ MedCom is a co-operative venture between authorities, organisations and private firms linked to the Danish healthcare sector.

In the mid-term, the agreement seeks to provide the region with a new and more patient-centred healthcare system that empowers individuals to manage their own healthcare and enables easier and more effective communication with health care providers. However, there is a common perception that the technological implementation of the SAM:BO agreement requires a re-thinking and subsequent strong integration of organisational processes, and the cultural changes for the care actors and patients should also be tackled.

The mid/long-term ICT strategy of the region is the development of the Shared Care Platform, which will aim to ensure seamless communication about patients with chronic diseases. The development of the Shared Care Platform originally started in April 2012. In the development process, both social care and healthcare professionals, including doctors and nurses, have been involved, while care coordinators, physical therapists and patient associations were also invited to provide input.

The new platform puts particular emphasis on shared care pathways and care goals, which are then shared and discussed with patients. With the platform, mobile applications will also be developed for the display of information to patients and for the collection of home monitoring patient data, to be authenticated by digital signatures. The data visible to patients will also include national guidelines and explanation as to why a certain value (e.g. blood pressure or cholesterol) is important for the patient's health.

This new development could contribute to achieving full technological integration among all the care actors and patients. It also implies sharing personalised care pathways and health-related patient information in a continuum of care centred on patients' needs in a more cost-effective way.

2.6 Governance

The governance structure of the SAM:BO case comprises two levels. One deals with the definition of the standard and procedures underpinning the SAM:BO agreement and the other addresses clinical and services integration governance based on the implementation of the procedures at local level.

The definition of the procedures and standards describing the integrated care approach requires governance at regional level by the Regional Government acting as promoter and the catalyst of the initiative, and representatives of the health and social care actors, (namely the 22 municipalities responsible for the management of the health and social care services for their citizens), and the 4 hospital units responsible for the 18 local hospitals of the region. However, the national health authorities and MedCom representatives also guarantee that the procedures and standards decided at regional level are aligned with the standards and procedures defined for the whole country.

The governance related to the local implementation of the procedures and standards defined under the SAM:BO agreement depends on the nature of the procedure and the target patients addressed. In principle, this governance consists of:

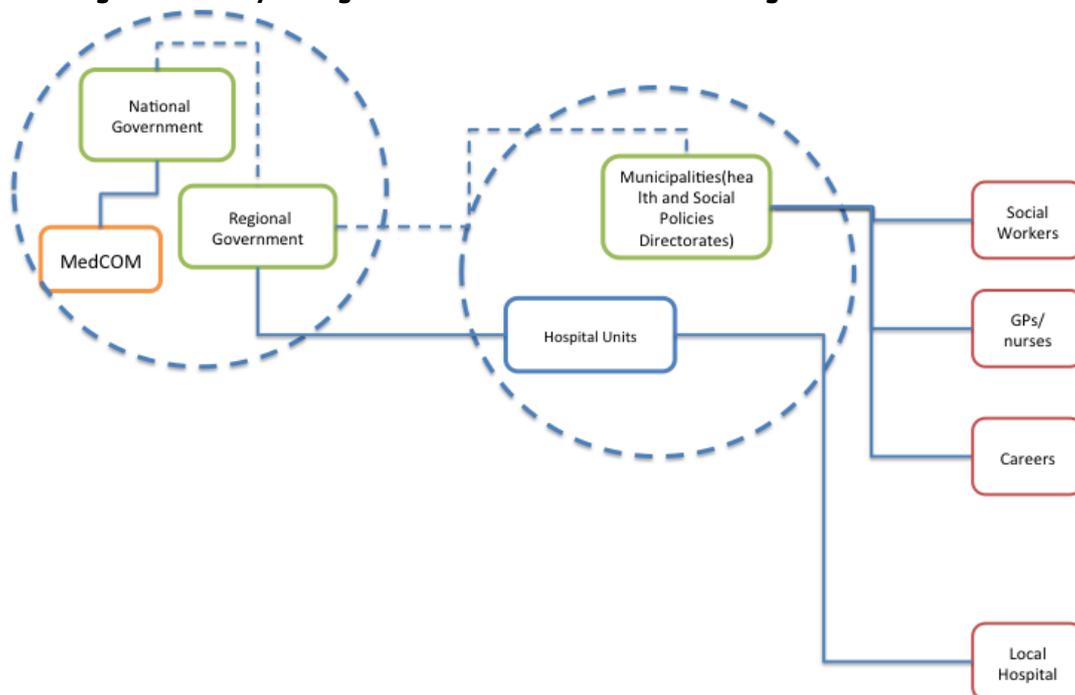
- One or more municipalities responsible for health and social care services for citizens.
- One or more hospitals units according to the level of territorial competence.

Together they are responsible for the operationalisation of the care pathway defined under the SAM:BO agreement, and its practical implementation. This includes the following activities:

- Definition of the care pathway, including task assignment and responsibilities. This is based on a pre-defined pathway that has to be customised at local level.
- Definition of the technological and organisational implication of the new care pathway.
- Definition of the change management actions needed, including training and coaching of health care professionals in the different organisations, and empowerment actions favourable to patients.
- Management of the procurement process for acquiring the necessary technological tools and organisational services to run the initiative.
- Establishment of the monitoring process for the assessment of the performance of the new service.
- Implementation and management of the new care service.

Figure 7 represents the logical links of the two governance levels of the SAM:BO initiative.

Figure 7: Eco-system governance value network for Integrated Care services

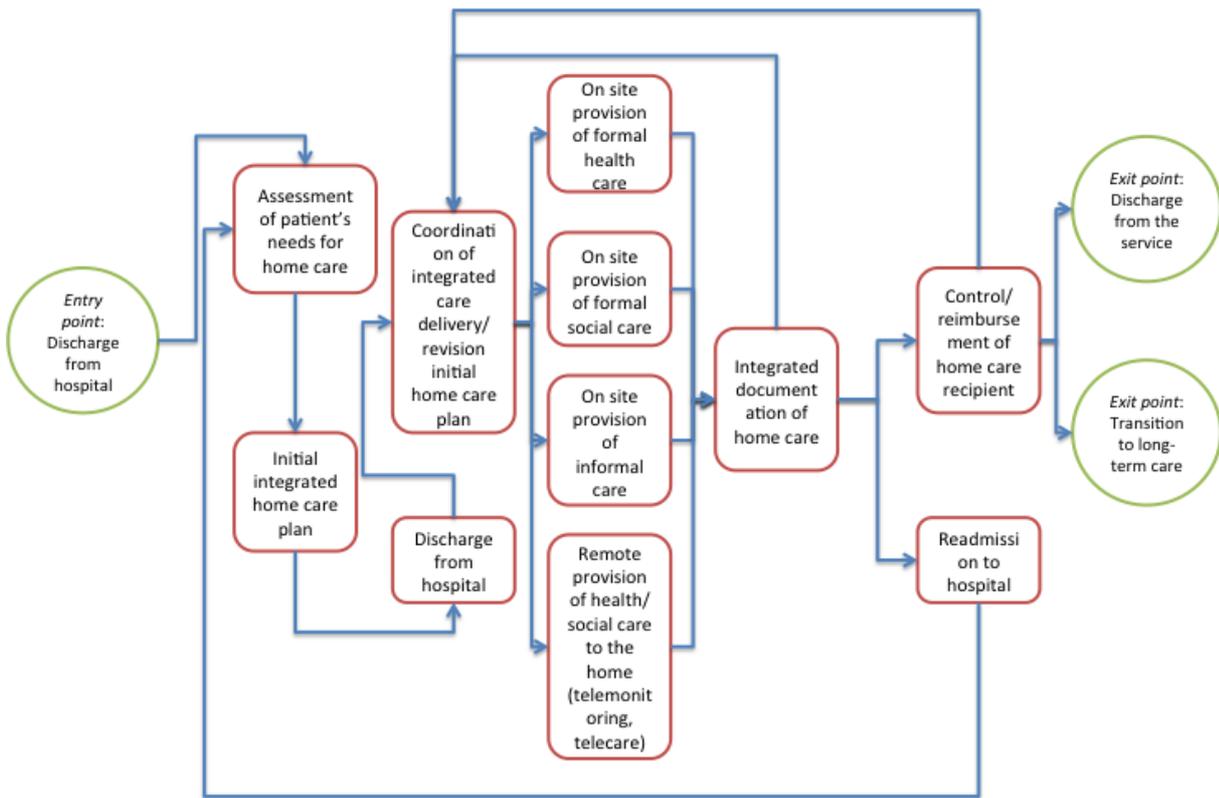


Source: Authors' elaboration

2.7 Organisational processes

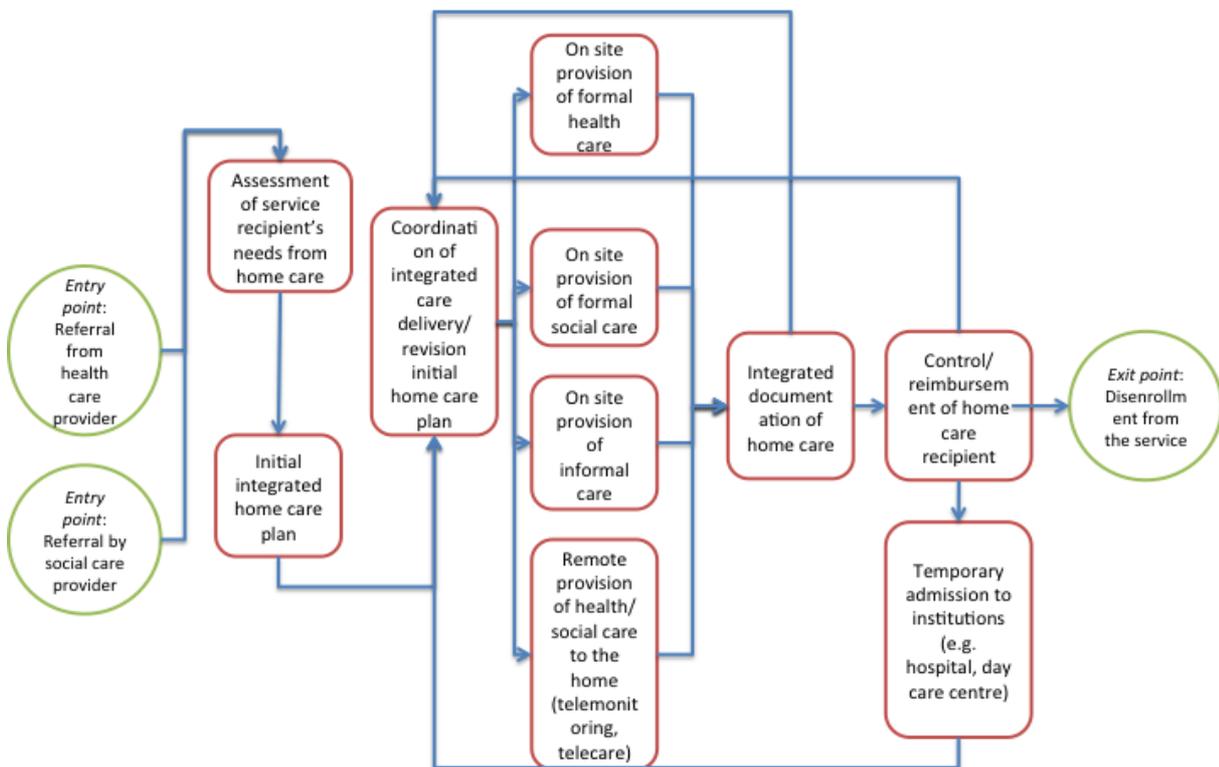
From an organisational perspective, the SAM:BO agreement provides a series of guidelines, standards and procedures that allow municipalities and local health actors to implement more integrated care processes, by shifting from the current hospital-centred service provision to more patient-centric care and supporting care actors in the adoption of more advanced technological solutions. Example of procedures and guidelines proposed under the SAM:BO agreement are presented in Figure 8 and Figure 9, which describe the generic pathways for integrated home care after hospital discharge and integrated long term care, respectively. These generic pathways included in the guidelines of the SAM:BO initiative require operationalisation efforts from the local municipalities and the other care actors in order to be implemented effectively.

Figure 8: Generic pathway: integrated home care support after hospital discharge



Source: Adapted from Petersen (2013)

Figure 9: Generic pathway: integrated long term home care support

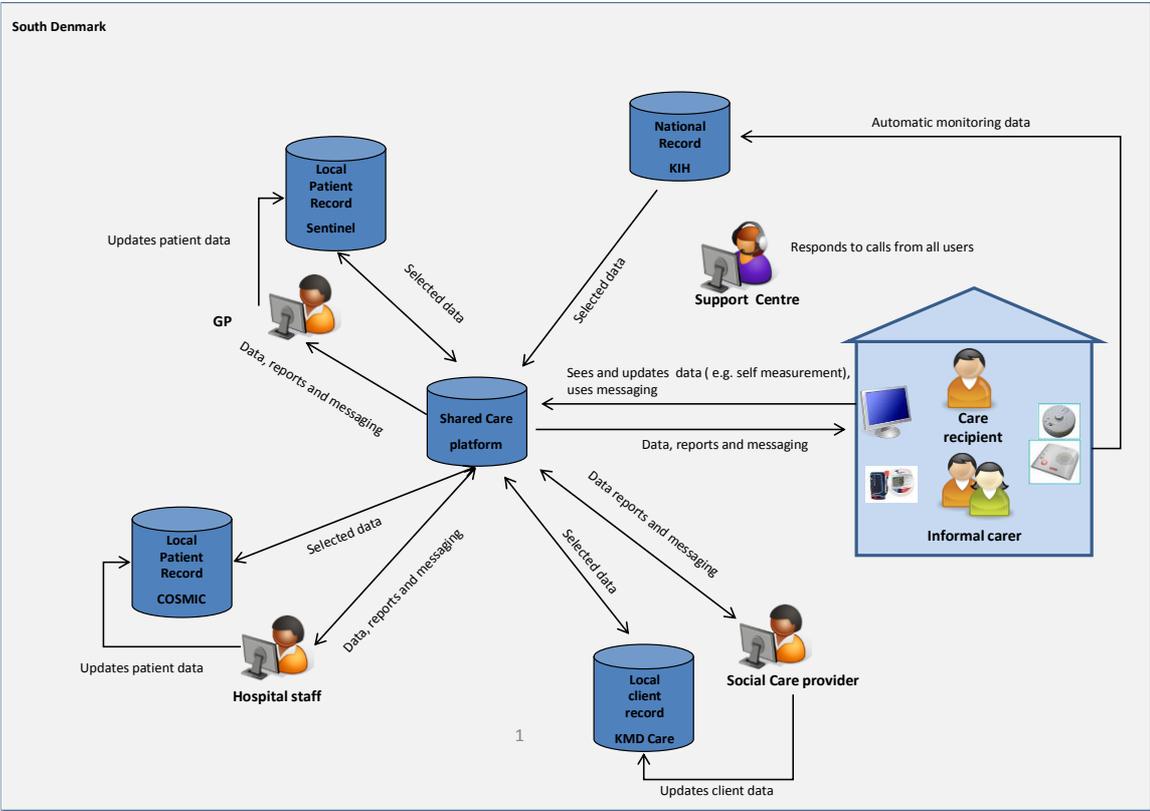


Source: Adapted from Petersen (2013)

The national health information and communication network managed by MedCom is the common technological layer through which the care pathways are operationalised. It ensures that most –but not all- the relevant information is sent electronically between the care organisations in accordance with the care pathways and the SAM:BO joint agreements.

In a medium-term perspective, the Shared Care Platform initiative mentioned earlier will be another important common element for the operationalisation of the care pathways. Once in place, it will provide an integrated record system for all care actors, while citizens will be able to access their own data that can be used in consultation with health care professionals e.g. to discuss treatment options. A full overview of how the organisational care process supported by the Shared Care Platform will look in the future is provided in the following figure.

Figure 10: Future organizational care process



Source: Project SmartCare (2013)

In general terms, social care professionals, including care coordinators, educators and physical therapists in the municipalities, will be involved in service delivery to the care recipient. They will be able to deliver different types of local support such as education about lifestyle, including advice on diet, exercise, alcohol and smoking, in rehabilitation centres in the local communities. Targeted patients will receive home care services such as cleaning, food delivery, bathing, shopping and support with other daily tasks. They will also be assigned a care coordinator from the municipality, who will help the patient navigate the system and help patients implement lifestyle changes where necessary. Health care providers who will be involved in the service include hospitals and general practitioners.

Care professionals from the relevant clinics in the hospitals, staff in the general practitioners offices and selected staff from the municipalities will be able to share data from their individual systems, use the new platform to handle workflows across sectors and view data from the different caregivers. Information from hospitals and GPs could be lab-results, measurements, notes, symptoms and diagnoses and also goals set with the patient, activities, questionnaires, reports and self-care indicators. They will also be able to see the information provided by the different actors such as patients and municipalities.

2.8 Reimbursement model and economic flow

The Danish Government covers 75% of the budget of the health system in the regions. The budget size for each of the five regions is largely based on spending in the previous year and is further regulated according to socioeconomic factors relating to the population in the region. Every year the Government and the Danish Regions negotiate the budgets for the upcoming year. In this process, some constraints may be imposed on the use of the budget by the regions. For instance, the government may impose a national screening programme for diseases, like colon cancer.

The rest of the financing is derived from the municipalities in the country. The municipality pays for its citizens when these receive treatment at the regional hospitals. The amount that has to be paid is based on the treatment received by the patient at the hospital. Treatments are priced according to Diagnostic Related Group (DRG) in hospitals and Danish Ambulatory Grouping System (DAGS) in primary care and rehabilitation. The DRG and DAGS systems contain the tariffs of the different treatments that are available. The municipalities have to pay a certain amount of the treatment price according to the rules below:

- For hospital admissions (DRG): 34% of the DRG tariff with a maximum co-payment of 14,025 DKK (€1,879) per admission
- For ambulatory (out-patient) visits (DAGS): 34% of the DAGS tariff with a maximum co-payment of 1.384 DKK (€185) per visit
- For rehabilitation at the hospital: 70% of the treatment price with no maximum co-payment ceiling.

When a patient is discharged from hospital and requires special care from the municipality (e.g. temporary placement at a nursing home or other special arrangements), the municipality has to provide this service. If the service is not available at discharge and the patient has to stay in hospital, the municipality has to pay the full DRG tariff, as long as the patient stays there.

The current reimbursement scheme for care professionals is not based on the SAM:BO agreement and does not reflect procedures and standards that are developed therein. The experts we consulted agreed about the lack of innovation in the reimbursement scheme, which is not perceived as outcome-oriented for health and social care professionals. It was commonly perceived as a barrier that could partially hinder the fulfilment of the full potential of the initiative.

3 Transferability

As regards the transferability of the procedures and standards developed in the SAM:BO case to other Danish regions, we can confirm that this would not require significant investments. This would also be true for transfer to the EU28 Member States. As reported in the Renewing Health Initiative (2014), the region in Southern Denmark is deeply involved in several EU programmes, such as United4Health⁵ and SmartCare⁶ which aim to transfer experiences to other EU contexts and participates actively in the EIP on AHA.

When looking at the practical implementation of the initiative, a degree of transferability could easily be achieved in the Danish context, as the legal framework is the same and there is a common information and telecommunication infrastructure that could support the practical deployment of the case in other regional or local contexts within the country.

However, effective transferability of the operationalisation of these procedures to other EU contexts appears to be more difficult. It would require strong commitment among local actors and the barriers identified earlier would have to be overcome. In general terms, the most favourable contexts for full transferability of SAM:BO initiative are national, regional or local contexts where:

- There is a unique patient identifier.
- There is an existing health care infrastructure which supports information sharing between the care and social care actors.
- A health care system transformation is already underway, so that health and social care actors are more willing to accept such organisational and cultural changes.
- A legal framework for integrated care is already well-established.

In any case, the effective transferability of the operationalisation of the SAM:BO procedures and standards would depend on both favourable legal and cultural conditions and the local presence of a common strategic and operational management of the health and socio-sanitary systems that would guarantee:

- Clinical governance of the service.
- Continuity of care and assistance to patients and their families.
- Integration of health and social care services provisioning.

4 Conclusions

In 2007, the primary and secondary health care sector in the Region of Southern Denmark agreed on a common integrated care policy that culminated in the adoption of the SAM:BO agreement. The main purpose of this agreement was to set standards and guidelines for communication between hospitals and local communities with regard to patients who are discharged from a hospital and where responsibility needs to be transferred from one sector to another. The initiative was set up under the umbrella of the Danish Health legislation, which obliged the regional councils and municipalities to sign an agreement on task management for health and psychiatry. The idea was to strengthen cooperation

⁵ See: <http://www.united4health.org/>

⁶ See: <http://pilotsmartcare.eu/home/>

between hospitals, municipalities and general practices and ensure continuity of care across all entities.

In principle, the SAM:BO agreement is applicable to all health care processes provided to the population in the Region of Southern Denmark. However, its practical implementation currently focuses on patients with chronic diseases and in particular, vulnerable subgroups (e.g. patients with complex illnesses and people with disabilities).

The main reason for solely directing the implementation efforts at patients with chronic diseases and related comorbidities is that the numbers of patients with these diseases are growing in the Region of Southern Denmark and in the other regions of the country. They also represent a major cost for the regional health care system and require close coordination between health and social care actors to provide continuity of care

Despite the lack of counterfactual evidence on the impact of the implementation of the SAM:BO agreement, it can be assumed that it has contributed to achieving better performance in health care processes than the other Danish regions. In this regard, one important impact is the degree of patient satisfaction with respect to collaboration between health and social care and between primary care and secondary care, which is far above the national average. In addition, the average length of stay in a hospital is significantly lower in the region than the national average.

In order to exploit the full potential of the SAM:BO initiative, however, the following barriers have to be tackled:

- The organisational culture of health care professionals and their resistance to change makes them unwilling to adopt collaborative ways of working.
- Lack of financial support for education and training for care professionals.
- Legal issues relating to privacy and security for patient data sharing.
- Fragmentation of providers implementing the procedures developed under the SAM:BO agreement.

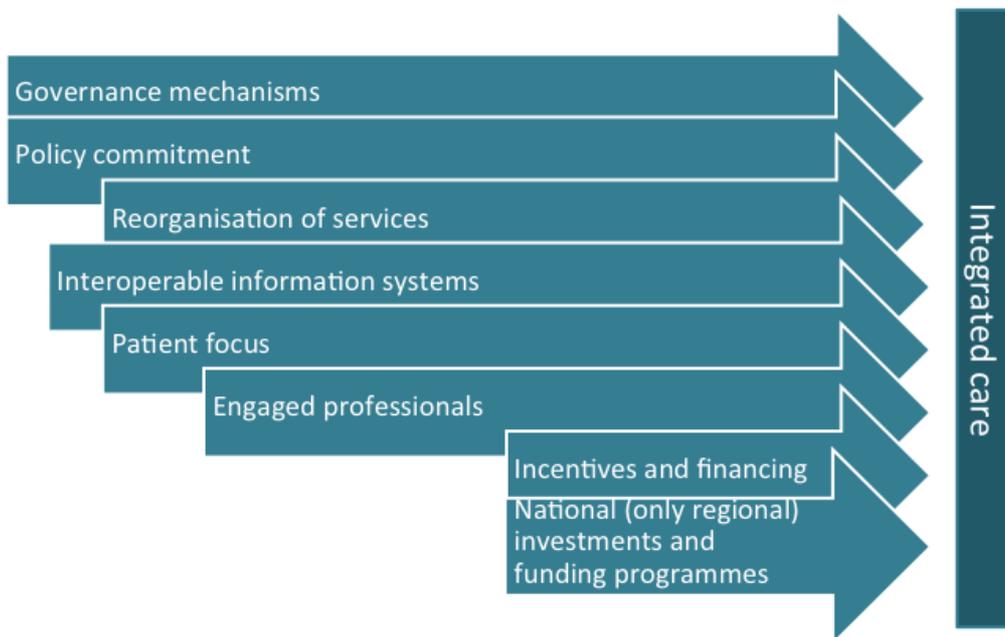
These barriers have been partly addressed by the SAM:BO facilitators who have pushed the development of integrated care services in the Region of Southern Denmark. Strong governance in terms of definition of procedures and standards has been a driver, as has effective policy commitment at regional and local level.

Furthermore, the existing national health information system is another important key driver of the initiative, as the SAM:BO procedures and ICT standards are ultimately based on this. Another important factor has been the re-organisation of the care service that constitutes the core activity of the SAM:BO agreement. It came with an emphasis on the patient, and aimed to stimulate structural changes in the regional care system to re-orientate the focus of care from the hospital to the patient.

Engagement of professionals is another important driver, although it appears to be more critical for the operationalisation of the SAM:BO initiative in local contexts as the latter requires full acceptance of organisational changes in care delivery and managerial processes.

National and regional investments do not appear to be significant drivers, bearing in mind that a large part of the ICT network infrastructure linking care actors and patients is already in place for the whole country. Incentives and financing, however, appear to be more a barrier than driver in this case.

Figure 11: SAM:BO Integrated care facilitators



Source: Authors' elaboration

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