Use of ICT in Finnish Social Welfare

Situation in 2011

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Abstract— **National level monitoring of adoption and use of information systems is becoming common practice, providing one set of indicators for success of e-health policies. This is not the case in social welfare, in spite of advancing national e-welfare policies. This article presents results of a national web-based survey of availability and use of electronic social services and social welfare client information systems in Finland. The survey conducted in 2011 was targeted at managers or IT-leaders of public and private service provider organizations. The results show that the majority of social welfare service providers in municipalities have a client information system (CIS). A half of the public social welfare organizations use mobile systems for some purposes. Private service providers use CIS's somewhat less than local authorities. Small private enterprises generally do not have CIS's. Not all social welfare employees have a personal workstation. Information exchange between organizations is limited to read-only. There is little exchange of information between information systems. Internet access is more commonly available. Providers of social welfare services generally have a website with information on their operations. Public service providers are more likely to have their own IT personnel than private service providers. The percentage of CIS investment costs out of total ICT costs varies greatly from one organization to another. Local authorities invest more in ICT than private service providers. The development of e-welfare services has been rather slow over the past decade. Results will be used in development of national information services for social care in Finland.**

Keywords-social care; social services; private social welfare service providers; ICT; electronic information management; client information systems.

I. INTRODUCTION

E-government agendas, regulatory bodies and Information and Communication Technology companies are participating in shaping what has been called an 'electronic turn' in social work and social care [1]. There is an increasing interest in the European Union, the World Health Organization and The Organisation for Economic Co-operation and Development as well as national authorities in monitoring the success of this turn [2][3], but the focus has been largely in e-health, not in e-welfare [4][5]. A recent literature review [6] searched five databases, such as JStor, Annual Reviews, Ebsco, PubMed and Nelli, and three journals, as Communications in Information Literacy, Journal of Social Work and British Journal of Social Work refereed electronic journals. The search was conducted combining the following search terms: social* AND informatics, social* AND information technology, social* AND information systems and social* AND knowledge management. The review revealed lack of studies of e-welfare adoption. According to the review, the studies focus mainly usability or use of applications in social services. Client's perspective or the social work processes have been ignored. Situation is the same in Finland: e-welfare execution and the use of ICT in social welfare has been monitored previously in 2001 [7]. Internationally, similar studies are rare [8].

However, e-government and e-welfare policies have advanced remarkably during the 10-year period in Finland: an act on Information Management Governance in Public Administration entered into force in 2011 [9]. An ambitious purpose of the law is to lay down provisions on information management governance in public administration and to ensure the interoperability of information systems. The Finnish Ministry of Finance is devising an overall enterprise architecture for public administration. The authorities in central and local government, as well as in social welfare, each plans and specifies their enterprise architecture in accordance the overall architecture. As a part of public services, the horizontal interoperability of client information systems in social welfare as well as the vertical interoperability of governmental information systems, needs to be improved. The client information must be available for the social welfare authorities wherever and whenever it is needed. The citizens have a right to seamless and user-friendly e-services and e-practices in social welfare. The aim of citizens' e-services is to increase service availability where and when needed and empower clients in their own care.

Many academic and practical models have been proposed to understand the maturity of digital government or e-government [10]. Often the stages of e-services, e-democracy or other e-practices development are described in these models. Initial stages concentrate on the availability of public information and on the possibility of handling administrative processes online. Later stages are characterized by for example vertical and horizontal system integrations, a homogenous network of public services and data mobility and sharing across public and private services.

The models and the assessment indicators have been criticized to be predominantly technical overshadowing crucial social aspects, such as power, interest groups, conflict and values [11].

Although interesting research of electronic recording in social welfare and social work practices are published [12][13][14][15][16][17], the need for the advanced research methods of social care informatics has been widely recognized [18][19][20][21]. Also a Declaration for action has been presented by twenty-three actors with a multidisciplinary background of research from 15 different European countries [5]. The Declaration of action is a significant effort to define social care informatics more rigorously as a field of research and as a domain of research investigations.

The purpose of this article is to present results of a national survey of electronic social services and social welfare client information systems currently available for key social services in Finland [22]. The questions that are studied in this paper are:

(1) What kind of e-services has been offered for citizens?

(2) What kind of client information systems and other professional e-tools the social welfare employees use?

(3) To what extent is information exchange between organizations possible in the social welfare services?

(4) How does the data management and resources used to ICT look like in social welfare sector?

The survey was conducted as part of the Government Programme for public e-services for citizens (SADe programme) [2] funded by the Ministry of Finance, where electronic service systems are developed for different public services, including the social welfare and health care sector. The survey was commissioned by the National Institute for Health and Welfare and conducted by Market-Visio Oy. The data concerning the availability and use of ICT in health care were collected simultaneously and the results were published in a separate report.

First the methods and data of the survey are presented. Then the main results of the survey are reported and two figures presented. Finally the conclusions, future works and implications of the study are presented in Section 4.

II. Methods and data

Data collection was carried out as semi-structured Webropol-questionnaire at the beginning of 2011. The questionnaire was modified from an instrument that has been used for mapping health care IT diffusion and use biannually since 2003, in order to maintain comparability of the data between sectors. The target group of the survey were all the chief information officers of the Finnish local government organizations organising social services, and private social service providers in Finland.

There were 336 municipalities and 35 municipal federations in Finland at the time of the survey. In 2010, there were 2 922 private organizations, associations or companies providing social services, which delivers almost a third of all social services in Finland. All organizations of the target group could not be reached.

In the social services part of the survey, 457 organizations providing social welfare services responded: 69 local authorities, 13 municipal federations (or similar bodies) and 373 private enterprises, associations or non-governmental organizations. Response rate (23 %) remained low despite the best efforts to acquire additional responses. However, organizations of all sizes responded to the survey. Geographically the respondents represent whole Finland. As far as public social services go, the responses cover some 63% of the population of Finland. The data includes all the statutory social welfare service tasks, such as child protection, social work, disability services, substance abuse services and services for older people. The responses from private service providers were mainly from organizations providing services for the elderly such as home services, housing services and institutional care.

The limited data do not allow for meaningful statistical inference. Therefore, this article focuses on the descriptive statistical analysis. The results are interpreted as a sample of the target group. The results are presented graphically by describing the values of the distributions and cross-tabulating.

III. Results

The survey asked what kind of public electronic services the respondents organize for citizens. Providers of social welfare services generally have a website with information on their operations. Half of the local authorities and one fourth of the private service providers had a facility for online feedback. One in four of the local authorities responding reported that they offered online services for citizens such as applications for daycare places or income support. In cases where citizens were offered a facility for e-transactions, about half of the clients choose to manage their affairs with the service provider in some other way. Anyhow eSocial care is about to come: online services are being developed in several projects around the country. Overall architecture for e-services was also asked by the local actors.

The survey demonstrates that the majority of providers of social welfare services in local government have a client information system. Two applications dominate the market, as shown in Figure 1. One-fifth of the public social welfare organizations use more than one CIS's, having different CIS for different services.
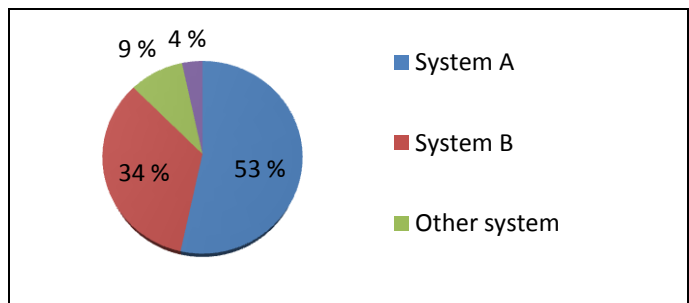

Figure 1.   The percentages of different client information systems used by public social service providers (% of respondents) n=89.
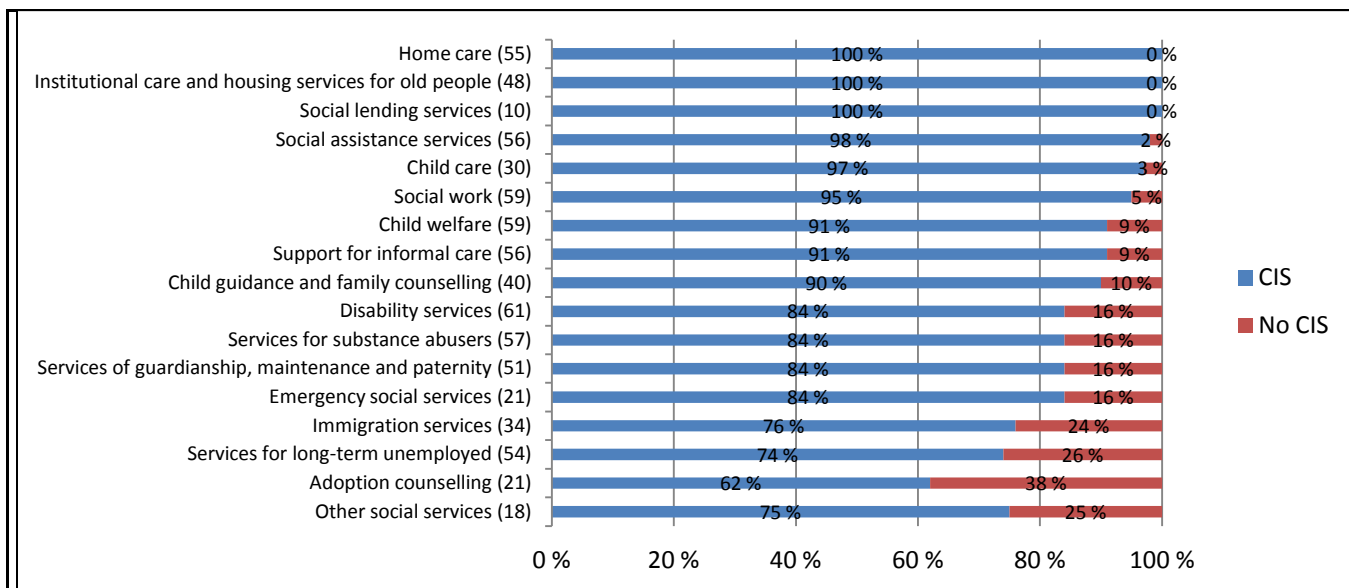
Figure 2.   The percentages of the different public social services using client information systems. The data of the public social service providers (% of respondents). The number of respondents is presented in the parenthesis after the name of the social service.

However, the possibilities for an employee in municipal social services to use these client information systems depends on the particular service and access rights of employees; not all of the branches of the social services have a client information system. For example a quarter of those working in adoption counseling or immigration services are missing the opportunity to record on client information systems. The percentages of the different public social services using or not using CIS's are presented in Figure 2.

Private service providers use client information systems somewhat less than local authorities, although there is great variation. Small private enterprises generally do not have information systems.

The contents, like classifications or data structures, of CIS's vary depending on software and organization. Requirements of an annual collection of national statistics are so far the only unifying element between the different systems.

The surveys reveals that local authorities commonly use national classifications for compiling the annual statistics for the National Institute for Health and Welfare, such as the statistical classifications in social services institutional and housing services notifications, child welfare services statistics classifications, and child support and maintenance statistics classifications. Private service providers use only the statistical classifications of care notifications.

The survey shows that information exchange between organizations is so far limited to read-only, and there is little exchange of information between information systems. Only one of five public service providers reported that digital exchange of information is possible. The results show that municipal social services have quite good access to the query system SOKY of the Social Insurance Institution (Kela) and the population register system of the Population Register Centre (VRK-database). The personal information of these systems is used by social workers in particular when granting

social assistance or assessing the clients' needs in the social work. Without electronic access to this data, the same information is acquired by telephone or in a printed form delivered by the client. Nearly two of five public service providers have organized an access to an electronic patient record of primary health care. Access to other information systems is considerably more rare.

Also, access to client information outside organizations is strictly limited to designated employees specially those working in social assistance, social work and child protection. In private organizations, employees rarely have access to outside information systems, and information exchange between systems is extremely rare.

Not all social welfare employees in the public or private sector have a personal workstation. Internet access is more commonly available. Almost half of the public social welfare organizations use mobile client information systems for some purposes, and the other half does not have the similar possibility. Private service providers, by contrast, have virtually no mobile client information systems. Social services professionals commonly use their own user identifier and password to identify themselves. Only a few of the public-sector organizations responding are using an official e-transaction card, a health care certificate card or other identifier device.

Public service providers are more likely to have their own IT personnel than private service providers (68 % vs. 38 %). Similarly, public service providers are more likely to have an information management strategy, an electronic archive plan, client documentation instructions for employees or data protection or information security instructions than private service providers. Altogether, there are significant deficiencies in social care information management in Finland.

The survey indicates that the online professional tools most frequently used by social services employees are the

Sosiaaliportti online portal [23], which publishes professional information for Finnish social workers, and the Intranets of their respective organizations. One in five public organizations and one in ten private ones make use of online learning environments.

The percentage of client information system investment costs out of total ICT costs varies greatly from one organization to another. Local authorities would seem to invest more in ICT than private service providers. Many respondents reported a percentage of less than 10 %, but some more than 50 %. ICT costs of the public service providers were total of about 40-50 million euro in 2010 based on an estimation derived from the results. It's about five percent of all ICT costs of municipalities in Finland. The majority of the respondents estimated that their total ICT costs would increase between 2011 and 2013.

IV. CONCLUSION AND FUTURE WORK

Limitations of the study include poor response rate, even if the sample was nationally representative. The data doesn't allow meaningful statistical inference and in order to illustrate the evolution of the ICT use. However, results can be compared to the situation in 2001 [7] and careful suggestions be made in light of key e-government and e-welfare policy goals to indicate most acute development needs.

There are websites and some facilities for online feedback, but well-designed online services offered for the citizens are still rare. Interestingly as many as 45 percent of the public social service providers announced to offer guidance via e-mail in 2001 and improving the e-services were mentioned as a key development area at that time. In the light of the findings, very rapid development hasn't taken place for the last ten years. Information about services is fragmented and access to them limited to certain times and places, with poor access to information required for applications. Regarding e-services for citizens as a significant e-welfare policy goal, the maturity level of the social welfare system seem yet to be low: the technology used is rather undeveloped and the distribution of the e-services has been limited to only a few social services. Social services are not yet available where and when needed, neither do they empower clients in their own care. More structured development of e-welfare services for citizens in SADe-program could start from a simple integrated service directory and electronic application of services with integration to national SOKY and VRK -databases.

Most of the client data can be recorded on the stationary CIS's engineered by two software houses. The logical level, such as classifications and data structures, of the CIS's is heterogeneous, which makes the information exchange between organizations difficult. Over the last decade the number of the municipalities, in which more than one CIS's are used, have increased. Despite of this software differentiation, there are yet some social service organizations, often with a limited number of clients, without any CIS's. One of the main e-welfare policy goals, the horizontal interoperability of client information systems in social welfare, is not yet possible. In order to achieve the

goal, it seems necessary to plan, specify and implement the overall information architecture also in social welfare.

Social welfare professionals have access to the Internet and they log in the applications with the user ID's of their own, but only a limited group of the municipal social welfare employees have an access to the two governmental data systems. However, compared to the situation in 2001, the possibility to use information systems outside the home organization has improved considerably. Particularly, an option to use the digital information recorded in the primary health care services in elderly and home care seems to easier nowadays than 10 years ago. At least in some services, the progress has been made in vertical interoperability, when considering the availability of data for professional use in social welfare. However, there are still plenty of challenges regarding usability and advanced technological solutions.

Altogether, several millions of euro are laid every year out to the ICT of the social welfare in Finland, but the foundations, such as an enterprise architecture and the information management, need to be better organized. Even if there are CIS's and access to some information systems, the technology is only as good as the management and organizational systems, within which it is placed [24].

In Finland, which is said to belong to the Scandinavian and universalistic model of welfare regimes [25], citizens' rights to social protection are rooted in the Constitution. The municipalities have a responsibility to organize social welfare services for the citizens. The services are mainly produced by public institutions, too. As a result of this, public service providers have larger number of clients and more financial and human resources to invest in ICT than private service providers, which explains most of the differences of the results between public and private sector.

The Finnish e-welfare services are probably placed mainly on the initial stages of the maturity assessment models of e-government. Despite the Finnish high level Government information society strategies, legislation and Action Programmes [26], the results of this study shows that the basic infrastructure and the management of e-social welfare in Finland is tenuous and deficient. From the point of view of the social welfare professionals and of their clients speaking about "network society" [27] or information society ring hollow.

The results can be leveraged in further specifying the needs, potential and capacity for implementing nationwide online client service functions in social welfare and health care and for implementing nationwide social welfare information system services. The results may also be used when designing local and regional solutions.

This study paints a partially fragmented and patchy picture of e-welfare implementation in Finland, with more ICT support for certain social work areas than others. With e-government strategies being increasingly implemented, importance of monitoring the progress and impacts of them is growing for evidence based management of e-welfare services. The emerging software architecture and the greater use of centrally devised e-assessment templates attempt to map the structure of social work and construct new "workflows". It is important to ensure that this IT-mediated

(re)construction will happen in a transparent way, where feedback is used to steer further development. Feedback needs to be collected not only to monitor speed of the policy implementation, but also the acceptance and added value to the clients, workers and service providers [1][8][11][13][21].

The future development needs for this survey lie in closer integration with the e-health survey to monitor integrated care, and in extending the data collection to usability, user satisfaction and cost and benefits of the ICT-mediated services. So far, there are no systematic mechanisms to measure the customer satisfaction or the accuracy of the social welfare service system neither in municipalities nor in private social service organizations in Finland.

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