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After-hours primary care for people with intellectual disabilities in The Netherlands—Current arrangements and challenges

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ABSTRACT

Background: Little is known about the organisation of after-hours primary care for people with intellectual disabilities (ID), and mainstream care is not self-evidently accessible or fit for this group. A first step towards improvement is a greater understanding of current after-hours primary ID care.

Aims: This study explores the organisation of and experiences with after-hours primary care provided for people with ID in The Netherlands.

Methods and procedures: A telephone survey amongst 68 care provider services including questions on organisational characteristics, problem areas, facilitators, and inhibitors.

Outcomes and results: A multitude of different after-hours primary care arrangements were found. Primary care physicians (PCPs) were involved in almost all care provider services, often in alliance with PCP cooperatives. Specialised ID physicians had differing roles as gatekeeper, primary caregiver, or consultant. Most problems during the after-hours arose regarding daily care professionals' competences. Facilitators and inhibitors of after-hours primary care were themed around complexity of, and need for, specialised care, multi-disciplinary team of professionals, communication and information, and prerequisites at organisational level.

Conclusions and implications: Evidence on specific after-hours health needs of people with ID is needed to strengthen collaboration between specialist ID care services and mainstream healthcare services to adequately provide care.

INTRODUCTION

After-hours primary care for people with intellectual disabilities (ID) concerns a vulnerable group in a fragile situation. After-hours care is provided outside the regular opening hours of daytime primary care practices and typically has a more urgent and ad-hoc character (Giesen, Smits, Huibers, Grol, & Wensing, 2011). Appropriate after-hours primary care for people with ID is important for their health, safety, and access to hospital care. However, little is known about the current provision of after-hours primary care to this group, and a plea has been made for high quality health-services research (Balogh, Ouellette-Kuntz, Bourne, Lunskey, & Colantonio, 2008). In general, healthcare for people with ID is challenging. Firstly, compared to the general population, people with ID have greater health needs and disparities, and they experience barriers when seeking access to healthcare services, acute or otherwise (Hayden, Kim, & DePaepe, 2005; Krahn, Hammond, & Turner, 2006; Perry et al., 2014; van Schrojenstein Lantman-de Valk & Walsh, 2008). Secondly, primary care physicians (PCPs) experience challenges in relation to communicating with people with ID and to knowledge about special health needs (Hogg, 2001; Iacono, Davis, Humphreys, & Chandler, 2003; Mastebroek, Naaldenberg, Lagro-Janssen, & van Schrojenstein Lantman de Valk, 2014). Thirdly, mainstream health systems often lack the required knowledge, experience, and accessibility to provide quality healthcare for people with ID (Bradbury-Jones, Rattray, Jones, & MacGillivray, 2013). These issues pose potential risks to good quality after-hours ID care and demonstrate the necessity to evaluate its current state. In The Netherlands, mainstream after-hours primary care is not self-evidently accessible or fit for people with ID. Many different actors are involved in Dutch after-hours primary care. Table 1 provides a quick overview of these actors. For the general population, after-hours primary care is provided by PCP cooperatives: regional large-scale care organisations where PCPs are supported by additional staff. Evaluation of these cooperatives shows they are accessible, efficient, safe, well-organised, and of high quality (Giesen et al., 2011). People with ID living in residential settings or community houses receive primary care facilitated by specialised care provider services, where either PCPs or ID physicians provide primary care during office hours. This depends on the care provider services' vision on medical care and on their collaboration with local healthcare services like PCP practices and cooperatives. As a result, each care provider service has its own after-hours arrangements with PCPs, specialised ID physicians, and additional staff like residential nurse gatekeepers who manage access to further care. There is little insight into the organisation and efficacy of after-hours primary care for people with ID in residential setting. Furthermore, experiences suggest that after-hours primary care within care provider services in The Netherlands is sometimes of poor quality and constrained by financial restraints. A greater understanding of current after-hours primary ID care will provide insight into opportunities for improvement. The aim of this study is to explore the after-hours primary care provided by care provider

services for people with ID in terms of organisational characteristics, problem areas, facilitators, and inhibitors.

[TABLE 1]

2. METHODS

This study employed an explorative telephone survey among Dutch care provider services for people with ID, focusing on their provision of after-hours primary care.

2.1. Recruitment and respondents

Databases of the Dutch association of care provider services (VGN) and the Dutch association of ID physicians (NVAVG) were used to identify care provider services across The Netherlands. Their executive boards received a written invitation to participate and were asked to identify a respondent who was best informed about the after-hours arrangements and involved in practice. These were often ID physicians. From October 2013 to May 2014, 96 of the 120 identified services were contacted by telephone. Of these, 22 were not included because they were not accountable for provision of after-hours primary care to their residents, consequently 74 were eligible. Two were excluded because respondents were unable to provide the desired information, and four refused to participate because of time constraints or lack of interest. Resulting in a total of 68 (92%) care provider services for people with ID participating in this study.

2.2. Procedure and questionnaire

A telephone survey was chosen over a postal or electronic survey to maximise the response rate and to minimise measurement bias (Jones, Baxter, & Khanduja, 2013). Surveys were conducted by the first author and two trained research assistants. During the telephone interviews, answers were entered into the online survey application LimeSurvey by the interviewer. Answers to the open-ended question were summarised and read back to the respondents after entry to allow a member-check. With the respondents' permission, the phone calls were audio-recorded for future reference and validation. The telephone calls took 34 min on average (range 17–60 min). The questionnaire was based on: (1) a survey previously used in general after-hours research (Huibers, Giesen, Wensing, & Grol, 2009), (2) literature on after-hours primary care in the general population and healthcare for people with ID in general, and (3) interviews with key stakeholders (i.e., policymakers, ID physicians, nurses, PCPs involved in PCP cooperatives, and researchers on after-hours primary care). The key stakeholders reflected on a selection of topics and provided feedback on the construction of the questions and the answer categories. The first 20 surveys were used as a pilot to test the clarity of the questions and the suitability of the answer categories. This resulted in minor changes in construction, wording, and clarification of terminology. Data from the pilot were included in the final analysis. The final questionnaire included the topics presented in Appendix A and contained a combination of nine multiple choice and open-ended questions on organisational characteristics, a ranking of 17 problem areas on elements of quality of care, and two open-ended questions on facilitators and inhibitors. The Ethical Research Committee of the Radboud university medical center was consulted and concluded that this study does not fall within the remit of the Dutch Medical Research Involving Human Subjects Act [Wet Mensgebonden Onderzoek] (file number 2015-1967).

2.3. Analysis

Organisational characteristics were analysed by descriptive statistics, and open-ended questions were quantified through grouping of concepts. The provision of after-hours primary care was characterised by means of organisational elements— hereafter called arrangements – that could overlap. The arrangements comprised the analysis of six questions with dichotomous options (yes/no): (1) nurse gatekeeper employed by a care provider service, (2) PCP cooperative, (3) ID physician as primary caregiver, (4) ID physician consultation service for PCP cooperative, (5) external PCP care, and (6) ID physician as gatekeeper for the PCP cooperative. Problem areas were scored on a 5-point scale, ranging from no problem (1) to a major problem (5). We categorised the scores 2–5 as problematic, with scores 4–5 as highly problematic. The problem areas were assorted using means, because it is common practice to assume that Likert-type categories constitute interval-level measurement (Jamieson, 2004). The effect of the arrangements on the scores on the problem areas were tested with Mann-Whitney U (IBM SPSS version 20) due to the presumed non-normal distribution. We tested only the arrangements that were found to be distinctive. A p-value of 0.05 was considered statistically significant. We analysed the open-ended questions on facilitators and inhibitors by means of thematic qualitative analysis. Data were independently coded by two trained researchers (MH and TF) in ATLAS.ti 7 (Scientific Software Development). Codes were discussed until consensus was reached and grouped into themes.

3. RESULTS

3.1. Organisational characteristics

Of the total of 68 respondents, 35 (51%) were physicians, of whom 29 were specialised ID physicians (43%), two PCPs (3%), two general medical physicians (3%) and two physicians in a consultant role (3%). Twenty-six respondents (38%) were in a management position, five were nurses (7%), and two were behavioural therapists (3%). Participating care provider services provided after-hours primary care to a range of 50–7,000 people with ID. Thirty care provider services (44%) provided after-hours primary care for other than their own residents; for example: people with ID in their visiting disability support services or residents of other care provider services for people with ID, and elderly people in nursing homes.

[TABLE 2]

3.1.1. Process of after-hours primary care

The initial triage, the determination of urgency of healthcare needs, was performed by PCP cooperatives (n = 37, 54%), residential nurses (n = 33, 49%), and residential physicians (n = 11, 16%). We identified four specific care procedures that were different from procedures in use for plain medical health problems, and included for example a direct line to a behavioural therapist, ID physician, or neurologist. Specific care procedures existed for: (1) those with challenging behaviour in 31 care provider services (46%), (2) problems which comply with the Dutch Psychiatric Hospitals Act in 23 (34%), (3) epilepsy in 13 (19%), and (4) medication errors in seven (10%). At twenty care provider services (29%) home visits during after-hours

were routinely made. Of the remaining 48 care provider services where home visits were not routinely made, 11 (23%) indicated to experience problems with logistics and accessibility of primary care. Thirty-seven care provider services (54%) stated that they were currently considering changes in their after-hours care, including contracting a PCP cooperative or providing an ID physician consultation service for PCP cooperatives. Sixty-two care provider services (91%) had written documentation on after-hours care procedures, such as contracts with PCP cooperatives and procedural guidelines on after-hours care.

3.1.2. Arrangements

A myriad of professionals, medical and non-medical, were involved in after-hours primary care including: residential nurse gatekeepers in 32 care provider services (47%); PCPs in 67 care provider services (99%), of which 52 were involved via a contracted PCP cooperative; and 44 care provider services (65%) employed ID physicians, of whom 29 provided after-hours care. The ID physicians' roles in after-hours care ranged from acting as primary caregiver to consultant and gatekeeper. Non-medical professionals involved in after-hours primary care included managers ($n = 60$, 88%), receptionists ($n = 6$, 9%), daily care professionals ($n = 66$, 97%), and behavioural therapists ($n = 37$, 54%). Table 2 shows the arrangements based on organisational elements in order of frequency of use. The most frequently used arrangements were: PCP cooperative, residential nurse gatekeeper, ID physician as primary caregiver, and ID physician consultation service for PCP cooperatives. The results showed that there were 21 different combinations of concurrent arrangements varying from zero ($n = 1$, 1%) to five ($n = 1$, 1%) different actors per care provider service. PCP cooperatives were involved in 52 care provider services (77%), of which 79% provided care to all residents of the care provider service. Twenty-one care provider services (31%) provided an after-hours ID physician consultation service to PCP cooperatives. In eight of those care provider services, the consultation service extended beyond their own residents to all people with ID in the region.

3.2. Problem areas

Table 3 presents the 17 problem areas in order of frequency, with the three most problematic areas being: competence of daily care professionals (84%), health information exchange (77%), and PCPs' competence in ID care (72%). The top three areas which scored as highly problematic were: competence of daily care professionals (24%), workload of residential physicians (19%), and access to medical records (16%). Table 4 presents the significant differences in problem areas between the arrangements in after-hours primary care. Regarding contact with PCP cooperatives, care provider services with a residential nurse gatekeeper or ID physician as primary caregiver showed significantly more problems ($p = 0.016$ and 0.013 , respectively), whereas care provider services that work with a PCP cooperative show significantly fewer problems ($p = 0.004$). Care provider services with a PCP cooperative showed significantly fewer problems with telephone accessibility and response time of physicians ($p = 0.012$ and 0.036 , respectively). Care provider services with an ID physician as primary caregiver showed significantly more problems with the competence of ID physicians ($p = 0.032$).

[TABLE 3] [TABLE 4]

3.3. Facilitators and inhibitors

Qualitative analysis of facilitators and inhibitors of after-hours care within care provider services for people with ID resulted in four main themes. The first theme addressed the complexity of, and the need for, specialised care for people with ID. Restriction to more homogeneous groups (e.g., restriction to only the subgroup of people with mild ID) was considered a facilitator, whereas the absence of specialised knowledge on care for people with ID was seen as an inhibitor. The second theme concerned the multidisciplinary nature of the team of healthcare professionals. Competent, motivated, approachable, and accessible professionals who cooperate with other disciplines were seen as facilitators. Inhibitors mainly included the lack of experience of the PCP cooperatives with, and attitude towards, people with ID. The third theme related to communication and information. Facilitators of this theme were collaboration, adequate (health) information exchange, and a clear care procedure. The inhibitors were the opposite of these facilitators: the absence of information exchange and communication between healthcare professionals, person with ID, and family. The fourth theme focused on prerequisites at organisational level. Adequate human resource management, continuity of care, and telephone accessibility were considered facilitators. In addition, the use of public healthcare services such as PCP care and community health services was seen as facilitating. In contrast, suboptimal human resource management, decentralised and poorly incorporated locations, and imbalance in cost-effectiveness were seen as inhibitors.

4. DISCUSSION

This study aimed to explore current after-hours primary care for people with ID offered by care provider services, and explored facilitators and inhibitors in The Netherlands. Noticeably, there was a large variety in the way after-hours primary care was provided, and the problem areas experienced differed between arrangements. PCPs were involved in the afterhours primary care in almost all cases, often in alliance with a PCP cooperative contracted to provide primary care to some or all residents. Involvement of specialised ID physicians was overall found to be facilitating, although their role within the after-hours care differed. After-hours primary care differs from daytime primary care and asks for special competencies (Giesen et al., 2011), which in case of after-hours ID care were problematic for both ID physician and PCP. Results showed that non-medical staff members were often involved in after-hours primary care. The competence of daily care professionals and the exchange of health information in after-hours primary care were found to be problematic; this is in line with previous findings from a study exploring barriers in the provision of PCP care (Iacono et al., 2003; Mastebroek et al., 2014). The training of daily care professionals might not provide them with the medical background to adequately take responsibility and assist in the health information exchange between the people they support and medical staff.

4.1. Implications/future research

This study responds to the plea for more high quality health-services research for people with ID. The complex care and needs of people with ID require flexible approaches with regard to care provision and combined expertise in multidisciplinary collaboration networks. It is important in these networks to establish

close partnerships between specialist, primary, and public healthcare services; such as frequent consultation of each other's expertise and personal contact between PCPs at the cooperatives and ID physicians. However, our findings revealed poor contact between the care provider services and PCP cooperatives; this supports previous research indicating inefficient connection between different medical professions in primary ID care (Bekkema, De Veer, & Francke, 2014). Collaboration between specialist, primary, and public healthcare services is essential for developing care that is responsive and effective in tailoring care to meet the needs of people with ID (Hannon, 2003). Evidence based models on sustainably establishing these collaboration networks is needed. Competencies of daily care professionals, PCPs and specialised ID physicians were found to lack in supporting and providing after-hours primary care to people with ID: daily care professionals lack qualification and training on health supporting skills, PCPs lack specific knowledge on ID and ID physicians lack knowledge on emergency care. To know what competencies are needed and to get all expertise adequately tuned in to providing good quality after-hours care to people with ID, a more in-depth understanding of their health needs in after-hours care is necessary.

4.2. Strengths and limitations

To our knowledge, this is the first study on after-hours primary care for people with ID. Therefore, the questionnaire was specially developed as described in the method section, and consequently topics that could be relevant in an international setting may have been missed. Participating care provider services ranged from small ($n = 50$) to large ($n = 7000$), thereby accounting for different experiences and arrangements in after-hours care. More than half of these care provider services planned to change their after-hours care provision. This implies dissatisfaction with current arrangements and makes this study a timely contribution to the knowledge on this topic. The profession of specialised ID physicians is unique to The Netherlands, making this study hard to generalise beyond the Dutch setting. However, it provides expert opinion and rich insights on the topic, and, as an additional strength of our study, respondents represented views from different professions within care provider services. Thereby it provides input for discussion on after-hours primary care in other countries as well. The focus of this study was narrowed down to specialist care provider services. Future research addressing the experiences of PCP cooperatives could provide additional insights on challenges in after-hours primary care for people with ID.

5. CONCLUSIONS

Specific after-hours health needs of people with ID require more attention in order to adequately provide care for this group. After-hours primary care is important for health, safety, and appropriate access to hospital care. This study suggests that healthcare professionals need to cooperate to combine expertise in collaboration networks to be able to provide quality after-hours care for people with ID.

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[APPENDIX A.]

REFERENCES

- Balogh, R., Ouellette-Kuntz, H., Boume, L., Lunskey, Y., & Colantonio, A. (2008). Organising health care services for persons with an intellectual disability. *Cochrane Database of Systematic Reviews*, 4 <http://dx.doi.org/10.1002/14651858.CD14007492/pdf>
- Bekkema, N., De Veer, A., & Francke, A. (2014). Caring for patients with intellectual disabilities. [Dutch]. *Huisarts en Wetenschap*, 57(5), 259.
- Bradbury-Jones, C., Rattray, J., Jones, M., & MacGillivray, S. (2013). Promoting the health, safety and welfare of adults with learning disabilities in acute care settings: A structured literature review. *Journal of Clinical Nursing*, 22(11–12), 1497–1509.
- Giesen, P., Smits, M., Huibers, L., Grol, R., & Wensing, M. (2011). Quality of after-hours primary care in The Netherlands: A narrative review. *Annals of Internal Medicine*, 155(2), 108–113.
- Hannon, L. (2003). Secondary health care for people with learning disabilities. *Nursing Standard*, 17(46), 39–42.
- Hayden, M. F., Kim, S. H., & DePaepe, P. (2005). Health status, utilization patterns, and outcomes of persons with intellectual disabilities: Review of the literature. *Mental Retardation*, 43(3), 175–195.
- Hogg, J. (2001). Essential healthcare for people with learning disabilities: Barriers and opportunities. *Journal of the Royal Society of Medicine*, 94(7), 333–336.
- Huibers, L., Giesen, P., Wensing, M., & Grol, R. (2009). Out-of-hours care in western countries: Assessment of different organizational models. *BMC Health Services Research*, 9, 105, 110.1186/1472-6963-1189-1105.
- Iacono, T., Davis, R., Humphreys, J., & Chandler, N. (2003). GP and support people's concerns and priorities for meeting the health care needs of individuals with developmental disabilities: A metropolitan and non-metropolitan comparison. *Journal of Intellectual and Developmental Disability*, 28(4), 353–368.
- Jamieson, S. (2004). Likert scales: How to (ab)use them. *Medical Education*, 38(12), 1217–1218.
- Jones, T. L., Baxter, M. A., & Khanduja, V. (2013). A quick guide to survey research. *Annals of the Royal College of Surgeons of England*, 95(1), 5–7.
- Krahn, G. L., Hammond, L., & Turner, A. (2006). A cascade of disparities: Health and health care access for people with intellectual disabilities. *Mental Retardation and Developmental Disabilities Research Reviews*, 12(1), 70–82.
- Mastebroek, M., Naaldenberg, J., Lagro-Janssen, A. L., & van Schrojenstein Lantman de Valk, H. (2014). Health information exchange in general practice care for people with intellectual disabilities – A qualitative review of the literature. *Research in Developmental Disabilities*, 35(9), 1978–1987.
- Perry, J., Felce, D., Kerr, M., Bartley, S., Tomlinson, J., & Felce, J. (2014). Contact with primary care: The experience of people with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, 27(3), 200–211.
- van Schrojenstein Lantman-de Valk, H. M., & Walsh, P. N. (2008). Managing health problems in people with intellectual disabilities. *BMJ (Clinical Research Ed.)*, 337, a2507.

TABLES AND APPENDIX

Table 1

Key professions and organisation in Dutch after-hours care for people with ID.

Primary care physician (PCP)	Provides the first contact for a person with a health concern and the treatment of varied medical conditions, not limited by diagnosis, cause, or organ system, and serves as a gatekeeper to secondary hospital care.
PCP cooperative	Regional large-scale non-profit organisation of after-hours primary care where PCPs are supported by nurses, management staff, and chauffeurs, and take turns being on duty for the patient population of all participating PCPs.
ID physician	Medical specialist, unique to The Netherlands, who is trained postgraduate to provide medical care for people with ID and commonly is employed by care provider services.
Care provider service	Non-profit organisation providing both residential and community living arrangements for people with ID. Arrangements can be continuous or with visiting support of multidisciplinary nature, including daily care professionals, nurses, management staff, behavioural therapists and ID physicians.
Behavioural therapist	Therapist with an academic degree in pedagogy sciences or psychology employed by care provider services.
Nurse gatekeeper	Vocational nurse trained at Community College or registered nurse trained at University of Professional Education, who serves as a gatekeeper employed by care provider services.
Daily care professional	Support staff trained in assistant nursing or pedagogic at vocational education in Community College and employed by care provider services. Tasks include assisting people with ID in personal, daily, and social care and home health aides.
Management	Management of teams of daily care professionals, medical staff (e.g., physician, behavioural therapist, nurse and daily care professional), and finances employed by care provider services.

Table 2

Arrangements of after-hours primary ID care within care provider services (n = 68).

	n (%)
PCP cooperative	52 (77)
for all residents	41 (79)
for some residents	11 (21)
Residential nurse gatekeeper	32 (47)
ID physician as primary caregiver	21 (31)
ID physician consultation service for PCP cooperative	21 (31)
for residents	13 (62)
for total region	8 (38)
Contracted external PCP care	13 (19)
ID physicians as gatekeeper for PCP cooperative	3 (4)

Table 3

Problem areas in after-hours ID care within care provider services.

	n	Mean	Problematic n (%)	Highly problematic n (%)
Competence of daily care professionals	68	2.69	57 (84)	16 (24)
Health information exchange	66	2.36	51 (77)	7 (11)
Competence of PCPs in ID care	58	2.24	42 (72)	8 (14)
Workload of residential physicians	32	2.16	22 (69)	6 (19)
Access to medical records	61	2.15	33 (54)	10 (16)
Satisfaction of daily care professionals	67	2.01	45 (67)	1 (1)
Contact with PCP cooperative	50	2.00	30 (60)	5 (10)
Efficiency	65	1.97	38 (58)	5 (8)
Response time physicians	58	1.93	32 (55)	5 (9)
Improper use of care	68	1.87	39 (57)	4 (6)
Triage	65	1.86	34 (52)	4 (6)
Contact with hospital	60	1.85	31 (52)	7 (12)
Clarity of process to daily care professionals	68	1.66	32 (47)	4 (6)
Contact with pharmacy	62	1.65	28 (45)	3 (5)
Competence of ID physicians	37	1.62	18 (49)	1 (3)
Response time residential nurses	36	1.39	11 (31)	0
Telephone accessibility	67	1.36	18 (27)	1 (1)

Problematic defined as 2-5 and highly problematic as 4-5 on a scale ranging from no problem (1) to a major problem (5).

Table 4

Significant effects of arrangements on problems experienced (Mann-Whitney U).

	Residential nurse gatekeeper			PCP cooperative			ID physician as primary caregiver			ID physician consultation service for PCP cooperative		
	Yes (n = 32)	No (n = 36)	p	Yes (n = 52)	No (n = 16)	p	Yes (n = 21)	No (n = 47)	p	Yes (n = 21)	No (n = 47)	p
Contact with PCP cooperative	2.41	1.68	0.016	1.87	4.00	0.004	2.67	1.85	0.013			
Telephone accessibility				1.24	1.75	0.012						
Response time of physicians				1.79	2.31	0.036						
Competence of daily care professionals							3.24	2.45	0.006	3.24	2.45	0.007
Competence of ID physicians							1.86	1.31	0.032			
Triage							2.24	1.68	0.044	2.24	1.68	0.027

Mean of scorings on a scale ranging from no problem (1) to a major problem (5).

Appendix A. Questionnaire topics and questions

Topics	Question
Organisational characteristics	1 Profession of respondent (open-ended question)
	2 Size of care provider service (open-ended question)
	3 Professionals involved (multiple choice)
	4 Arrangements (multiple choice): (1) nurse gate keeper, (2) PCP cooperative, (3) ID physician as primary caregiver, (4) ID physician consultation service for PCP cooperative, (5) external PCP care, and (6) ID physician as gate keeper for the PCP cooperative
	5 Triage* (multiple choice)
	6 Deviating care pathway (multiple choice): (1) behavioural problems, (2) Dutch Psychiatric Hospitals Act, (3) epilepsy, and (4) intake of medication
	7 Logistics and accessibility to care (multiple choice)
	8 Planned changes (open-ended question)
	9 Policy documents (open-ended question)
Problem areas	1 Competence of daily care professionals (5-point scale)
	2 Improper use (5-point scale)
	3 Clarity for daily care professionals (5-point scale)
	4 Satisfaction of daily care professionals (5-point scale)
	5 Health information exchange (5-point scale)
	6 Telephone accessibility (5-point scale)
	7 Triage* (5-point scale)
	8 Access medical records (5-point scale)
	9 Competence of PCPs in ID care (5-point scale)
	10 Competence of ID physicians (5-point scale)
	11 Workload physicians (5-point scale)
	12 Efficiency (5-point scale)
	13 Response time physicians (5-point scale)
	14 Response time nurses (5-point scale)
	15 Contact with PCP cooperative (5-point scale)
	16 Contact with hospital (5-point scale)
	17 Contact with pharmacy (5-point scale)
Best practices	1 Facilitators (open-ended question)
	2 Inhibitors (open-ended question)

*The sorting out and classification of patients or casualties to determine priority of need and proper place of treatment.