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Challenges in health care services for refugees in Cologne, Germany: A providers' perspective using a mixed-methods approach

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ABSTRACT

Since the peak of refugees arriving in Germany in 2015, existing health care structures have faced major challenges. The city of Cologne developed ad-hoc new structures to address these challenges, including a separate department for refugee medicine. We examine the processes of health care provision and perceived challenges in the health care of refugees in Cologne. We used a mixed-methods approach using 20 semi-structured interviews and analyzed descriptively a database including 353 datasets with socio-demographic, health-related and resource-related information to link with the results of qualitative data. Our qualitative data revealed several challenges in providing health care to refugees. Challenges included receiving approval of health care services and medical aids by the municipality, communication and cooperation between the actors in care of refugees, undersupplies in mental health care and addictive disorders as well as improper housing conditions for refugees with mental health issues, psychiatric disorders or elderly persons. Quantitative data confirmed the challenges in approving health care services and medical aids, but no valid statement could be made about communication and cooperation. Undersupplies for mental health issues were confirmed, the gap for treatment of addictive disorders shows a divergence within the database. Improper housing conditions for mentally ill persons were reflected, for elderly persons this did not appear in data. In conclusion, analyzing the challenges in care can stimulate necessary changes to improve health services for refugees locally, while others are beyond the control of the local authority and require legislative and political action.

1. Introduction

Refugees are more vulnerable to poor health than the host population for a variety of reasons leading to increased morbidity (Bühring and Gießelmann, 2019; Schröder et al., 2018; Zinka et al., 2018; United Nations 2016; Brandt et al., 2019; Castillejos et al., 2018; Fortin et al., 2005). Freedom of movement and the right to health are recognized Human Rights and regulated in international cartas (United Nations 2016; Federal Ministry of Justice 2017; UNHCR 1951; United Nations 1948; Razum et al., 2016; Mohammadzadeh et al., 2016). For Germany the aspect of health care is covered under the Asylum Seekers Benefits Act (Federal Ministry of Justice 2017), which regulates the social and medical entitlements of asylum seekers. Refugee care is organized partially in parallel to the general health care system and individual medical care includes treatment of acute illnesses and pain conditions for recovery, improvement or for the relief of illnesses or consequences of illness (Federal Ministry of Justice 2017; Bozorgmehr et al., 2016a). All medical services beyond emergency care require cost approval before treatment can be initiated and have to be requested by the health service provider on a case-by-case basis from government representatives (Federal Ministry of Justice 2017; Bozorgmehr et al., 2016a).

The responsibility for health care (and other needs) of asylum seekers in Germany falls under the legislation of the federal states and hence is structured regionally with different procedures and specifications by federal state and by cities (Razum et al., 2016; Mohammadzadeh et al., 2016; Bozorgmehr et al., 2016a; Bozorgmehr et al., 2016b) resulting in a multiplicity of different regulations with regards to access and coverage regulations and processes. This situation has been a matter of

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controversial debate over a long period.

The City of Cologne, located in the federal state North Rhine Westphalia (NRW), received approximately 5% of the assigned refugees of NRW (BaMF 2019). In NRW 21% of all refugees arriving in Germany are located according to a federally agreed distribution system, the so-called "Königsteiner Schlüssel" (Razum et al., 2016; BaMF 2019). In 2018, 10.216 refugees were recorded in Cologne; in 2019 this figure dropped to 7.460 (Wächter-Raquet, 2016). The refugees were provided shared accommodations and emergency care by the municipality with the support of three major NGO operators that managed the accommodation.

Cologne set up ad hoc new structures namely a newly established department for Refugees Medicine (DepRM) within the Public Health Department (PHD). It was specifically responsible for the support in delivery of medical care for refugees, starting officially in 2016. This set-up made Cologne one of the pioneers for this model of care, as these were the first structures of their kind regarding health care delivery for refugees.

Although the number of asylum seekers has steadily decreased since the peak in 2015,[1] it remains problematic to calculate the needs of refugees in advance (Borgschulte et al., 2018; European Centre for Disease Prevention and Control (ECDC) 2018). Over the last 2 decades countries of origin varied as did the reasons for migrating (e.g. war, climate crisis), or the seasons during which migration takes place which implies a changing refugee population with changing needs. However, the processes within the supply structures and especially their stakeholders influencing care are less subject to change.

Therefore, optimizing care requires further exploration of coordination, structures, processes and cooperation within a context of both dynamism and stability. Before and during the transition from specialized services for asylum-seekers to regular care, the effectiveness of the care structures is important for vulnerable patients (Razum et al., 2016). Previous medical care and medical aids could only be accessed when granted by Social Welfare Departments (SWD) of the city of residence. This process caused delays and occasional unjustified rejection, which has been improved by issuing an electronic health insurance card by the statutory health insurance for refugees to clarify the issue of health care funding (Razum et al., 2016; Wächter-Raquet, 2016; Bozorgmehr and Razum, 2015; Straßner et al., 2019). However, barriers like communication, interpretation of statements, and cultural differences remain (Schröder et al., 2018; Borgschulte et al., 2018; Straßner et al., 2019; Walter and Matar, 2018; United Nations 2017). Despite the described difficulties the first post arrival period is covered by regulations, more difficulties arise during the subsequent phases, in particular for people with chronic or more complex health conditions. Little is known regarding the challenges refugees face within this novel system in Cologne.

We analyze the current structures and processes in health care provision for refugees, to identify current challenges and eventually reorganization and adjustment of processes under local control. Specifically, the study 1) examines reasons for perceived challenges in care , 2) describes which actors are involved in the care and how the cooperation is organized and 3) reports on undersupplies in particular areas.

2. Material and methods

2.1. Procedure

We used an exploratory mixed methods approach with two data sources: 1) qualitative interviews with stakeholders in refugee care and 2) a database containing administrative and medical routine data about refugees registered at the DepRM. First, qualitative data was collected and crosschecked with the findings of the database. This approach was intended to check to what extent the statements from qualitative data were reflected in the quantitative data.

2.2. Setting

The study was conducted within the DepRM, one of the 16 departments within the PHD of Cologne. It consists of doctors and social workers and its function is to support the agencies managing refugee accommodations, to advise other actors in the city administration (for example Housing Department) and to organize the provision of health care for refugees in cases with urgent medical needs. The DepRM visits refugee accommodations and, in direct interaction with the staff there supports and organizes referrals or linkage to medical care facilities. In addition to the staff of the refugee accommodation, other offices or hospitals also refer cases.

2.3. Qualitative sampling and data collection

2.3.1. Professionals

To gain information regarding processes of health care provision and perceived challenges, we conducted interviews with purposively identified and approached professionals (>18 yrs.) working in refugee accommodations. They were recruited according to the following selection criteria: working in refugee accommodations as nursing staff, social workers or as staff with advisory function in health care for refugees and preferably had experience in dealing with refugees with complex health problems. Professionals that were not involved in health care of refugees were excluded.

Professionals were recruited through contacts of the DepRM to institutions operating the refugee accommodations. All institutions involved in refugee care were contacted. Line managers permitted the staffs' participation and recommended employees. Half of the interviewees were recommended by the PHD and contacted by email or telephone. Additional participants were contacted by snowball principle. Recruiting was done sequentially and sampled in such way to represented all involved professions and accommodation institutions. 20 professionals from managing and operating organizations that fall within the administrative boundaries of Cologne were approached. 18 persons consented, two did not respond.

The professionals were interviewed either in their own offices, within the accommodations or in a coffee house. The participants received the consent form, the information leaflet and a short summary of the study. Informed consent was taken from all participants. The researcher used audio recording to collect the data.

2.3.2. Refugees

To complement and compare the perspective of the stakeholders with the perspective of refugees, a small number of refugees were approached according to the following selection criteria: living in Cologne, 18 years or above, be able to communicate in German, English or with a language interpreter. They also needed have experienced any kind of perceived challenge in health care in order to give relevant information concerning the research question. Refugees were recruited through contact with professionals. Three refugees were approached and two consented. Themes identified in the transcripts of these refugees revealed no additional new information compared to the interviews with the professionals. Hence, no further refugees were contacted for interview. The interpreter was working for the municipality of Cologne and joined the interview via video telephony. Informed consent was taken and interviews were audio recorded in a place of choice by the refugees.

2.3.3. Data collection

Participants filled in a socio-demographic questionnaire including questions on gender, age, work experience in years, profession, actual

[1] With the exception of the recent months with the arrival of war refugees from Ukraine

role in the care of refugees, and characterization of the accommodation prior to the interview.

A semi-structured interview guide was used for the participants as well as refugees (see supplemental materials). The following subject areas were raised in open questions:

1 First, the professionals were asked about their work experience in the care of refugees. Refugees were asked about their general experiences during the time in Cologne.
2 Exploring communication and cooperation processes, professionals were asked how the care pathways are organized for the refugees under their respective responsibility. Refugees were asked about their own experience in referral and care pathways in Cologne.
3 Next experienced problems in organizing health care for refugees were addressed to generate an overview of challenges in the health care of refugees. Refugees were asked if they had experienced any lack or difficulties regarding in their own health care.
4 To highlight the main challenges, the professionals were asked about similarities between the problems mentioned before and how they could explain them. Refugees were asked if they had noticed similar problems among other refugees.
5 Both professionals and refugees were asked how these problems affected them.
6 As closing questions, professionals and refugees were asked for ideas of improvement in health care for refugees.

The interview guide was pre-tested and discussed in an interdisciplinary research colloquium on migration and in a research workshop for qualitative health care science.

All interviews were carried out by the first author. On average interviews lasted 30–45 min (range 20 to 90 min).

2.3.4. Data analysis

Data analysis was performed doing content analysis. Interviews were transcribed word by word and coded inductively with MAXQDA Software (VERBI 2018). One interview took place with a language interpreter. In here, only the translated parts in German were transcribed by the first author. The inductive coding process used open coding, axial coding and selective coding (Creswell et al., 2018). First, the first author openly coded transcripts. Randomly selected transcripts were cross-checked by two independent persons working in health services research in the frame of a "hands-on" practical session of a training course on conducting research, and discrepancies discussed to obtain a clear coding scheme of the open codes with the first author. Afterwards they were assigned to a coding group (axial coding) of the same topics. These were shown as subthemes. Lastly, the axial coding groups were summarized in themes, allocated to the research questions.

2.4. Quantitative data and population

An Excel-database was set up in March 2019 by the first author for digital documentation of routine data (administrational data and medical records), that was previously collected regularly in paper form by the DepRM. Data from Jan 2018 through March 2019 was retrospectively entered. The database was supplemented subsequently with new data coming in by the care providers of the DepRM the following months. Over the period January 2018 to June 2019 a total 353 data sets on refugees registered with the DepRM were available and included in the analysis. Table 1 provides an overview on the information available in the data sets.

Data was pseudonymised. The cases were grouped in age cohorts according to United Nations (United Nations 2017). The frequency of diagnoses were analyzed based on the ICD 10 code (WHO 2016). Due to the small number of refugees with more than three diagnoses, the listing in the database was restricted to the first three diagnosis. To summarize the diagnoses, they were classified in a morbidity scheme, which was developed based on literature (Fortin et al., 2005; Klahre, 2013; Van den Akker et al., 1996). Established categories were 0 (no established diagnosis (n = 45)), 1 (one established diagnosis (n = 137)), 2 (co--morbidity (n = 63)), and 3 (multi-morbidity (n = 83)). The challenges while helping the refugees (labelled as "difficulty in care") was rated retrospectively and subjectively by the care providers in the DepRM in a three step Likert Scale from 0 (=no difficulties) to 2 (=serious challenges). The needs the refugees had were quantified via the numbers and reasons for contact/outreach made by the DepRM in order to help the refugees, e.g. contacts with the municipality, the accommodation, etc.. Not all data sets consistently contained all information. Datasets with no information were excluded.

Quantitative and qualitative data were linked following a convergent design. Building upon statements from the qualitative data, e.g. statements about housing conditions, the quantitative data was searched for linkages (e.g. via reason for contact: housing/residential certificate) to see whether the qualitative statements are reflected in the care requests of the DepRM.

3. Results

3.1. Description of study population

This section describes the study population in the quantitative and qualitative sample.

3.1.1. Quantitative data

Out of the 348 client records 41.4% (n = 146) referred to men and 57.4% (n = 202) to women. The most common disease groups according to ICD 10 were O = "pregnancy, childbirth, puerperium" with 16.7% and F = "mental and behavioral disorders" with 14.7%. The population had a mean of established diagnoses of 1.7, most of the cases ranged between "1″ and "3 or more" diagnoses. The mean of "difficulty in care" was 0.7, most of the cases were rated between 0 (n = 104) and 1 (n = 239). Only 10 cases were rated with 2. The most frequent requests to the DepRM concerned residence certificates and the linkage in the health care

Table 1
Information from the datasets.

Patient	Medical information	Linkage to the health care sector
unique ID	morbidity (mono-, co- and multimorbidity)	admission and closing date of the case (a case being a sick refugee with health care need who had been linked to the Dep.RM)
country of origin	number and type of diagnoses	person who linked the refugee to the Dep.RM
birthday	ICD 10 diagnosis group	access route (whomever initiated the linkage to care)
age		reason for contact
sex		number of contacts Dep.RM - municipality
family connection		number of contacts Dep.RM - accommodation
number of children		number of contacts with health care providers
type of accommodation		total number of contacts
		difficulty in care

system. Regarding contacts made by the Dep.RM for helping the refugees (e.g. with the municipality, the accommodation, etc.), the mean for all cases was 7.0 (±2.0) contacts. The normal range was between 2 and 4 contacts with outliers.

A summary of the data regarding the most important characteristics is shown in Fig. 1.

3.1.2. Qualitative data

The professionals ($n = 18$) had a mean age of 45.5 years (± 2.3), 88% were female ($n = 16$) and had a mean work experience of 5.4 years (min: 0.5 years; max: 40 years). They worked for the municipality of Cologne (25%), the German Red Cross (40%), Caritas (20%) and a Lutheran Charity organization (5%). 61% of the professionals were medical staff and 39% social workers. 44% worked directly on the health care of refugees (executive role), 33% were consulting other professionals or refugees (advisory role) and 22% were superiors of the executives (managerial role).

10% ($n = 2$) of the participants were refugees. They were male, were 25 resp. 60 years old and had been in Cologne since 6 and 2 years.

3.2. Main results

Different themes and sub-themes had been identified as challenges in providing health care of refugees (see Fig. 2). The results are presented simultaneously in line with the coding scheme.

3.2.1. Reasons for perceived challenges in care

Reported reasons for perceived challenges in care were poor knowledge and information about processes to issue medical certificates, denied medical certificates for unclear reasons and overdue (long period between request and approval) approvals for medical treatment and medical aids.

3.2.1.1. Poor knowledge and information about processes to issue medical certificates. Interviewees rated the provision of health services (diagnostics, treatment) mostly as similar or equal to German citizens. In critical or complex cases, organizational support from the PHD was often used to integrate the refugees into the care structures.

In quantitative data, 21.8% of the cases registered with the DepRM needed to be linked to care providers. These patients had an average number of diagnoses of 1.6 (±1.0).

The average rate for "difficulty of care" was 0.8 (±0.5), in this group compared to 0.7 for all cases. In complex cases with two or more diagnoses difficulties in connecting were rated 1.0 (± 0.6), indicating a light increase. This supports the qualitative data, which likewise raised the need for support in complex cases.

A critical point in providing care was getting the cost approval. This requires a medical treatment certificate issued in advance by the SWD for seeing a doctor (except for emergencies). The interviewees mentioned that the process of issuing treatment certificates had changed several times in the past few years. Due to lack of communication about these changes, the employees in the accommodations had difficulties planning care. This caused rescheduling and issuing of the treatment certificate by employees from the SWD.

> *"You can only get them (…) in some cases only medical treatment certificates and also according to demand and pressure from us. (…) And that just inhibits our work, right? So, we cannot link the sick people to doctors. (…) What's the policy behind it? … This is unsatisfactory at all levels." I9*

The difficulty of receiving a treatment certificate is also reflected in the documented number of contacts needed to link patients to care in the quantitative data: here the average number was 9.7 (±11.5), respectively 10.8 (± 11.8) in complex cases.

3.2.1.2. Denied medical certificates for unclear reasons. The interviewees reported cases, where treatment was necessary but not an emergency, such as in children with moderate diarrhea. Due to the lack of treatment certificates, interviewees in such instances turned to trusted medical contacts personally known to them. These doctors then treated the refugees without a treatment certificate and had them submitted later.

> *"You have usually found a pediatrician …who also treats a child when it is acutely ill and does not yet have a medical treatment certificate." I17*

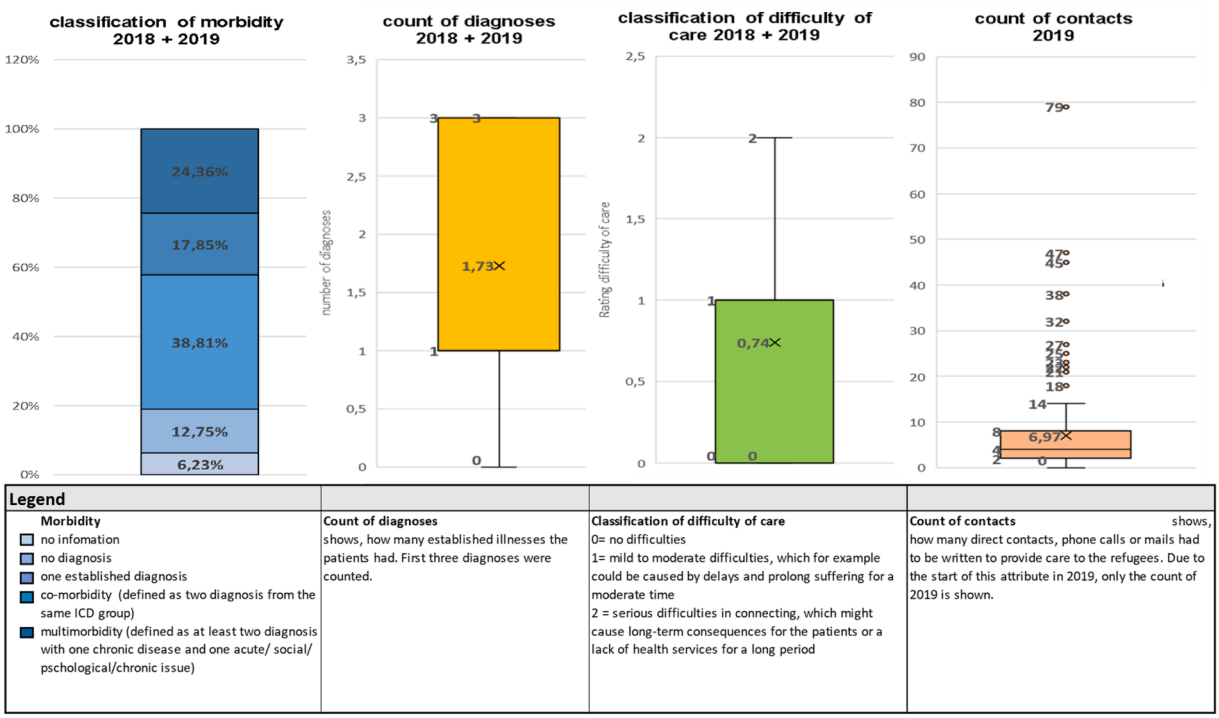

Fig. 1. Overview of the database characteristics (2018 and 2019).

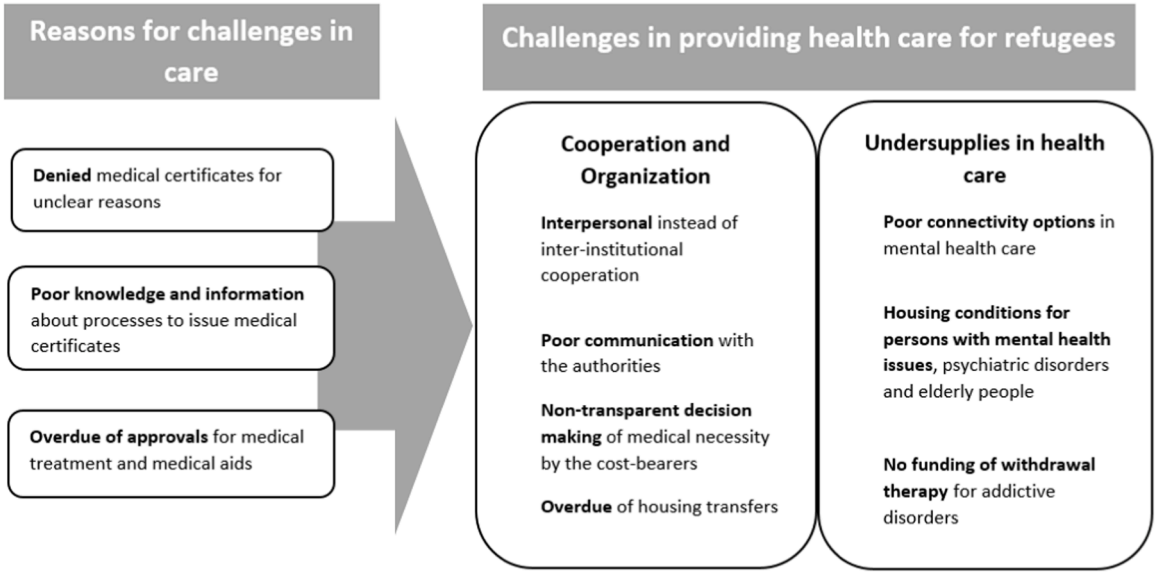

Fig. 2. Coding paradigm of the study: themes and subthemes.

In quantitative data, "supporting refugees to get their medical treatment certificate" was recorded 7 times, corresponding 2% of all cases. The patients all had one diagnosis (±0) and their degree of "difficulty" was rated 1 (±0).

3.2.1.3. Overdue approvals for medical treatment and medical aids. Additional health care benefits that went beyond regular care (like extended diagnostic tests or non-emergency operations) required additional permits to cover costs (see Fig. 3).

According to medical advice and in the case of medical aids, the estimated costs were checked on necessity and taken over by the responsible department. Obtaining medical aids had been described as a difficult, complicated and lengthy process.

> *"It was about a child who needed a rehab buggy. And it was at an age where it could no longer sit in the stroller. It was also completely inadequate for the child's posture (…). I don`t understand (…) where these hurdles arise, that it took ages. In this case, an almost unfortunate situation has arisen with regard to the housing situation and the supply of aids. And this continued like this for months." I2*

More than half of the participants described similar situations with overdue approvals. Worries about long-term consequences were described, but rarely situations where the aids were not delivered at all.

Statements for cost coverage for medical treatments were requested in 8.2% of cases, statements from other actors within the municipality excluded (in total 10.2%). Patients had a mean diagnosis of 1.9 (±0.8). The fulfillment of the request was not associated with extraordinary difficulties, difficulty was rated 0.7 (± 0.4). In 2019, the DepRM had to do 7 (±6.7) contacts on average regarding inquiries to cost coverage. According to the interviews, this showed that the support was needed and that the problems were solved by the DepRM with less effort than by the accommodation staff.

3.2.2. Cooperation and organization within the care of refugees

In the early phase, the accommodation staff was in charge of organizing most health care related matters for refugees. Later on, when the refugees became more familiar and got more knowledgeable about the system, they act more independently. Many actors could be involved (see Fig. 4).

Challenges had been found in interpersonal instead of institutional cooperation, poor communication with authorities, non-transparent decision-making of medical necessity by the cost-bearers, and overdue of housing transfers despite medical indication.

3.2.2.1. Interpersonal instead of inter-institutional cooperation.

Communication and networking between these actors were of great importance. Interpersonal relationships were very important enablers for accessing health care as exemplified by the following quote:

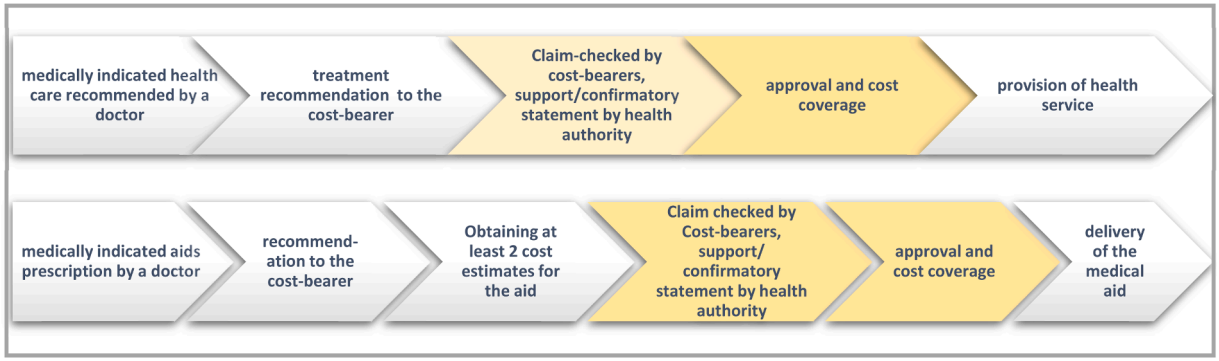

Fig. 3. Procedures of approvals for health care and medical aids. Challenging steps are color-coded.

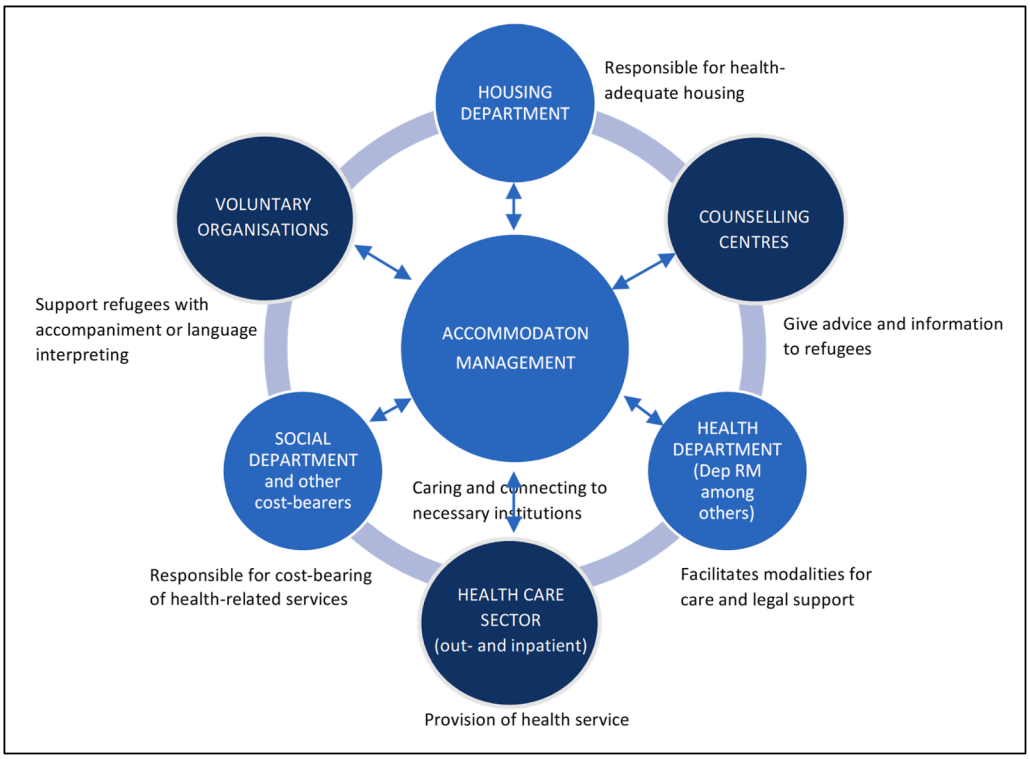

Fig. 4. Actor landscape.

"Two of our colleagues (…) did internships in the day clinic. (…) You can now solve issues over the phone. There is a basis of trust (…). And we send people there. That is actually quite positive. "I7

The interpersonal cooperation was also highlighted in cases where health care funding was likely but not yet secured. However, interpersonal instead of institutional cooperation could also make work more difficult. The responders referred to difficulties with clinics, medical and social centers like this:

"It is often personal. I think it can be with different organizations or something like that, the cooperation and communication with some persons goes very smoothly. And then you have another person, where it is a bit bulky like this." I5

3.2.2.2. Poor communication with the authorities. Challenges were found within the communication between all persons organizing health care for refugees as well as with the municipality. Many interviewees mentioned a lack of communication especially with the SWD.

"I already know a few names [in the SWD] and especially the ones where things didn't go well. And I know about six names." I17

Communication between the municipality and the accommodation should be expanded. Several respondents cited the introduction of "border crossing certificates" as an example where no information had been given to the accommodations before.

"With so-called border crossing certificates. This was a new paper that we knew nothing about, which suddenly appeared here at the end of the year." I7

The constrained communication led to dissatisfaction among many respondents. Assumptions were made about how the changeable reimbursement of benefits arose. It was increasingly stated that the reimbursed scope of cost bearing of health-related services was based on the personal opinion of the responsible person in the SWD.

3.2.2.3. Non-transparent decision-making by the cost-bearers. Responsibility and the medical knowledge of the people who decided about bearing the treatment costs was another issue. Missing communication regarding the decision-making about cost bearing made several respondents expressing doubts about correctly assessing the urgency of treatment.

"They were purely administrative people who did not see what was directly happening to the people affected. (…) And then we had to translate why that [the acute illness] is so bad now and why something has to happen today and can't wait until next week." I4

In these cases, the vast majority of interviewees working in emergency accommodations asked the PHD to step in and support. Only a few interviewees working in counselling centers or shared accommodations used this option.

Regarding the quantitative data, in 126 out of 353 cases information about the access path of the refugees to the DepRM was documented. Within these 126 cases, 40% were connected to the DepRM through other departments in the municipality, 47% through accommodational staff, 6% through health care providers and other actors from refugee care. Hence, the statements from qualitative data seemed not to be reflected as the departments from the municipality involve the DepRM in health care-related decisions.

3.2.2.4. Delays in housing transfers despite medical indication. In cases of high urgency, the employees from the accommodations stated that quick transfers to an adequate housing situation were not always possible. Sometimes this was due to local conditions. Solutions sometimes had to be found between the higher levels of the operator institution, the PHD and the Housing Department. In addition, there was often a desire for more transparency and improved communication. A centralization of work processes and better interface management would save time and the supply processes could be implemented more promptly and efficiently. Improved transparency and clear communication would also address concerns about the decision-making processes.

"There is a lack of transparency (…) - especially by the Housing Department, because otherwise we would also disagree with the housing situation of many refugees and would accordingly cause trouble for changing it." I3

3.2.3. Undersupplies in health care

Three areas were identified where supply was regarded critically short or not in line with the needs: poor connectivity to mental health care, inadequate housing situations for persons with mental health problems or elderly, and no funding of withdrawal therapy for addictive disorders.

3.2.3.1. Poor connectivity options in mental health care. Challenges in providing mental health care was mentioned by all participants and had been declared as the greatest challenge in care for refugees by some participants.

"The biggest challenge in providing care I see …is in the psychiatric, psychological area… especially for people with post-traumatic stress disorder" I3

Most notable was the lack of access to therapists and psychiatrists. Usually there were waiting periods of 12–24 months for adults; children could be referred faster within 3–6 months. Intermediate offers for bridging up to therapy had been rated as positive by persons who give advice, persons who worked in accommodations hadn't commented on it. The difficult linkage was due to lack of capacity, but also due to a reluctance to work with language interpreters and justify the financing of language interpreters.

"Because the problem is: If the Pandora's Box is opened – who gets it closed again? It's a lengthy process, and it's too difficult for them to find therapists or opportunities to even go into therapy. Because the language barrier exists and many psychologists or psychotherapists do not like to work with interpreters and the native language is not spoken. Or the problem again, who pays the interpreter? Where do you get this from?" I1

It had often been noted that mostly only emergency care was provided in the clinics and that there was no long-term support, including language support. So refugees repeatedly found themselves in emergency care and suffered an aggravation or chronicity of their disease.

"Yes, there are so many revolving doors patients. Who are always going into psychiatry, out of psychiatry, in and out again." I10

The analysis of the database revealed that 14.7% of all cases were treated for ICD 10 group F, the second largest group after ICD Group O. In 2018, 37 cases (10%) were linked to the DepRM, in 2019, 15 cases (11%). The patients had an average of two diagnosis (± 0.9). The difficulty in care was rated 0.8 (± 0.4) in average.

3.2.3.2. Housing conditions. Half of the respondents mentioned the housing situation as a problem, especially the structural situation of the accommodations, which were described as "ramshackle" (I18) and "old" (I12).

Many respondents noted that the housing situation of mentally ill refugees was inadequate. Destabilization caused by a restless and noisy environment without privacy was seen as problematic for refugees with acute mental illnesses. This delayed an improvement in mental health and led to prolonged needs of therapeutic services.

"It is very noisy. (…) These ones often have sleep disorders anyway and cannot calm down, not even during the day. Because there is no room for privacy. (…) So that there are drastic breakdowns, again (…) that has an incredible impact on health. "I16

Furthermore, the accommodation of refugees with chronic psychiatric illnesses/personality disorders was discussed. Shared accommodation with other refugees would make the living situation more difficult for everyone involved. Assisted living with care or a "special form of accommodation", (I12) would be an added value, but integration was mostly not possible in the existing system before.

The housing issue also relates to the elderly, for whom there was no separate accommodation with additional care provision, so that the care of elderly refugees in need was a hurdle. There was a difficulty in accommodating refugees in retirement homes. Up to this point, no answer to the question of a long-term solution arose.

"F*or the ones who need the care in a retirement home. It's actually very, very, very difficult to get a place for them." I12*

There were no indicators for movement to a retirement home in the quantitative data. In the age cohorts over 50 years, 6 cases (1.7%) related to a change in living situations were found. These persons had an average number of 2.3 (±0.8) listed diagnoses. The average difficulty of their care was 0.5 (±0.5). Based on the patient database no statement was possible about the extent and the sustainability of the care as well as the accommodation in assisted living.

3.2.3.3. No funding of withdrawal therapy for addictive disorders. Addictive disorders were discussed divergently by half of the participants.

"I have not been able to find care gaps within addicts. They could be well connected everywhere." I3

This usually included the linkage to a substitution clinic with methadone therapy. However, it was more commonly argued that there was still the need for withdrawal psychotherapy to reduce relapses. The approval of addiction treatment therapies depended on residency status and was a barrier in care, as most were not approved. Close care of the patients was considered necessary for recovery. Therefore, relapses occur, which caused higher costs as a combined therapy of methadone and psychotherapy according to the respondents.

"If you say "Come on, we'll do a full-time therapy ", directly detoxification plus, …, three months of withdrawal. (…) This would be much cheaper than if he has to be picked up by the ambulance, then by the police, then again by the ambulance, then emergency briefing, then by PsychKG[2]. In the end, (…) thousands of Euros were spent. But no, we'll stick to it. These follow-up therapies are not being adopted. "I16

Health assurance companies only costs assumed for treatment if the person had a permanent right of residence. Two respondents noted that cold withdrawal in jail was considered as an option for addicts to avoid access to drugs for a prolonged period and relapses.

"The residents who consume drugs and are addictive, do realize that after the detoxification nothing will change. And then they might quickly relapse… They know that, too. So that they are considering the possibility of going to jail for withdrawal." I7

Mostly, the problem of caring for people with an addictive disorder included granting psychotherapy; the difficult access to psychotherapeutic care wasn't called as a barrier.

Addiction was noted in six of 353 patients, which corresponded to a percentage of 1.7%. Only two patients were connected to the DepRM due to an addictive disorder, in the other cases addiction was a secondary diagnosis. On average these patients had 2.67 listed diagnoses (±0.52) and the difficulty in care was rated 0.8 (± 0.4). None of the patients was linked to a mental health or addiction specialist due to addiction.

[2] *Gesetz über Hilfen und Schutzmaßnahmen bei psychisch Kranken (PsychKG) - law regarding aids and protection procedures concerning mentally ill persons*

4. Discussion

Within this study, the following challenges had been found: Transparency in communication, the need for support in linkage to the health care sector, improper housing situations for elderly and mental ill refugees as well as a lack in mental health issues.

For linking patients into the health care sector and getting cost approvals as well as treatment certificates, support is helpful for the accommodations. The challenge of issuing medical treatment certificates concerned almost only emergency accommodations with newly arriving refugees. This matter had already been discussed and solved within Cologne: The SWD now issues non-personal, blank certificates, which can be used by the accommodations. In urgent cases, which are no emergency or if staff thinks a medical examination is necessary, the blank certificates could be used for health care through the regular system. This observation was surprising because the officially an e-health card for asylum seekers was launched for North-Rhine Westphalia in August 2015 (EHEALTHCOM, 2015).

The interpersonal relationships mentioned in the qualitative survey as the basis for the cooperation should be viewed critically. Although this is beneficial in the short term, these are not sufficient for reliable processes and must be complemented by clear interagency agreements. It could not be ascertained in the interviews whether there was a contractually based cooperation between the different parties, so cooperation processes seem to require strengthening.

The accommodation of refugees with mental illnesses in shared housing was seen as inappropriate, as elsewhere (Schouler-Ocak et al., 2019; Gewalt et al., 2019) - mostly due to noise and lack of privacy. But this type of placement prevented other consequences like isolation. Nurses and social workers take care of residents' concerns and were able to deal with exceptional situations. But qualified staff for diagnosing or treating mental illness represented a challenge, which had also been criticized (Schouler-Ocak et al., 2019; Kaltenbach et al., 2017; Ottersbach and Wiedemann, 2017).

Linkage to psychotherapists is reported as necessary and difficult, e.g. regarding finding a solution for financing language interpreters (Schreiter et al., 2016; Asfaw et al., 2020). Compared to the average waiting period of 23.1 weeks (= 5.7 months) for German citizens (Bundes Psychotherapeuten Kammer 2018), the waiting periods for refugees were at least twice as long. It is difficult to carry out psychotherapy in a non-native language or with an interpreter (Schneider et al., 2017; Kießl et al., 2017; Storck et al., 2016). Offers of temporary solutions were available from multiple providers. These offers had to be brought closer to refugees to bridge the time until therapy places were available (Schouler-Ocak, 2015).

The separation of psychiatric patients in a separate housing situation would eliminate the negative impact on refugees without psychiatric disorders. With the need for 24/7 care, it is questionable who would finance and operate this accommodation as well as whether this would mean an improvement in the health of the patients.

Addictive disorders didn't show up a lot in quantitative data, which might be caused by a separate linkage to the treatment clinic. There is not much information about the mental health status of refugees in the asylum-seeking process and a lack of treatment (Nikendei et al., 2019). Addictive disorders could arise from different reasons. Further research about the need and the local situation is needed. In neighboring countries like Austria or Switzerland refugees have full access to health care, which includes care for addictive disorders (Razum et al., 2016; Lindert et al., 2021).

Most of the literature on access to health care focuses on the first phase of arrival of the asylum seekers/refugees in the (potential future) host country. Our study provides a deeper understanding of the challenges of refugees accessing and using health care when the first phase of "arrival" is already passed. Among those refugees staying, there are those with long-term and complex health conditions, which poses a challenge to their health system it is not well prepared for and on which our study sheds some light. It points to and describes this need, which we see as a strength.

However, there are also limitations. The database documents only a limited view on the linkage, care and support of refugees due to its introduction in 2019. Some characteristics like the "count of contacts" couldn't be evaluated for 2018. The database was created from paper-based files in the context of this study and still needs further development. Cases handled by the accommodations themselves or other departments within the PHD, won't be included and be part of this patient database. Furthermore, the sample is certainly biased due to the access path of refugees into the PHD. However, in contrast to other studies, we could examine a heterogeneous patient group (Dyck et al., 2019). Through the different types of linkages to the DepRM, a broad range of clinical pictures and age groups of refugees was included, which is a strength. The participants were aware about the cooperation of the authors with the PHD, which might have caused social desirability bias. The statements could also be biased through the recommendation of the superiors to participate.

The qualitative findings reflect the perspective of professionals and were supplemented only by few interviews with refugees. However, we noticed that the two interviews revealed very similar issues compared to the views of the providers. It appears that no major aspect has been overlooked, however we cannot exclude that by interviewing more refugees other aspects might be found. Therefore, we think it is important to remain vigilant and open for reports, observations, and feedback from refugees or support groups.

Based on the observations and documentation lobbying for the case of optimizing care for refugees at the level of city council can be initiated (Lionis et al., 2018). The city of Cologne has since done some steps in this direction by institutionalizing the DepRM and to operate together with some providers a "clearing house office" for migrants and refugees as link between accommodations, municipality and health services.

5. Conclusion

A contact point for health care related topics or case management should be installed/expanded within the municipality as link between accommodations, municipality and health services. Implementation of case management for refugees is intended to optimize care and accelerate decisions. Decisions about new regulations, issuing legal papers and other information must be clearly communicated by the city. This simplifies processes and creates transparency for every actor involved.

There needs to be more focus on mental health as key issue in health care. Due to the lack of therapists, intermediate offers should be communicated to the patients and new ones should be implemented if necessary.

Ethics approval and consent to participate

The study protocol was approved by the ethics committee of the faculty of medicine of Heidelberg University (S-351/2019) and complied with the declaration of Helsinki. It is ensured that the data is safe from third party access. Quantitative data is collected routinely by the DepRM, of which two authors (AE and JD) are part of. All data was pseudonymised.

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Authors' contributions

AW, CB, FN made substantial contributions to the conception and the design of the work. JD and AE critically revised the draft and contributed to the final writing of the paper. CB, FN supervised the study, which

was carried out as master thesis (AW) at the University of Heidelberg. All authors read and approved the final manuscript.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Supplementary materials

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