

# Chapter 4

## Refugee Crisis As a Potential Threat to Public Health



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**Abstract** The refugee crisis in Europe continues to persist despite recent data, showing a drop in the number of refugees seeking asylum. The EU has called this as “an unprecedented displacement crisis” and has aimed at devising a comprehensive approach to tackle it, which has been widely criticized. Concerns about public healthcare aspects of the crisis have permanently entered the media and policy discourse even though no systematic association between migration and the importation of infectious diseases has been recorded. In this context, the literature has not filled the existing gap between discourse and evidence, and almost no publications with reliable empirical data exist, both thematic (epidemiology) and geographical (Eastern Europe and Bulgaria). Among the existing publications, the focus has been on TB and HIV (Odone et al., *Euro J Public Health* 25(3):506–512, 2015). In light of this, the aim of this research is to contribute to the debate by providing an overview of the refugee situation in Bulgaria, as a primary entry-point for refugees entering the EU. In order to achieve this, the article analyses the case of the refugee camp in city of Harmanly, close to the Bulgarian-Turkish border, and assesses the public health risks related to this specific situation. Based on a study of 128 patients with different symptoms we aim to draw wider implications about the linkages between public health and migration. The in-depth review of this specific case shows that both the probability and impact of migration on public health increases when the hosting country is relatively poor, the domestic public healthcare system is not efficient, and there is lack of trust in the government and public services. The study contributes to understanding better these risks in order to identify potential mitigation strategies in the region and the EU as a whole.

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## 4.1 Introduction

The European migrant/refugee crisis in 2015–2016 deeply challenged the political, economic and healthcare systems in the European Union (EU). Looking at these developments, we are faced with the key problem of lack of data on the health profiles of migrants, in particular – of refugees. Immediately after the crisis began there were many publications that insist, without extensive evidence, that migrants do not pose a health threat to the host population. Almost no publications could be found with reliable empirical data, especially epidemiological, including for Bulgaria.

The absence of reliable and robust data is even more problematic at times of crisis since public health systems cannot prepare adequately. The lack of objective information also opens up opportunities for the emergence of public myths and psychoses, including disinformation that can lead to political destabilization, which could in turn affect national security.

The purpose of our article is to collect, summarize and present epidemiological data related to migrants in Bulgaria and, on the basis of this information, to analyze the potential risks to public health (including risks to migrants) and to assess the capacity of Bulgaria's healthcare system to cope with the refugee crisis.

## 4.2 Background

Migration is a phenomenon known since antiquity. Thanks to it, new countries have emerged and new communities have formed. But what is happening today is extraordinary because millions of people constantly change their place of residence for various economic and non-economic reasons, going beyond the scope of our research. The bottom line is that at the end of 2014, almost 60 million individuals were forcibly displaced worldwide. Twenty million of them are refugees. For the first time, Turkey has become the country with the largest number of refugees (Fig. 4.1).

As far as Europe is concerned, with the exception of certain high-income member states, most countries did not have serious difficulties with migrants. This was fundamentally altered after the series of events in North Africa and the Middle East, known as the Arab Spring, as well as the civil war in Libya, and especially since the Syrian conflict began in 2011. Based on regular EASO annual reports, since 2011 one can see the changing structure of migration trends altogether. Until then migration was mainly from lower income countries to countries with a higher income and the greatest percentage of migrants represented the share of those arriving from Western Balkan countries. After 2012, migration started affecting not only high-income countries but also all European countries with the highest percentage of asylum seekers being refugees from Syria (Fig. 4.2).

As a result, Europe has faced a unique influx of refugees, asylum seekers and other migrants since the establishment of the EU: 1.5 million people arrived in the

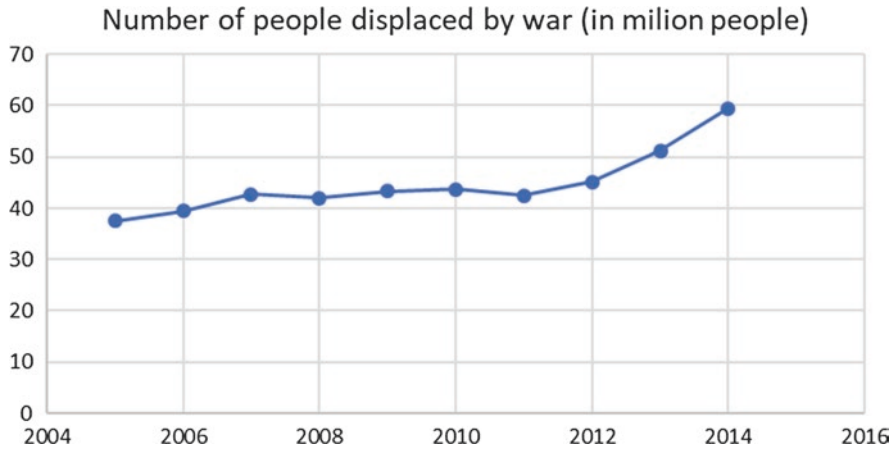


Fig. 4.1 Global migrant growth for 10 years (Source: Adapted following UNHCR [26])



Fig. 4.2 Persons who applied for international protection in the EU28: 2011–2015 (Source: Based on EASO [6–9])

EU only in 2015. Since the beginning of 2016, 1,171,138 applications have been recorded in the EU+ (EU 28 plus Norway and Switzerland). Even though this is 6% less than in the same period of 2015, when 1,242,572 applications were lodged, this highlights the extent of the challenge [10].

This is a not an easy situation to be rationally understood since it is sensitive to strong public opinion and intense debate. Even more, from the point of view of public health ‘this refugee situation is unparalleled since the end of WW2’ [17]. In this context, often the public healthcare aspects of migrant crises enter the broader public discourse, regardless of expert opinion.

The diverse discourses have been addressed by multiple international organisations. In 2015 Dr. Zsuzsanna Jakab, WHO Regional Director for Europe, clearly

highlighted that there is no systematic association between migration and infectious diseases stating that: ‘Communicable diseases are primarily associated with poverty. Refugees and migrants are exposed mainly to the infectious diseases that are common in Europe, independently of migration. The risk that exotic infectious agents, such as Ebola virus or Middle East respiratory coronavirus (MERS-CoV), will be imported into Europe is extremely low. Experience has shown that, when it occurs, it affects regular travellers, tourists or health care workers rather than refugees or migrants’ [13].

In 2016 the European Commission also addressed the healthcare aspects of migrant crises, declaring that refugees are actually the ones at risk, rather than a burden on health systems. DG SANTE made it explicit that measures to protect refugees’ health are being taken ‘not out of unfounded fears that they might spread infectious diseases’ or ‘place a burden on health systems. Their [refugees’] health is at risk, **not the health of EU citizens**’ ([22], emphasis added).

WHO and EC’s stance on public health challenges of large-scale migration and preparedness of countries in the European region could be seen as too optimistic. WHO insisted that ‘the health systems in the countries receiving migrants are well equipped and experienced to diagnose and treat common infectious diseases; they should also be prepared to provide such health care to refugees and migrants. Should a rare exotic infectious agent be imported, Europe is well prepared to respond, as shown over the past 10 years in responses to imported cases of Lassa fever, Ebola virus disease, Marburg virus disease and MERS’ [28]. At the same time, events in Germany on the weekend of 12–13 September 2015 demonstrated the opposite: large-scale migration provoked serious malfunctioning of both political and administrative systems including police, social services, housing, public healthcare [1]. After these events, reported in depth by Robin Alexander, the responses across Europe quickly escalated. Once the EU-Turkey deal was agreed, Balkan border closures organised by Austria followed by Hungary, Serbia and Macedonia left some 11–13,000 migrants blocked in the informal camp in Idomeni on the Greek-Macedonian border [24]. From the beginning of March to the end of May asylum seekers there survived in poor sanitary conditions with very limited running water, no lavatories, and insufficient food, despite efforts by NGOs such as ‘Hot food Idomeni’ and medical care from ‘Médecins sans frontière’. The unhealthy and overcrowded conditions at the camp have given rise to infections and in March some cases of Hepatitis A have been reported [24]. Posters with the message ‘Greece will offer you accommodation, food and healthcare’ (written in Arabic, Farsi and Pashtun) were posted in March but the final decision was taken only on 24th of May. In reality, initial reactions and follow up to the Idomeni situation were limited since there was no confirmed information on the epidemiological situation in Idomeni, no risk assessment and no further public health measures were taken.



Fig. 4.3 Map of Bulgaria

### 4.3 Bulgaria and Migrant Crisis

In contrast to WHO and EC statements, Bulgarian authorities never declared their readiness to manage a large-scale migrant influx. Until 2010 Bulgaria had not been a country of interest to migrants and, as a result, there was scarce experience of responding to a migrant crisis. Rather, the country was a source of migrants towards Western Europe. Bulgarian membership of the EU on January 1, 2007 led to an increase in the flow of migrants to Bulgaria and a slow but sustainable decrease of Bulgarian emigrants. This situation has changed radically since the start of the civil war in Syria in 2011. The geographical position of the country, which shares a 259-km border with Turkey, makes it a natural primary point of entry for refugees entering the EU (Fig. 4.3). Moreover, Turkey is the largest host country to Syrian refugees.

#### 4.3.1 Demographic Profile of Refugees in Bulgaria

The dramatic increase of refugees in Bulgaria led to a peak in 2013. Compared to 2010, when the number of people legally seeking asylum in Bulgaria was 855, 2013 saw an increase to 7415, a 416% increase from 2012, with the largest share of the migrants, arriving from Syria – 63%. Indeed, migrants account for only 1.6% of migrants in the EU28, but the ratio is approximately 1000 migrants per 1 million people (Fig. 4.4).

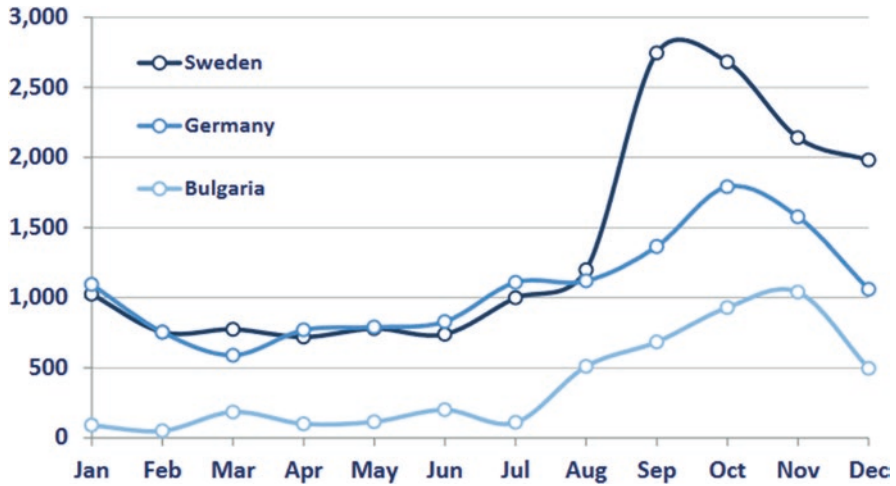


Fig. 4.4 Evolution of Syrian asylum applicants in selected EU Member States, 2013 (Source: EASO [8])

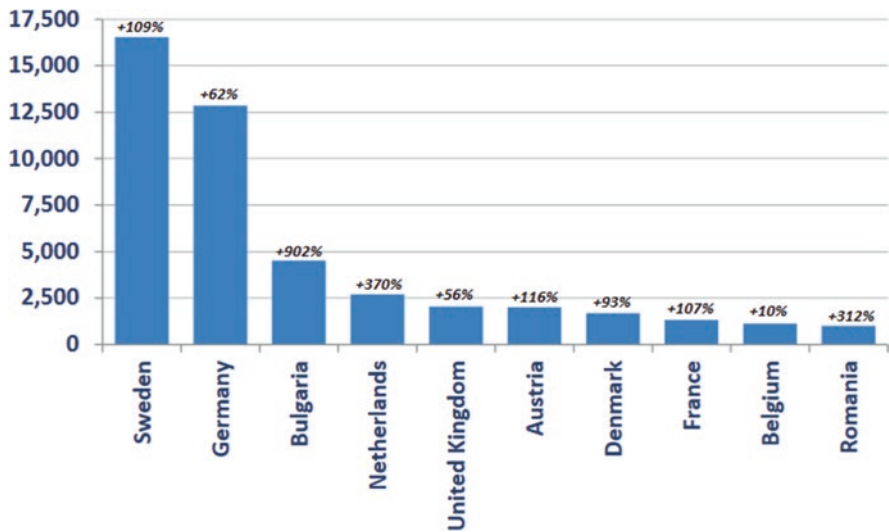


Fig. 4.5 Syrian applicants in 2013 and year-to-year change by main receiving Member States (Source: EASO [8])

For the first time in the recent history of Bulgaria there is a large increase in the flow of migrants. Compared with other Member States, Bulgaria shows the highest rate of growth in the number of Syrian refugees, equal to 902% (Fig. 4.5).

At the same time, the majority of migrants did not intend to stay long in Bulgaria, which they saw only as a stage of their journey to Western Europe. Many of the migrants entering Bulgaria in 2013 moved to France, Germany and Sweden,

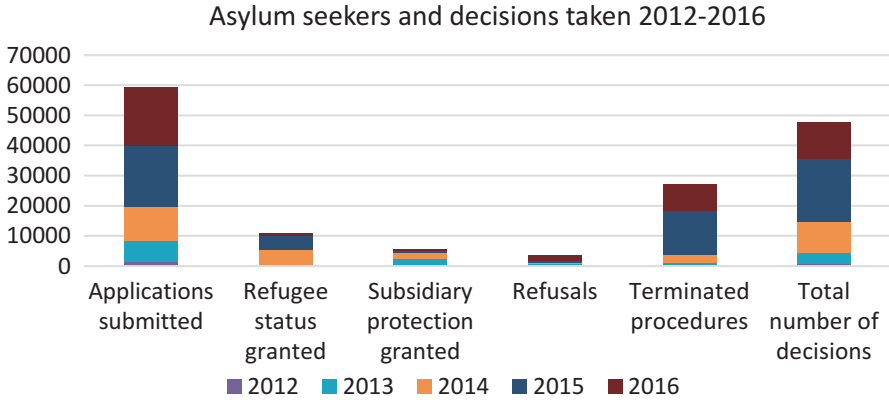


Fig. 4.6 Asylum seekers and decisions taken 2012–2016 (Source: SAR [19])

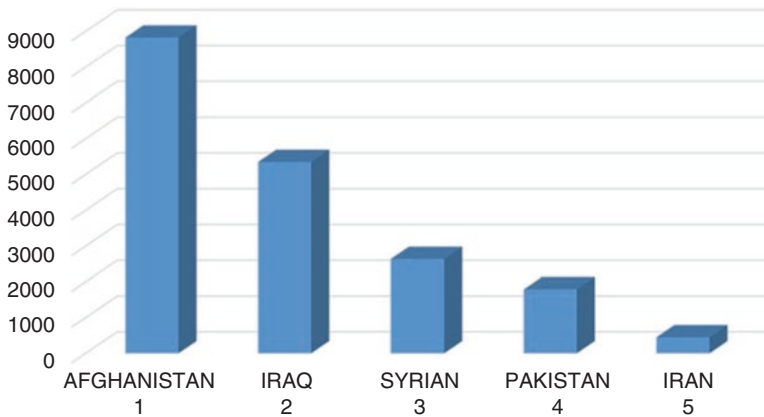
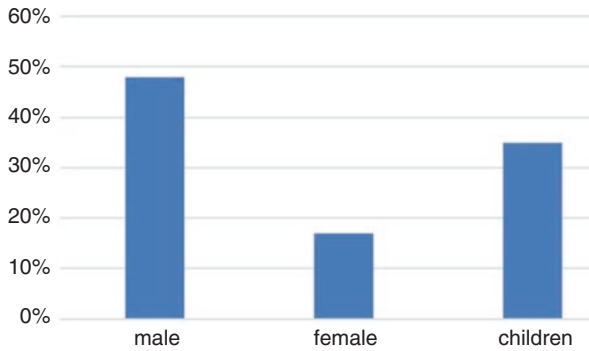


Fig. 4.7 Top 5 asylum seeker countries of origin 2016 (Source: SAR [19])

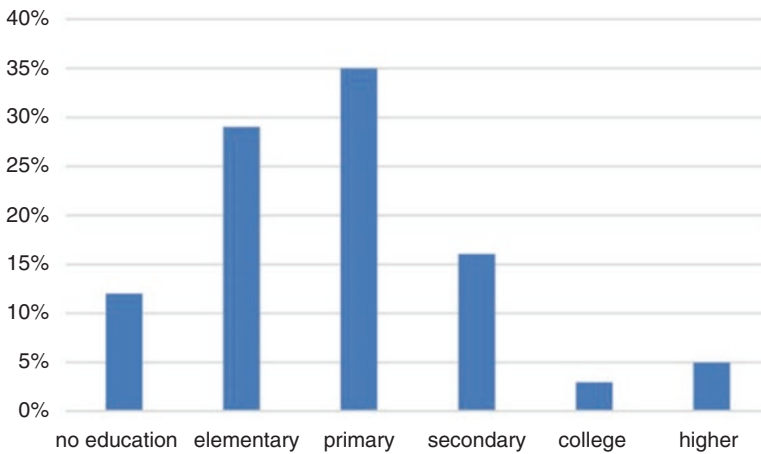
probably due to the lower incomes, but also the lack of previous settlers and migrant communities [25]. The total number of those remaining in Bulgaria is relatively low, compared to Greece, Italy, and Germany (Fig. 4.6).

It should be noted that for the period from 2012 to 2015, a major share of refugees originated from Syria, while in 2016, the ratio changed, and most of those arriving, were fleeing Afghanistan and Iraq (Fig. 4.7).

In terms of the demographic profile of those arriving, migrants in Bulgaria are relatively less educated and the share of men is approximately equal to that of women and children Figs. 4.8 and 4.9.



**Fig. 4.8** Refugees by gender (Source: SAR [19])



**Fig. 4.9** Refugees by education (Source: SAR [19])

### ***4.3.2 Health Aspects of Migrant Crisis in Bulgaria***

Following the 2012–2013 crisis, in February 2015 a WHO assessment mission to Bulgaria took place to assess the country's capacity to address the public health implications of sudden large-scale influxes of migrants [27]. The mission concluded that the level of assistance provided to the migrants by the Bulgarian Government has clearly improved but the medical response system is very fragile and not fully prepared to respond to a possible new and larger influx of migrants. The main weakness of the response system is the weak provision of primary health care through clinics in migrant centres or the assignment of general practitioners (GP) to migrants due to the fact that clinics are understaffed and interpretation services are not always available. As a consequence, the first recommendation of WHO is the revision of the National plan for crisis management with a focus on reorganizing primary health care services and rationalizing the use of available resources [27, p. 15].



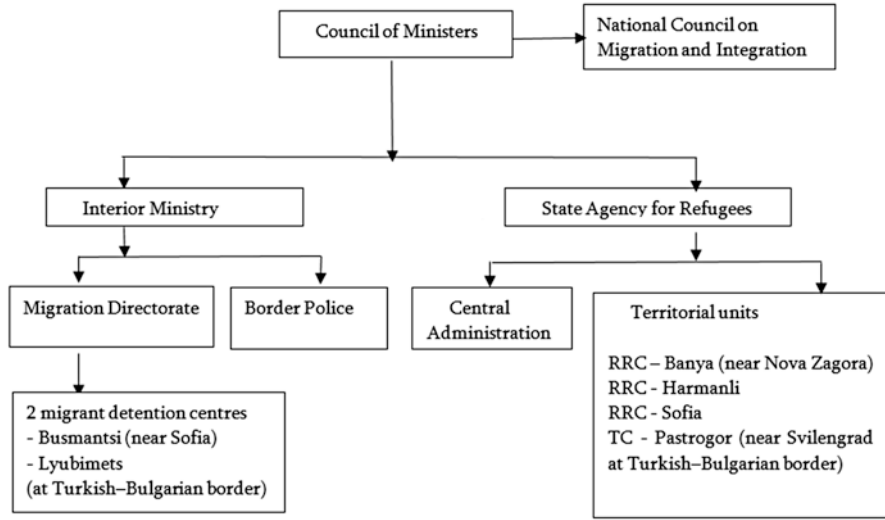
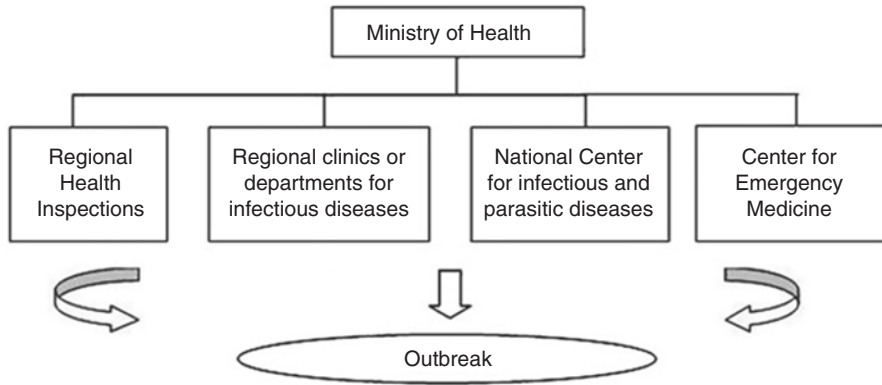


Fig. 4.10 Refugee managing bodies

To put this into context, in the following section we provide an overview of the institutions and personnel involved in refugee and migrant management. Upon arrival in Bulgaria, the asylum seekers first face the authorities of the Ministry of Interior. By law, migrants can be held for up to 24 hours at a location, where basic health screening is conducted, and from there they are directed to the Registration and Reception Centre (RRC), the Transit Centre (TC) or detention centres where primary care is carried out. Primary healthcare in detention centres is the responsibility of the Medical Institute of the Ministry of Interior, situated in Sofia, while medical staff in RRC and TC should be provided by the State Agency for Refugees (Fig. 4.10).

According to Bulgarian legislation, access to public health services requires payment of health insurance contributions. Asylum seekers and persons applying for refugee status are funded by the State Agency for Refugees. In case they have acquired refugee status or the right to asylum, they are obliged to pay health insurance themselves to access the basic package of health care to which Bulgarian citizens are entitled under the insurance system. However, the vast majority of refugees cannot cover their health insurance. For this reason, in March 2017 the Bulgarian government passed a normative act creating an obligation for municipalities to cover health insurance expenses of migrants with official refugee status already granted. After strong public outcry the government withdrew the proposed act and this issue remains open. Moreover, even when migrants fulfil their financial contribution, the number of refugees with an assigned GP is limited due to language barriers and the reluctance of many GPs to take on patients whose residence is likely to be temporary [27, p. 6].



**Fig. 4.11** CD surveillance in Bulgaria (Source: Mihaylova-Garnizova and Plochev [23])

The other important recommendation of the WHO assessment mission to Bulgaria is the revision of the disease surveillance early warning and response system, introducing syndromic surveillance to increase early detection of outbreaks and effectively monitoring selected disease trends [27, p. 6]. Such a syndromic surveillance system has not been created yet and it is unknown whether the government plans to implement one. At the moment Bulgaria only conducts surveillance and control of communicable diseases (CD) under the authority of the Ministry of Health (Fig. 4.11).

However, this information system does not include relevant information on the spread of infectious diseases among migrants/refugees. In the current paper we manage to fill the gap with operational reports provided by the Chief State Health Inspector, Angel Kunchev from Regional Health Inspections (RHI). These reports include epidemiological data from *RHI-Haskovo* and *RHI-Sofia* for 2016. Actually, these two administrations cover the two territories of the country in which almost all migrants are situated and thus the data can be seen as representative for the country.

During 2016, refugee centres Harmanli, Pastrogor and Lyubimets, situated on the territory under control of *RHI-Haskovo*, reported 14,901 tests:

- 1877 migrants – 5631 microbiological tests (salmonellosis, dysentery and *E. coli*);
- 1877 migrants – 3754 parasitological tests (average 2 tests per person - intestinal helminths and intestinal protozoa);
- 728 migrants – 1456 tests for malaria (2 tests per person);
- 87 migrants – 87 malaria with rapid test (1 test per person);
- Unknown number of migrants – 1714 tests for syphilis;
- Unknown number of migrants – 2259 tests for HIV.

**Table 4.1** Epidemiological data for 2016 – *RHI-Haskovo*

Diagnosis	# of cases
Scarlet fever	2
Varicella	20
Mumps	1
Enterocolitis	16
Salmonellosis	1
Rotaviral gastroenteritis	4
Acute viral hepatitis B	1
Malaria	9
Echinococcosis of the lung	1

Source: Created on the basis of the report of *RHI-Haskovo*

Based on these tests on the territory of *RHI-Haskovo* in the figure below we illustrate the communicable diseases, which have been diagnosed in 2016 (Table 4.1).

During the same period, *RHI-Sofia*, responsible for the epidemic control of all RRC and detention centres on the territory of the capital, carried out 19,859 tests, as follows (the report does not indicate the number of people examined):

- Parasitological tests – total 13,781 including,
  - Intestinal helminths and intestinal protozoans – 7124;
  - Malaria – 4338;
  - Malaria with an express test – 150;
  - Microfilaria – 2169;
- Microbiological tests – 5676, including:
  - NAG-virions in waste water – 12 samples with negative results;
- Serological tests – total 402, including:
  - Syphilis – 148, with four positive results;
  - HIV / AIDS – 155, with one positive result;
  - HAV Ig M – 3;
  - HAV total – 1 positive result;
  - HbsAg – 46, 8 positives (hepatitis B infection);
  - HCV – 49, 5 positives (hepatitis C infection);

Based on these tests on the territory of *RHI-Sofia* the following communicable diseases have been diagnosed (Table 4.2).

Despite their limited capacity, authorities conduct basic health screening at the border, along with health services in the migrant reception and detention centres. Screening at *RHI-Haskovo* and *RHI-Sofia* showed prevalence of intestinal parasites (Giardiasis, Ascariasis, Blastocystosis) and our data indicates that the majority of refugees posed very limited infectious risk. Therefore, the findings confirm WHO

**Table 4.2** Epidemiological data for 2016 – *RHI-Sofia*

Diagnosis	# of cases
Viral intestinal infection	2
Shigellosis	1
Enterocolitis	1
Varicella	1
Scarlet fever	1
Acute viral hepatitis E	2
Acute viral hepatitis B	1
Acute flaccid paralysis	1
Malaria	9
Giardiasis	71
Blastocystosis	42
Entamoeba coli	2
Iodamoeba butschlii	2
Ascariasis	55
Trichocephalosis	3
Enterobiasis	2
Taeniasis	1
<b>Total</b>	<b>197</b>

Source: Created on the basis of the *RHI-Sofia* report

and DG SANTE expectations that migrants do not pose a risk to the local population.

At the same time, contrary to analysis by experts, public opinion reacted to the migrants situation as high-risk, demonstrated by the conflict in Harmanli migration RRS. Residents of the town of Harmanli protested on 20th November, demanding the camp's closure after local media reported on the suspected existence of communicable diseases on site: 'An artificially created tension led to this, following misleading reports that the centre is a hearth of infection,' Petya Parvanova, head of the Bulgarian Refugee Agency, was quoted by Reuters as saying.

The government declared that no medical reason for quarantine existed but the authorities took the decision to temporarily close the camp and restricted the free movement of migrants with the aim to calm down town citizens. In response, on 24th of November some 1 500-2 000 migrants (from the officially announced 3 070 registered in the camp) clashed with the police and the gendarmerie. As a result, most of asylum seekers have been moved to other centres. Meanwhile, on 18-19th November 2016, immediately after the first articles in the local media and first signs of discontent, a special medical mission from the Military Medical Academy was sent to verify the health status of the migrants concerned. The main findings of the military medical team study were as follows [16]:

- Very high share of patients with skin and infectious diseases: 128 patients with different symptoms;

**Table 4.3** Refugee's health status, Harmanly RSS

Diagnosis	# patients	%	Notes
Pyoderma	36	28.1	
Scabies	26	20.3	
Varicella	18	14.1	Children exclusively from 1 to 8 years
Acute viral infection	15	11.7	
Dermatitis	16	12.5	
Others	16	12.5	Cystopyelitis, Candida vaginitis, neuro-vegetative dystonia, metrorrhagia, injuries, cuts and gunshot injuries
Cutaneous leishmaniasis	1	0.8	Suspected
Total	128	100	

Source: Created on the basis of the *MMA 2016* report [24]

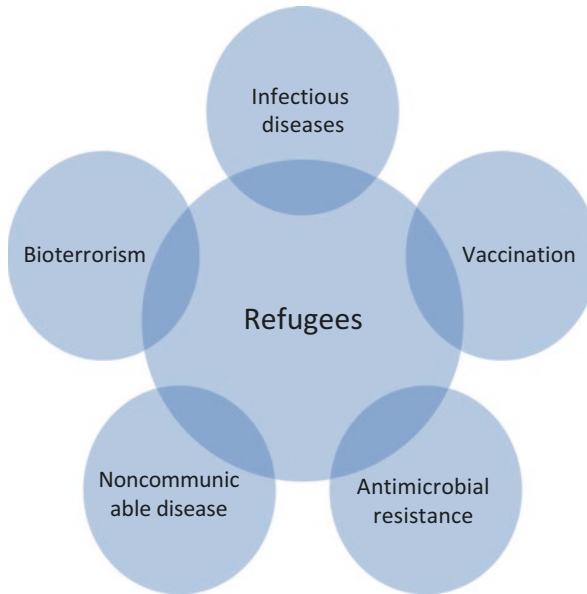
- Very high level of male patients: 91 out of 128 total;
- Very high level of patients from Afghanistan: 106 out of 128 from Afghanistan;
- Usual pre-departure and journey-related health problems;
- Change in health profile after resettlement related to hygiene conditions;
- No emerging infectious and dangerous contagious diseases found.

As a result of the inspection, the military medical team has diagnosed the following diseases, ordered according to incidence (Table 4.3).

The conflict in Harmanly town illustrates some of the weaknesses reported in WHO's assessment of Bulgaria's capacity to manage a large migrant influx, notably risk communications and work with local media. Even though a special highly qualified medical team was sent to check the medical status of refugees and eventually to refute speculations of an epidemic, the conflict escalated instead of calming down. One explanation for this is the low levels of trust in the authorities and institutions in Bulgaria, which also includes lack of trust in healthcare professionals. In such circumstances, both clear risk communication and medical expertise are not sufficient to resolve a growing crisis.

#### 4.4 Potential Risks to Public Health

In discussing the risks to public health, five topics are commonly considered: infectious diseases, vaccination, antimicrobial resistance, noncommunicable disease and bioterrorism (Fig. 4.12), as well as the linkages between them.



**Fig. 4.12** Refugees as potential risks to public health

#### **4.4.1** *Infectious Diseases*

With few exceptions, migrants are not at increased risk of transmitting communicable diseases [11]. However, infectious diseases can spread when new migrants live together in communal, close-quarter settings [18]. According to a recent survey in EU/EEA countries, screening for infectious diseases among migrants is currently directed towards predominantly human immunodeficiency virus (HIV), tuberculosis (TB), hepatitis B, hepatitis C, gonorrhoea, syphilis, measles and rubella, malaria and Chagas disease. These diseases were selected because the European Surveillance System (TESSy) collects data disaggregated by migrant status or because evidence suggests that they may disproportionately affect migrants in the EU/EEA [11]. Other diseases that could be considered include vaccine-preventable diseases, cholera, malaria, helminths and intestinal protozoa (Semenza et al. 2016) [21]. Epidemiological data from Bulgaria do not confirm the severity of TB, HIV and sexually transmitted diseases, but confirm the importance of the screening of parasitological diseases.

#### **4.4.2** *Vaccination*

A potential risk to public health is the possibility of outbreaks of vaccine-preventable diseases (VPD) in a population coming from countries where immunization coverage is low [27]. Vaccinations to consider among migrants include: measles,

poliomyelitis, meningococcal disease, and diphtheria/tetanus/pertussis. The risk of the spreading of vaccine-preventable diseases among the local population should not be underestimated too. The Varicella vaccination, which is not included in Bulgarian routine vaccination programs because the majority of individuals in temperate climates develop natural immunity from previous infection before adolescence, is a good example, especially when taking into account cases registered in the Harmanli refugee camp. Other possible threats could be recognized in the cholera epidemic in Iraq [2] and poliomyelitis in the Syrian/Lebanon border refugee camp [23]. Population displacement can also threaten global VPD eradication and elimination efforts [14].

#### **4.4.3 Antimicrobial Resistance**

Antimicrobial resistance (AMR) is not a disease in itself but a complication of the treatment of a disease. In situations such as the crowded settings with poor hygienic conditions found in refugee camps, infections can easily occur and spread; whether they are caused by resistant pathogens depends on their origin, which can be the environment, animals, food or humans [28]. AMR is becoming a global concern with AMR strains associated with new resistance mechanisms emerging and spreading worldwide [29].

The journey the refugees undertook, crowded conditions in refugee camps or settlements, and the lack of regular medical care, are prime drivers of the spread of AMR among this vulnerable group especially in multidrug resistance TB cases among refugees [5, 15].

#### **4.4.4 Noncommunicable Diseases (NCD)**

The range of potential risks that can be associated with refugees is inevitably wide-ranging. It includes communicable diseases, trauma, dermatological disease injuries associated with the journey, environment, changes in climate, especially during the winter, and last but not least, mental health and psychological problems [4]. WHO assessment in Bulgaria reported on physical and psychological trauma, the consequences of post-traumatic stress disorder; dehydration, nutrition disorders and hypothermia; absence or interruption of treatment for chronic diseases. Particularly high health risks are faced by vulnerable groups of migrants, including the elderly, people with disabilities, pregnant women and young children [27]. Last but not least, migrant's NCD treatment requires substantial resources that create additional economic pressure on the health systems of affected countries.

#### 4.4.5 Bioterrorism

There are multiple causal relations between (forced/irregular) migration and terrorism – but these are generally complex [20]. While the link between terrorism and migration is widely discussed, where in the context of the Migration Inflow hypothesis immigrants are an important vehicle for the diffusion of terrorism from one country to another [3], the link between bioterrorism and migration is hardly found in official and scientific publications. However, bioterrorism as a risk and policy measures to address it is discussed in official documents of the Bulgarian government, particularly in the 2016 Annual Report of the Ministry of Health, which names as one of its aims to ‘Protect the country from importation and distribution of infections with high epidemic risk by creating and maintaining mechanisms for timely and adequate response to health threats of a biological nature, including bioterrorism’.

The EU also includes bioterrorism in the list of new threats but not specifically in the framework of migration but in the general context of cross-border threats: ‘Under EU law on cross-border health threats, existing mechanisms coordinate preparedness for serious cross-border threats to health, linking Member States, EU agencies and Scientific Committees through the Early Warning and Response System. The Health Security Committee, which coordinates Member States’ responses to threats, may act as a focal point on vulnerabilities in public health, to enshrine hybrid threats, in particular bioterrorism [12]. Therefore, there is a wider recognition that migration and bioterrorism have to be dealt with in a broader institutional and policy context. Despite these general considerations of Bulgarian authorities and the EU Health Security Committee, none of our past experience, including the data from our research, convinces us that there is a clear link between bioterrorism and migration processes. Therefore, in the risk assessment, the likelihood of migrants being instrumental in a bioterrorist attack was assessed as **very low** (see Table 4.4).

**Table 4.4** Evaluation of the potential risks to public health, Bulgaria 2017

Risks	Probability	Impact	Notes
No vaccinations	Very high	High	Measles, poliomyelitis
Antimicrobial resistance	High	High	
Spread of ID	Moderate	Moderate	
Non-communicable diseases	High	Moderate	Economic pressure
Bioterrorism	Very low	Very high	



## 4.5 Conclusion

Our findings confirm WHO and DG SANTE expectations that migrants do not pose a significant risk to the local population. At the same time some specific, health risks should be taken into consideration and categorised by varying degrees of probability and impact. The risk assessment should be made by a wide range of specialists based on detailed longitudinal data. Our assessment, based on the public data at our disposal, published and analysed in our article, is summarised in Table 4.4.

The assessment of these risks may seem overwhelming or unrealistic to the external observer, but it seems realistic when considering the geographical location of the country, the institutional weakness and the fragile public health capacity.

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