

# TACKLING DEADLY DISEASES IN AFRICA: KEY CONSIDERATIONS FOR EPIDEMIC RESPONSE AND PREPAREDNESS IN NIGER

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## EXECUTIVE SUMMARY AND KEY IMPLICATIONS

As one of the poorest countries in the world, Niger is highly vulnerable to epidemics and faces considerable operational challenges for preparedness and response. Key overarching summary points and implications are presented below:

- **Vulnerability.** Large numbers of displaced people in Niger's border regions, and other marginalised groups, including women who are largely excluded from public life, historically neglected nomadic ethnic groups, poverty-stricken and highly remote communities may be particularly vulnerable to disease, and/or be more likely to mistrust epidemic response.
  - **Assess vulnerabilities early in and throughout an emergency and make specific efforts to engage vulnerable groups** with the awareness that local context, including political histories and trust in government, may shape whether and how people engage with, or even resist response.
- **Communication.** Niger is linguistically diverse, and most people are illiterate. While mobile phone subscriptions are increasing, access remains relatively low. Local people may also have alternative frameworks for understanding and responding to illness.
  - **Utilise community radio and other aural channels and visual imagery**, utilising local languages, and conceptions of illness. In addition to information provision, emphasise dialogue-based communication, adapting response and further messaging to local people's priorities and understandings.
- **Border regions.** Cross-border movement is important for livelihoods and social and cultural life in parts of Niger, but can also trigger outbreaks of disease.

- **Collaborate with cross-border authorities and other actors** to improve disease prevention and control (e.g. synchronising immunisation campaigns) in border regions while also facilitating continued – but safe – cross-border movement, including markets.
- **Local leaders.** Traditional and especially religious leaders (especially Islamic) are trusted and highly influential in shaping local people's willingness to engage with health interventions such as vaccination.
  - **Engage traditional and religious leaders** early and meaningfully – at the local, but also national and even regional level (e.g. Northern Nigeria) – to shape response in culturally appropriate ways, and to encourage engagement of local people.
- **Private health actors.** Nigeriens are more likely and able to access health services from a wide range of private providers including herbal and faith healers (*marabouts* and Imams), and informal and itinerant medicine sellers.
  - **Engage with health providers of all types** in preparedness and response activities as they can play key roles in shaping response in culturally appropriate ways, providing information, supporting key technical aspects of response and increasing trust.

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# INTRODUCTION

Niger has recently found itself in the crosshairs of regional conflict and global migration challenges, while it continues to struggle with its own political, social, economic and ecological fragilities. One of the poorest countries in the world, it consistently ranks last or second-to-last in the Human Development Index.<sup>1</sup> This, along with an understaffed, undertrained, and underequipped health system, means Niger faces immense challenges in relation to infectious disease prevention and control.<sup>2</sup> This brief draws on a review of both academic and grey literature, as well as inputs from social scientists and other experts on Niger. It is structured as follows: 1) an overview of the country's health system, including both the public and private health sectors; and 2) key issues related to infectious disease outbreaks, response, and preparedness and 3) a list of key actors with which early responders may want to engage in response activities. The brief closes with specific implications and recommendations for future epidemic preparedness and response in Niger. Annexes provide

more in-depth discussion of basic context, history and political economy and social groups and organisation. This technical brief was prepared by the Institute of Development Studies to support the embedding of social science and anthropological perspectives in UK AID-supported Tackling Deadly Diseases in Africa (TDDA) programme technical assistance as well as its Early Response Mechanism.



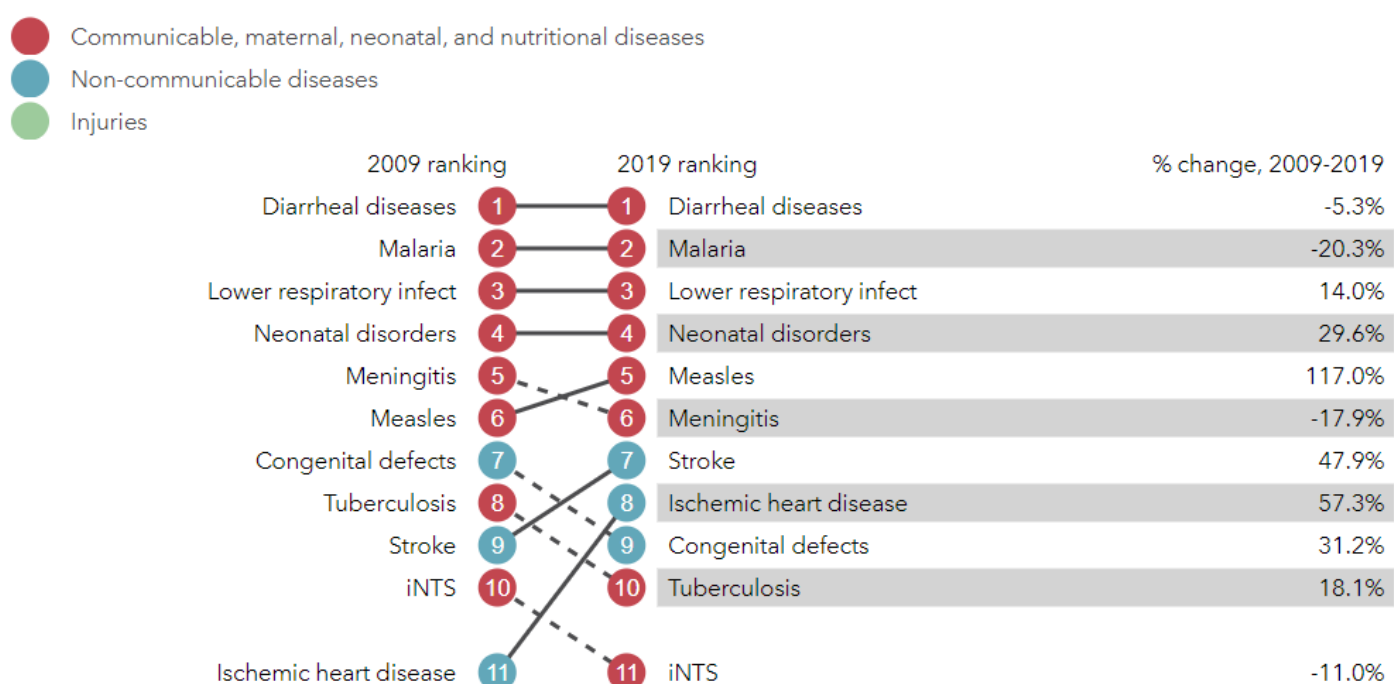
**Map of Niger.** Niger's population of 23.3 million is concentrated in the semi-arable southern regions as sedentary agriculturalists. Over 70% belong to either the Hausa or Zarma ethnic groups. The nomadic Tuareg and Fulani traditionally inhabit the drier central and northern regions. Source: <https://bit.ly/2VwCca3>

# HEALTH SYSTEM

## BURDEN OF DISEASE

Niger has long suffered and continues to experience extremely high burdens of disease, particularly from communicable disease, maternal and neonatal complications, and malnutrition. The top five causes of death in 2019 were diarrheal diseases, malaria, lower respiratory infections, neonatal disorders, and measles (see Figure 1).<sup>3</sup> Child mortality remains alarmingly high if regionally variable, with one in 13 children dying before the age of five.<sup>4</sup> Malaria is responsible for 30% of outpatient visits, and causes half of under-five child deaths.<sup>5</sup> A significant proportion of both children and adults are malnourished, which increases susceptibility to, and worsens infectious disease outcomes. For instance, all recorded child deaths during a measles outbreak in one Zinder health district in 2015 occurred in malnourished children.<sup>6</sup> Niger has regularly faced famine and food crises – (caused by drought, locust damage, high food prices and chronic poverty) with this recorded as early as 1912.<sup>7</sup> Much research and many health interventions in Niger have centred around maternal and child health, nutrition and reproductive health.

**Figure 1** Top 10 causes of total number of deaths in 2019 and percent change 2009-2019, all ages combined



Source: Institute for Health Metrics, 2019: <http://www.healthdata.org/niger>

## PUBLIC HEALTH SYSTEM

The modern state health system grew out of the biomedical system introduced by French colonisers,<sup>8</sup> and remains limited in its reach with only half of the population living

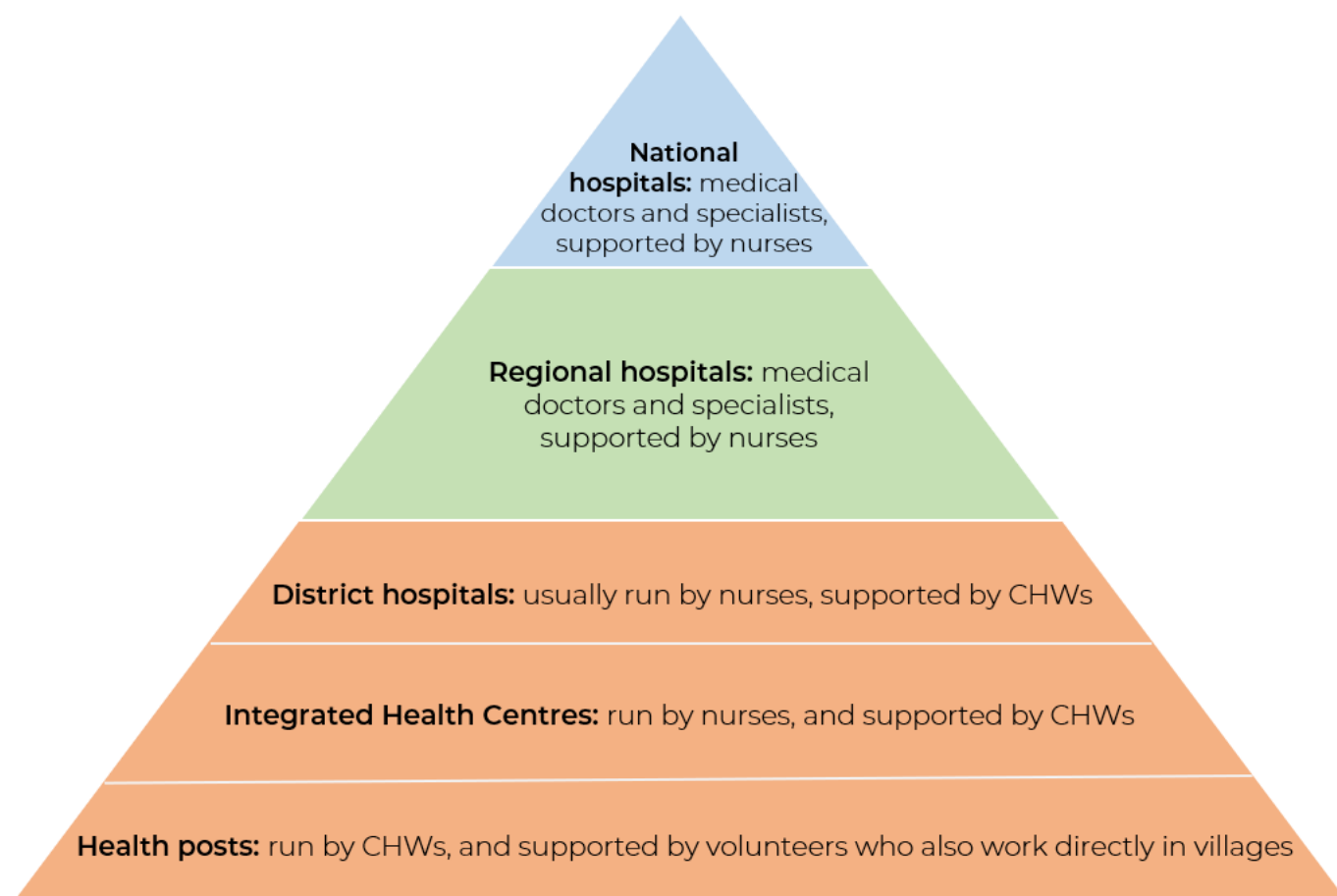
within five kilometres of a facility.<sup>9</sup> Some Nigeriens can expect to walk days to reach a facility, with travel becoming much more difficult in the rainy season from June to September.<sup>10</sup> Even if reached, there is a general view that most facilities are understaffed, lack key supplies, and have irregular hours.<sup>11,12</sup>

For a population of 23.3 million, the country's civil servants in public healthcare included only 757 medical doctors, 4,175 nurses and 697 midwives in 2016, mainly posted in urban areas. Data from 2013 shows an additional 3,412 community health workers (CHWs) (also state employees) with over 76% of them in urban areas.<sup>13</sup> Over half of Niger's doctors live in Niamey (the capital city), while only 6% of the overall population does.<sup>14</sup> Unlike the state health workforce, over 83% of Niger's population is rural. Health workers are known to give up a month's salary in exchange for more desirable urban posts,<sup>15</sup> and may also often be absent from rural posts as they 'search for per diem' through attendance of many trainings offered by NGOs and the MOH, or work part-time in private clinics in larger cities.<sup>12</sup> Supporting rural healthcare workers and infrastructure through increased finance and training is key for preparedness and improved epidemic response.

### **Public health system structure**

The public health system is divided into a pyramid structure (see Figure 2). At the most decentralised level are small health posts (*cases de santé*) run by paid CHWs (*agents de santé communautaire* – or ASCs) and supported by volunteers (*relais communautaires*) who also work in communities directly. CHWs, who typically receive six month's training prior to deployment, are responsible for providing primary and preventative services at these posts.<sup>16</sup> Further up the pyramid are integrated health centres (*centres de santé intégrés* – or CSIs) that oversee the health posts in their catchment area ('health area'), and district hospitals. At the intermediary level are regional hospitals, and at the top are national hospitals. Medical doctors are usually only present at intermediate and national levels, with most public health services in the country being delivered by CHWs,<sup>16</sup> nurses, or even volunteer *relais*. It is these health professionals – often overworked and underpaid – who would be at the frontlines during outbreaks and epidemics, making it essential to meaningfully involve and support them in preparedness and response.

*Figure 2 Structure of health services and personnel at each level*



Source: authors (compiled from various source)

The medical referral system does not work well,<sup>17</sup> and referrals are often long delayed, or made horizontally rather than upward as necessary, illustrating key challenges to communication between facilities at different levels, and a need to improve this.<sup>14</sup> Overall, the system is poorly funded with annual health spending per capita at only \$27 in 2016, making up 5.4% of national GDP. Of this, government contributed 24.9%, donors 15%, and individual citizens, 54.7%.<sup>18</sup> INGOs and external donors have become essential to keep the health system working, and will be crucial also, in providing financial (and other) resources for preparedness and during epidemic responses.

### **Service delivery and experience of care**

Despite expansion through the establishment of health posts staffed by CHWs from 1999, it remains very difficult for most Nigeriens to access quality care due to distance from a facility, limited transportation options, poor roads, facilities being closed or lacking supplies, and the need to pay formal, or very often, informal service fees.<sup>19,20</sup> Although the government made care for children under five and pregnant women free in 2006 – with all other groups having to pay for service at point of care – both health workers and patients report implementation and access challenges to the free care programme.



Health workers have claimed they are rarely reimbursed for providing free care and that the policy has increased their workload,<sup>21</sup> while mothers continue to face financial barriers due to the need to pay for transportation, and often, the need to purchase medicines privately.<sup>22,23</sup> Indeed, although officially banned, health workers regularly dispense prescriptions for patients to purchase medications from external private sector actors due to regular medicine stockouts in public facilities.<sup>15</sup> Given financial barriers are a key driver to the under-utilisation of care in Niger, transportation and treatment should be freely available to people during an epidemic. Researchers have also highlighted the 'small corruption' of health workers, such as selling free medicines, or using other resources, such as ambulances, for their own personal use. Such corruption is perceived by citizens to pervade the health system, and may damage their trust and willingness to engage with an epidemic response.<sup>19</sup> Transparency and involvement of community members and trusted local actors in planning and implementation of outbreak response may help counter feelings of mistrust.

Echoing the colonial era health system, unless patients have a social relationship with a health worker or high social status, they may face discriminatory treatment, particularly if they are rural and poor.<sup>12,24</sup> People from minority ethnic groups such as the nomadic Tuareg or Fulani may additionally experience linguistic and cultural barriers when attending health facilities as most health workers are from the dominant Hausa or Zarma ethnicities (see Annexe). Ethnic minority women in particular, are less likely to be able to speak Hausa, the language of the dominant Hausa ethnic group (who make up 52% of the population), and which is most often used to communicate between different social groups in Niger. This may leave them without critical information, or care.<sup>25</sup> Epidemic response must be equipped to communicate with people from various ethno-linguistic groups, and include individuals from these communities in decision-making, planning and implementation.

Patients' ability, or the ability of an attendant family member to navigate, challenge, and advocate while accessing public health services has been identified as an important skill increasing the odds of positive health outcomes in Niger.<sup>19,25</sup> Particular health workers or facilities may gain negative or positive reputations among community members, who may correspondingly avoid, or seek them, if possible.<sup>19</sup> Community health volunteers in particular, may be seen as trusted health actors locally.<sup>22</sup> In particularly bad cases, hospitals or clinics may be seen as places where people simply go to die.<sup>26</sup> Making efforts to understand a local context, including whether and which particular health workers or facilities are trusted or avoided will be important for effective epidemic response.



## PRIVATE HEALTH SECTOR

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Like in many poor nations, health facilities and services are often more readily available from a range of private sector actors including NGOs, private physicians, pharmacists, informal drug sellers, traditional birth attendants, herbal, spiritual and religious medicine practitioners, and in urban areas, for-profit biomedical health facilities. International agencies and NGOs such as UNICEF, MSF and others, as well as faith-based organisations,<sup>27</sup> also operate biomedical health services, sometimes supporting state services and interventions, but also running parallel ones. However, they are not always able to maintain a sustained presence, particularly in rural areas, due to difficult conditions and security threats, as well as tightened government regulations around their operation in recent years.<sup>28</sup> Epidemic responders from outside the affected communities may face similar challenges, and should carefully consider and plan for any security and logistical challenges they may face in a given area.

There is a large unregulated medicine trade in Niger, including many fake and low quality biomedical drugs, as well as herbal medicines which flow especially from Nigeria, and which are widely available.<sup>20,29</sup> The government claims traditional medicine is used by 60% of the population, and has created a national department to encourage its development.<sup>30</sup> People may sometimes be told in formal health settings that their illnesses are not ‘hospital illnesses’, and that they should seek herbal or spiritual care.<sup>31</sup> ‘Traditional’ healing in Niger draws from pre-Islamic and Islamic medicine, and may involve local plants, and animist traditions of spirit attachment and possession.<sup>32</sup> It is usual for villages to have a main *marabout* – a Koranic medicine practitioner who may also draw on other forms of traditional healing – as well as other less experienced Koranic medicine practitioners. The term *marabout* may be considered derogatory, and the term ‘imam’ should be used instead. *Isherifan*, traditional Tuareg healers, may use only their hands to heal.<sup>33</sup>

It is critical that any epidemic response engages with this wide array of health service providers to reach a broader proportion of the population – not only in terms of logistics, given that such practitioners may be more numerous than government health workers, especially in rural areas – but also in terms of trust as people may feel more comfortable receiving information, treatment and advice from these actors than from state health workers.

## HEALTH-SEEKING AND LOCAL EXPLANATIONS OF DISEASE

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Overall, use of biomedical services in Niger is low, including for reasons outlined above, although the policy of free care for under-fives is understood to have improved health outcomes among children, despite persistent barriers to uptake for many.<sup>34,35</sup> People are likely to try a number of approaches to address health issues. Pharmaceutical treatments in the form of pills and shots, as well as vitamins, purchased from informal and travelling vendors are popular, and along with 'traditional' medicine, are often used to self-medicate as a first recourse.<sup>36,37</sup> Traditional options are also sought in both urban and rural areas, although more so in the latter. In addition to herbal remedies, these might include the use of amulets and talismans which protect against spiritual attack, or consuming the ink washed from prayer boards, sold by local *marabouts* who engage both Islamic and pre-Islamic techniques.<sup>38,39</sup> It is generally believed that every illness has a medicine or treatment. Although traditional services may be preferred in some instances, people often try many different types of treatment until they find the 'right' one, and may not present to formal facilities unless severely ill, or if their illness is not understood to be amenable to biomedicine.<sup>40</sup> People from some ethnic (especially nomadic) groups who have been historically neglected and/or not part of mainstream Nigerien society may be less likely to seek biomedical treatment.

Some indigenous healing practices, such as the use of amulets, are increasingly hidden given the spread of more fundamentalist versions of Islam (such as 'Izala' or Wahhabism) that may frame these as *haram* (against Islam). While 98% of Nigeriens are Muslim (with small pockets of Christians and Bahá'ís in urban centres),<sup>41</sup> fundamentalist Islamic beliefs are strongest among the Hausa in the south. They are weakest among the nomadic Tuareg and Fulani, and among more rural communities. Epidemic responders will need to consider the religious context of affected local areas, recognising that some communities may reject interventions which are seen to be against Islam, while in others, indigenous healing techniques may be seen as important for addressing disease.

### **Understandings of illness and health**

Treatment seeking is also influenced by diverse understandings of illness and health. Social science has long documented dissonance between biomedical and popular representations of disease in Niger.<sup>37,40,42</sup> For example, malnutrition has been understood by mothers as a 'disease of fear' caused by a curse or spirit,<sup>43</sup> while trachoma or diarrhoea may be seen as a normal part of child development.<sup>32,44</sup> There have been suggestions that while some conditions may be understood as 'contagious' through bodily fluids, others are 'transmissible' through social relationships (e.g. epilepsy). Epidemics of measles and smallpox have been thought of as having been caused by 'old' illnesses, while meningitis

is associated with a need to seek biomedical care.<sup>45</sup> Polio may be seen by some more as a social or spiritual illness, brought on by wrongdoing of the affected family.

Locally recognised conditions may not map neatly onto biomedical diseases. Among the Zarma, *weyno* and *yeyni* loosely correspond to haemorrhoids and rheumatoid arthritis, but also have other symptoms, and are thought of as diseases which should be treated at home.<sup>46</sup> Two illness categories, known as *zahi* and *sanyi* among the Hausa, are common across ethnic groups. Illnesses are frequently identified by people as a type of either *zahi* or *sanyi*, especially if they cannot be otherwise explained or identified (see Annexe).<sup>47</sup> Divergent understandings between patients and biomedical practitioners can cause confusion, and influences people's decisions to seek biomedical services.<sup>45,46</sup> Epidemic responders need to be aware that these and other local illness categories may become relevant to people amidst an outbreak, particularly of a new or unknown disease, and seek to understand them – through dialogue, listening, and rapid research – in order to adapt response accordingly.

### **Decisions about health**

Decisions about whether and which external health services are accessed, regardless of who they are for, are usually made by family patriarchs.<sup>19</sup> Women have expressed desires for their husbands to be more knowledgeable about health, so that they would make better decisions.<sup>22</sup> Interventions, including 'husband schools' have been tried in some settings, with positive results.<sup>48</sup> Generally, women have less opportunities to access health information themselves. The increasingly fundamental version of Islam practiced in Niger has also led to an increase in cloistered women who are only allowed to leave home occasionally with their husband's permission, especially in Hausa areas along the Nigerian border where polygamy is widely practised (see Annexe). Women can, however, often buy medications from travelling salespeople visiting their village, or seek care from a neighbourhood traditional medicine practitioner with their own pocket money. Although gender roles are strict across the country and social groups, women from ethnic groups among which fundamental Islam is less strong (e.g. Tuareg, Fulani), may have more autonomy in decisions about health.<sup>49,50</sup> Responders need to find ways to engage both with men – who have more decision-making power and freedom to access information outside the home – as well as with women who, while less able to make decisions, are keenly interested in the health of their families, and are more likely to undertake homecare.

# INFECTIOUS DISEASE OUTBREAKS, RESPONSE AND PREPAREDNESS

## DISEASE RISK AND VULNERABILITY

Niger experiences regular and seasonal outbreaks of endemic infectious disease, particularly of malaria and cholera during the rainy seasons, and meningitis and measles in the dry season (see Table 1). Vaccine-derived poliovirus is also increasingly a concern as vaccination coverage remains insufficient.

**Sanitation.** A major driver of disease risk is lack of sanitation and clean water. Only 13% of people have access to basic sanitation (latrines or toilets), and 71% practice open defecation.<sup>51</sup> In 2017, less than 50% of the population had basic access to clean water, and this percentage is much lower in rural areas.<sup>52</sup> This is linked to widespread poverty. Niger is the poorest amongst its West African neighbours, with 67.4% of people in severe, multi-dimensional poverty (a measure of income, health, education, and social deprivation).<sup>1</sup> A key focus of preparedness should be improvements to the social determinants of health, with a focus especially, on expanding sustainable access to clean water and sanitation.

**Cross-border movement.** Disease outbreaks in Niger are also often linked to cross-border movements. The large-scale cholera outbreak of 2018 for instance, is thought to have been triggered by people entering from northern Nigeria to seek health services in Maradi region, from which it quickly spread to other regions.<sup>53</sup> Niger's membership in the Economic Community of West African States (ECOWAS) allows citizens to travel and trade freely across the porous borders of the 15 administratively divided countries, across which social groups share common ethnicities, languages and cultures, and engage in regular commerce through weekly and seasonal markets.<sup>54,55</sup> Dry season migration (known as 'exode') has also long been common for men who leave to work temporarily in neighbouring countries and return to their fields for the rainy season.<sup>56</sup> In recent years, Niger has also become a transit hub for international migrants hoping to reach Europe by crossing the Sahara.<sup>57</sup> While cross-border movements may trigger disease outbreaks, they are also vital for sustaining livelihoods and important socio-cultural networks. Epidemic preparedness efforts should seek to improve cross-border cooperation to prevent outbreaks, including by working directly with mobile communities, while responses to outbreaks should avoid closing borders entirely. Not only is this untenable given the length and porosity of Niger's borders, but it can cause severe economic and social harm (see Annexe).<sup>58,59</sup>

**Zoonotic disease.** The large camel population in the country has been flagged as a risk for zoonotic disease emergence,<sup>60</sup> as have socio-cultural practices of livestock loaning.<sup>61</sup> To prevent theft, people may also live in close proximity to livestock such as cattle, goats, sheep, chickens, ducks, horses and donkeys. Diseases affecting animals and people, including Avian Flu and Rift Valley Fever (RVF), are also considered major risks, and outbreaks of both have occurred in recent years.

*Table 1 Notable disease outbreaks in Niger 2000-2020*

Disease	Notable outbreak years	Context
Meningitis	2001, 2002, 2003, 2006, 2009, 2015 (9367 suspected cases, 549 deaths), 2017, 2018, 2019	After a five-year period without meningitis outbreaks (for which vaccination programmes have been credited), a rarer strain caused a significant epidemic in 2015, with Niamey, Niger's capital, being hit hardest. Vaccine shortages complicated response. <sup>62</sup>
Cholera	2001, 2002, 2004, 2005, 2006, 2010, 2014 (>2000 cases), 2018 (>3800 cases)	Cholera regularly emerges in rainy season, especially in wetter southern regions and communities near the Niger River during annual flooding, but can occur throughout the dry season too - particularly where access to clean water and sanitation is even more limited, such as among displaced communities along the Nigerian border. <sup>53,54</sup>
Measles	2003 (40,000 cases and 500 deaths nationwide), 2015, 2019 (>10,000 cases), 2020	Outbreaks of measles occur nearly every year across the country, and are associated with the dry season when substantial labour migrations occur, <sup>63</sup> and with cross-border movements. <sup>6</sup> While coverage has increased over the years, immunisation levels remain insufficient and case numbers have actually been rising in recent years. This is regionally variable.
Polio	2013, 2018, 2019, 2020	Small-scale vaccine-derived poliovirus outbreaks, usually in southern Niger and linked to cross-border movements with Nigeria, have occurred in recent years. Cases of wildtype poliovirus were also documented in the 90s and 2000s, with the last known case occurring in 2012. <sup>64</sup>
Rift Valley Fever (RVF)	2016 (33 human deaths)	While RVF mainly affects livestock, it can also infect and kill people, as well as damage livelihoods through herd loss. The outbreak in Tahoua region occurred in Northwest Niger bordering Mali among nomadic stockbreeders, and prompted fears that further spread might occur following a major annual gathering, the <i>Cure Salée</i> festival, during which around two million herd animals from around the region are brought together to graze. <sup>65</sup>
Hepatitis E	2017 (736 confirmed cases, 38 deaths)	This outbreak occurred in Diffa region, following conflict which displaced nearly 250,000 people in the border area with Nigeria, and forcing them into particularly unsanitary conditions. Many of the victims were pregnant women. <sup>66</sup>

Source: authors (compiled from various source)

## VULNERABLE POPULATIONS

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**Refugees, displaced and other mobile populations** are particularly impacted by lack of access to clean water and sanitation and are thus especially vulnerable to infectious diseases such as cholera, hepatitis and polio. Since 2012, migration within and into the country has also accelerated due to regional and increasingly domestic violence by terrorist groups (Boko Haram, al-Qaeda- and ISIS-linked groups, etc.).<sup>67,68</sup> Today, there are over 500,000 people in Niger, mostly women and children, that have been recently displaced by violence in Northern Nigeria, Mali and Burkina Faso, as well as within Niger. They are concentrated in Diffa, Tahoua, Tillabéri and Maradi regions.<sup>69–71</sup> Following intervention by the European Union, international migrants intercepted on their journey towards Europe now face quarantine and holding in camp-like conditions prior to their repatriation.<sup>59</sup> In-country migration has also historically occurred in response to regular food crises with many people leaving rural for urban areas. The movement of all migrants, within and between Niger and neighbouring countries, increases disease vulnerability for them, as well as for their host communities.

**Gender.** As suggested, women are less able to access information about health, while their caring responsibilities may increase their vulnerability to some diseases in some settings. For instance, women from displaced households were disproportionately affected by a significant outbreak of Hepatitis E in Diffa region in 2017, and many pregnant women died. Women's role in fetching water here is thought to have been behind their greater vulnerability.<sup>66</sup> Men over 15 years old seem to have been disproportionately affected during outbreaks of cholera which is unlike other countries in the region, but data may be skewed due to under-reporting of cases among women (as well as children).<sup>54</sup>

**Children** also face heightened vulnerability to infectious disease outbreaks, particularly of measles, polio and meningitis which have increased in recent years. Despite a rise in child vaccination over the last two decades, coverage is insufficient to stop the viruses from circulating. Over 10 thousand cases and 53 deaths occurred due to measles in the first half of 2019 alone.<sup>72</sup> This is in contrast to only 478 cases and four deaths in 2006 following major vaccination campaigns supported by the Measles Initiative.<sup>73</sup> Delays to major vaccination drives, with the goal of 'eliminating measles by 2021' have scuppered recent efforts, further increasing cases.<sup>74</sup> Recent polio outbreaks in 2020 have also been linked to the suspension of vaccination campaigns due to COVID-19.<sup>75</sup>

## EPIDEMIC AND OUTBREAK RESPONSE GOVERNANCE

The Nigerien government has structures in place for disease surveillance and epidemic response. While the Department for Surveillance and Response to Epidemics (*Direction de la Surveillance et de la Riposte aux Epidemies* - DSRE) of the Ministry of Health (MOH) is principally charged with this, other relevant departments include the Department for General Public Health (DGSP), and the Department of Statistics (DS).<sup>76</sup> The state has acknowledged the importance of intersectoral collaboration for response, and with support from WHO, established a 'One Health' technical committee in 2018 with seven specialised sub-committees (logistics, communication, emergency response, treatment, prevention and infection control, and laboratory).<sup>60</sup> Table 2 presents additional key governance entities involved in or related to health and epidemic response and surveillance at various levels. It is unclear whether and how some of these structures have been active in relation to outbreaks and epidemics, and their existence or functioning should not be assumed.

*Table 2 Key health governance entities at various levels of the system*

Level	Governance entities
National	<ul style="list-style-type: none"> <li>Ministry of Health, including the Department of General Public Health (DGSP), the Department of Epidemic Surveillance and Response (DSRE), and Department of Statistics (DS)</li> <li>National Multisectoral One Health technical committees</li> <li>Ministry of Livestock Health (<i>Ministere de l'elevage</i>)</li> <li>Ministry of Environment, Sanitation, and Sustainable Development (<i>Ministère de l'environnement, de la salubrité urbaine et du développement durable</i>)</li> <li>National Device for Disaster and Food Crises Prevention and Management (NDDFCPM) works with communities to identify emerging crises.</li> </ul>
Region (n = 8)	<ul style="list-style-type: none"> <li>Regional Departments of Public Health (<i>Directions Régionales de la Santé Publique</i> – DRSP) (one for each region)</li> <li>Programming and Health Information Services (<i>Services de la Programmation et de l'Information Sanitaire</i> – SPIS) oversees data from health districts.</li> <li>Regional Multisectoral One Health committees</li> </ul>
Health district (n = 72)	<ul style="list-style-type: none"> <li>Epidemiological Surveillance Centres (<i>Centres de Surveillance Epidémiologique</i> – CSE) oversee data from health areas.</li> <li>District One Health committees</li> <li>Vulnerability Monitoring Observatories (OSV) have been set up in some areas and function independently from the MOH to monitor emergencies in different sectors (agriculture, livestock, health, etc.).</li> </ul>



Health areas and communities	<ul style="list-style-type: none"> <li>• <b>CSI (health centres)</b> collect and enter health data for the facility's catchment area directly into the digital DHIS2 system since 2019. Paper versions of this data are also submitted to the district CSE.</li> <li>• <b>Community-based Management Committees (COGES)</b> support CSI management. Comprise of the head of the CSI and community members from the CSI's health area.</li> <li>• <b>Community Health Committees (COSAN)</b> comprise of volunteer community members. They support health district planning alongside COGES.</li> <li>• <b>Community Structures of Early Warning and Responses to Emergencies (SCAP-RU)</b> have been established in some health areas to identify emerging concerns. They function in different sectors, including health.</li> </ul>
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Source: authors (compiled from various sources)

## Surveillance

In addition to overseeing epidemic responses, the DSRE is responsible for implementing the recently renewed Integrated Disease Surveillance and Response (IDSR) strategy, on which 89% of districts have been trained.<sup>67</sup> The IDSR technical guide mandates surveillance of 55 diseases, conditions and events.<sup>6</sup> Surveillance is envisioned to begin at community level with CHWs contributing to disease identification and informing health posts and CSIs. In theory, data then passes upward through to district and regional level officials who input it into the National Health Information System (SNIS) on a monthly, or trimesterly basis depending on the disease. Reporting may occur on a weekly basis during an epidemic.<sup>54</sup> With the launch of DHIS2 in 2019, CSIs may now directly input data into the digitised system without the need for cumbersome paper-passing upward through the system. However, due to electricity and internet challenges, both systems are currently operating in parallel. At the outset of an outbreak, once reported and investigated, notifiable diseases are confirmed at the national laboratory, the Medical and Health Research Centre (*Centre de Recherche Médicale et Sanitaire* - CERMES), or sent to the WHO reference laboratory in Senegal if there is no lab capacity in Niger for identifying a particular disease.

## OUTBREAK RESPONSE AND PREPAREDNESS EXPERIENCE

Official outbreak responses have generally entailed collaborations between the Nigerien Ministry of Health, the WHO and a range of other international partners including UNICEF, MSF, the Red Cross (IFRC), the Global Fund, ALIMA (Alliance for International Medical Action), as well as Nigerien organisations such as BEFEN (*Bien-Etre de la Femme et de l'Enfant au Niger*). The WHO usually provides the national government with technical and financial support for field investigations, and to initiate and scale active surveillance and testing, while other partners may focus more on supporting case

management through temporary treatment centres (or supporting existing facilities), and risk communication and community engagement.

The state and its partners have also collaborated to carry out large-scale interventions to address outbreaks and epidemics. Recent examples include mass vaccination campaigns against meningitis and cholera in 2015 (1.4 million vaccinated) and 2018 (150,000 vaccinated);<sup>53,62</sup> dispersion of Aquatabs and construction of new wells in response to the 2017 hepatitis outbreak;<sup>66</sup> and mass distribution of anti-malaria bed-nets to 90% of families with children under five, including by camel, donkey and boat in 2006, 'piggy-backing' off the polio vaccination campaign infrastructure.<sup>77</sup>

## COVID-19

A national response is being carried out in collaboration between the state (led by the newly established *Comite Technique Nationale COVID-19*) and its partners (including WHO, UNICEF, UNFPA and MSF).<sup>60</sup> As in many African countries, restrictive measures were implemented early in March 2020, including curfews, school closures, and bans on inter-urban travel and public gatherings (including prayers).<sup>78</sup> While Niger continues to have few confirmed cases and most restrictive measures have been lifted, there has been a 176% increase in the number of people struggling to meet basic food and other needs.<sup>79</sup> As mentioned, COVID-19 has also impacted routine vaccinations, including due to fear felt by mothers to bring their children to get immunised. UNICEF has supported the training of hundreds of health workers on COVID-19 infection prevention and control, and awareness raising in communities to increase confidence in the safety of health services.<sup>80</sup>

## COMMUNICATION AND TRANSPORT

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Although mobile phone and coverage has increased rapidly in Niger, it remains lower than in neighbouring countries (41 mobile subscriptions per 100 people in 2017), and is highest among urban males.<sup>81</sup> Internet access is very low, with only 5.3% of people reporting in 2018 that they had used the internet in the last three months.<sup>82</sup> Among those with access, WhatsApp is an increasingly important channel for communication, especially among young people with access to capable mobile phones.<sup>83</sup> Niger is also linguistically diverse, with ten main languages corresponding to different ethnic groups. Hausa is the most widely understood common language. Although French is the country's official language and used in administration, few ordinary people speak it. Furthermore, 65% of Nigeriens are illiterate (with this number being higher among rural people and women). Community radio is the best channel through which to reach people with information (Studio Kalangou provides widespread and trusted programming<sup>84</sup>), along with other culturally appropriate visual and audio information (in locally

appropriate languages). Messages which utilise local concepts, and dialogue-based communication which enables adaptation of messages and other response activities, will be important.

Although paved roads have increased in recent decades, much of the country remains inaccessible by car, especially during rainy season.<sup>4</sup> Camels, horses, and ox-carts, and increasingly motorbikes, are commonly used by rural people to transport goods or people in need of healthcare. Some communities alongside the Niger River are accessible only by boat, especially during rainy season. Given these communities are at high risk for cholera outbreaks, it is essential that riverine transport is supported to facilitate response.<sup>85</sup> Distance to the nearest port (Cotonou, Benin at 1035 km) increases the price and difficulty of obtaining key resources such as medications and equipment,<sup>4</sup> which may cause problems acquiring essential supplies during an emergency.

## GOVERNANCE AND KEY ACTORS

Niger has experienced a turbulent political history following independence, including several coup d'états, periods of military rule, and rebellions by the nomadic Tuareg who have been historically independent, and felt exploited by French uranium interests and neglected by the state (see Annexe).<sup>86</sup>

Although under stable multi-party democracy since 2011, on the whole, ordinary Nigeriens perceive the government to be corrupt. For most, it is local leaders who are most trusted and influential, including when it comes to shaping attitudes towards external health interventions. These include traditional leaders who operate within the state system of governance (with roots in both pre-colonial and colonial era political structures<sup>87,88</sup>) and religious (especially Islamic) leaders. A lack of involvement of such leaders has been identified as a major reason for the failure of many family planning interventions,<sup>89</sup> and the population's initial resistance to believing COVID-19 was serious enough to merit strong restrictive measures. Conversely, they have also collaborated with state and international actors in health interventions, including in the context of COVID-

### Politics and trust

While some groups such as the Tuareg have very explicit histories of resistance to the state and foreign actors, issues of mistrust, rooted in political histories as much as current events, are relevant across groups. For example:

- The brutality of French colonisers is remembered across social groups, and may impact people's trust of foreign epidemic response actors.
- The government's use of COVID-19 as justification for recent political repression may undermine future state-led epidemic response, particularly to new or unfamiliar diseases.
- See Annexe for more on these and other political economy and history issues in Niger.

19, and Ebola,<sup>90</sup> and it is essential that epidemic responders engage with these actors in future preparedness and response activities. Due to widespread poverty and lack of mechanisms for participation, civil society engagement with government in Niger is weak outside of urban areas (see Annexe).<sup>91,92</sup>

Table 3 outlines various administrative, traditional and religious leadership structures in the country which epidemic responders should be aware of as well as make efforts to collaborate with in the event of an epidemic. Note that while many traditional leaders are supported by and integrated into the state, the territories over which they and religious leaders have influence, may not directly map onto state administrative units.

**Table 3** *Political, traditional and religious leaders in Niger, by administrative level*

Administrative Level	Political Leaders	Religious Leaders	Traditional Leaders
National	President of the Republic, President of the National Assembly, Prime Minister Presidents of other institutions such as CESOC, CSC, CNDH	National Islamic Association, Young Muslims National Organisation (w/ chapters in public and private schools across the country)	National Council of Traditional Leaders
Regions (n= 8)	Governors, Presidents of regional councils	Sheikhs, Independent Islamic Associations (mainly following Izala Islam; many funded by foreign entities in MENA region)	Sultan of Agadez, Sultan of Zinder, Sultan of Dosso, Sultan of Maradi, Sarkin Gobir
Departments (n=63)	Préfets	Imams, Sheikhs	Province Chiefs
Communes (n=265)	Mayors		Canton Chiefs, Groupement Chiefs (Sarki of Fulani, Sarki of Tuareg, Tubu)
Villages (n=12,700), Neighbourhoods ( <i>quartiers</i> )		Imams	Village Chiefs, Neighbourhood Chiefs

Source: authors (compiled from various sources)

## COMMUNITY RESPONSES TO OUTBREAKS AND OFFICIAL RESPONSES

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Unfortunately, little research or media reports provide accounts of community responses to disease events or to official responses to address them, particularly over the last 15 years. A recent exception were riots mounted by communities in and around urban centres which erupted in response to government bans on communal prayer, and restrictions on people's ability to leave cities to prevent COVID-19.<sup>78</sup> Not having witnessed any serious impacts of the virus locally, people felt politicians had lied, and were unnecessarily curbing their economic, social and spiritual freedoms for their own financial gain.

Generally, however, communities tend to be framed rather passively, as having been 'sensitised' or 'engaged' for awareness raising and behavioural change around basic hygiene, recognising disease symptoms and seeking treatment early. A description of a measles outbreak in 2017 notes that community radio stations and town criers were engaged for the purposes of social mobilisation.<sup>6</sup> Such activities are often framed as key to stopping outbreaks,<sup>93</sup> and while this may be true, there has been little further investigation or reflection on how people actually perceive, understand and experience them or other response elements, and how this may differ within or between communities. In the context of COVID-19, there is evidence that people may avoid health facilities and basic care for fear of infection with the virus, or a positive COVID-19 test that would lead to isolation and forced hospitalisation.<sup>80,94</sup> Others may dismiss the risk altogether if perceived to be a disease affecting only rich people, or foreigners. Such knowledge can be used to adjust messaging and interventions in real time, help explain successes and failures of a response, and provide lessons for future action.

### **Case study: Vaccine hesitancy - a story of neglect and (mis)trust**

One of the most significant examples from the social science of disease response in Niger, is an accounting of resistance to oral polio vaccines (OPV) among some communities in southern Niger during mass immunisation campaigns of the early 2000s. What might have appeared to be a matter of religious refusal or simple ignorance, was actually a much more complex story in which several factors interacted and reinforced one another. Firstly, people were put off by abrupt health workers who, lacking time and under pressure, failed to explain possible side effects to reassure parents. This was reasonable given that only a few years prior, several children had died in a vaccine trial in Northern Nigeria, a region with close socio-cultural ties to Southern Niger. Counterfeit meningitis vaccines administered in Niger in the 1990s had also allegedly killed thousands of children.<sup>20</sup> Secondly, people were suspicious of the considerable resources put towards the OPV campaign (with health workers visiting every home) as they had only ever experienced a barely functioning health system. This added fuel to rumours that the

government, as a puppet of Western powers, wanted to stop Muslim populations from expanding by administering a vaccine causing infertility. This was driven locally by a charismatic Muslim preacher with ties to Northern Nigeria where Islamic leaders were similarly discouraging OPVs.<sup>20</sup> This 'sterility rumour'<sup>95</sup> reflected histories of neglect, inequity and mistrust between citizens, the state, and foreign powers as much as it reflected local values of fertility and collective survival, and local relations of trust. Religious leaders and organisations in Niger – and in Northern Nigeria – are powerful and greatly trusted by Nigerien communities, and are key to health interventions. They have continued to play a role in opposing health reforms seen to be pro-Western or anti-Islamic; this is most clearly evident into ongoing resistance to family planning programmes in spite of the enormous investment of UNFPA and other agencies.<sup>89,96</sup>

In addition to anxieties about vaccines and infertility, people may have other reasonable misgivings about accepting vaccines. Fake vaccines for meningitis have been discovered in circulation in both 2015 and 2019,<sup>97-99</sup> while vaccine shortages during the large-scale meningitis epidemic in 2015 led to confusion over why some people received vaccines and others did not.<sup>100</sup> Distribution of scarce resources during a health emergency, particularly if it favours 'connected people' as it is common in routine Nigerien health service provision, could alienate people from engaging with response. Furthermore, as earlier suggested, people may simply not recognise infectious diseases as illnesses amenable to biomedicine, and may not seek this type of care. Or, as seen with COVID-19, some infectious diseases may not be considered an important threat or priority.

### **Trust, inclusion and local forms of social organisation and authority**

This historic experience with vaccine hesitancy is a clear example of the importance of trust between citizens and state actors in relation to health interventions. While some social groups have had more explicitly fraught relations with the state in the past (e.g. the nomadic Tuareg), even communities from ethnic groups that have been well integrated into Nigerien society, such as the Hausa, have low trust in the state which may be rooted in a sense that the state has failed in its duties to support them, and have been refusing vaccination in recent years. This may also be linked to fundamentalist Islam, as well as persistent poverty and lack of economic opportunity.

Efforts to increase trust in the state over time – not least through expanding access to quality healthcare and improvements to basic living conditions – will be necessary to improve people's willingness to engage with epidemic response. In the shorter term, responders should strive to ensure inclusion and representation of communities through trusted local leaders and social groups in both preparedness and response activities, including in decision-making and implementation processes.

**Religious leaders.** As mentioned, religious leaders are essential partners for epidemic preparedness and response. In a Wellcome Trust survey in 2018, 93% of respondents claimed that they would not ‘believe science’ if it ‘disagreed with their religion.’<sup>101</sup> The influence of religious leaders was most recently illustrated by fundamentalist Islamic leaders who urged young men involved in violent resistance to restrictive COVID-19 prevention measures to stop rioting as this they saw this as a threat to public opinion and spread of Islam.

**Informal and local structures.** Survey respondents also reported high degrees of trust in people in their neighbourhoods, signalling the importance of engaging local structures and social organisations. This is particularly crucial for reaching women who are more isolated from public life. They can be engaged through women’s groups, called ‘*foyandi*’ in Zarma or ‘*asusu*’ in Hausa, which are common in both rural and urban areas, and often meet for specific purposes, such as pooling money for special events, or offering small loans to members.<sup>102,103</sup> Men’s groups, or ‘*fadas*’, often meet to listen to the radio, socialise, exchange knowledge, and react to current events and should also be engaged.<sup>104,105</sup> Youth can be reached through schools, including formal and informal Koranic education institutions,<sup>106,107</sup> and in urban areas, through *Maison de Jeunesse et Culture* (MJC) which offer spaces for youth to meet and organise cultural events. However, other strategies may be needed to engage with youth who are not in school, especially in rural areas.

**State-linked local structures.** While it is important for responders to reach out to formal community-based organisations that have been linked to and established by the state – such as COGEN, COSAN and SCAP-RU (see Table 2) - it should not be assumed that these are active, or if they are, that they are the best avenues for engaging local people. Research has suggested that while such groups may be comprised of community members, they may not necessarily be representative of all local voices and may rather represent local elites. There have also been issues of misappropriation of funds through these groups.<sup>108,109</sup>

Furthermore, rather than one-way information provision, community engagement should be characterised by dialogue which will allow responders not only to provide crucial information, but also to get a sense of community priorities, concerns and understandings, as well as capacities. This will enable responders to adapt response activities to better fit local contexts, and enable and support community-led strategies.

## **Community-led strategies**

Although little research exists on this area in Niger, communities can play active roles in responding to outbreaks, both by engaging state actors, and acting independently. Their



actions may be informed by local belief systems. For instance, some Zarma communities practice *Yeynandi*, an annual ceremony organised by *zima* (spirit possession priests) to appease the spirits and prevent epidemics of meningitis and cholera.<sup>110,111</sup> Spirit beliefs have a long history in Niger, and although increasingly demonised by expanding fundamentalist Islam, still resonate in many communities.<sup>39</sup> Spiritual possession rituals have long served as public ways of interpreting significant events, such as famines and colonisation.<sup>112</sup> They may become important in the context of a catastrophic health event. Such practices, along with other local beliefs and rituals, can help identify unexpected disease events, mobilise populations, and serve as important links between local structures of leadership and authority, and external response. They can become loci for respectful dialogue through which biomedical/public health responders and local people learn from one another and collaborate to address an outbreak. Communities can also play important roles in formal response, not least by filling the gap of disease surveillance in places poorly served by health systems, long lamented in Niger as in other low-resource contexts. Researchers in 1999 found that over half of polio cases had been reported by parents or CHWs in communities where awareness raising had occurred.<sup>113</sup>

## ONGOING CHALLENGES, LESSONS AND RECOMMENDATIONS

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As suggested throughout this brief, Niger continues to face immense challenges to epidemic preparedness and response. Most of the key issues noted in the literature on epidemics in Niger (most of it from public health, biomedical, governance or operational perspectives) relate to technical issues. These include the difficulty of reaching much of the population, increasing domestic security risks, poor infrastructure and ongoing health system limitations.<sup>114</sup> During a preparedness assessment amidst the West African Ebola epidemic which many worried would reach Niger<sup>115</sup> the WHO noted a lack of appropriate isolation and treatment facilities and trained medical and response personnel, and the absence of an operational centre from which to coordinate response.<sup>116</sup> Other gaps and recommendations made over the years include the need to strengthen cross-border health surveillance and controls, to improve access to clean water and sanitation, to address 'persistent subnational surveillance gaps' particularly among mobile and migrant populations, and to improve laboratory capacity and the time it takes for samples from the field to be tested.<sup>117</sup> In relation to specific diseases, a focus on river regions has been noted for cholera, while for measles, it has been recommended that vaccination efforts be synchronised with cross-border authorities and that they be timed just prior to seasonal migrations which can trigger outbreaks.<sup>63</sup>

Less often have social and cultural issues figured into the lessons and recommendations made by global health actors and researchers, with a few key exceptions. These include a

recommendation from the WHO that burial teams be trained in culturally appropriate methods and that white body bags be on hand (to be sensitive to Islamic tradition) in case Ebola reached the country.<sup>116</sup> The role of religious leaders has also been recognised more broadly, with World Vision having convened both Islamic and Christian leaders in a workshop to consider culturally and spiritually appropriate Ebola response.<sup>90</sup>

As suggested, even less attention has been granted to community perceptions and experiences on the ground. As we have seen from the experience of vaccine hesitancy, lack of trust and failure to engage communities in meaningful ways can derail interventions in dramatic fashion. This can also occur more subtly and in the context of longer-term processes, such as the improvement of sanitation. Research on cholera has suggested that people have resisted constructing latrines in their homes due to not wanting to be seen as selfish, or to prioritise their private interests over those of the general community.<sup>55</sup> Efforts to better understand the social, cultural, economic and political norms, experiences, and perceptions of local people will be invaluable for improving epidemic preparedness and response in Niger in the future.

## KEY IMPLICATIONS FOR EPIDEMIC PREPAREDNESS AND RESPONSE

**Addressing structural vulnerability.** It is crucial to address the structural causes of disease vulnerability, as well as ensure particularly socially and economically vulnerable groups are supported during epidemic response.

- **Support sustainable improvements to the social determinants of health** as a core aspect of epidemic preparedness as 87% of Nigeriens lack access to basic sanitation. Not only will this decrease vulnerability to disease, but it will increase trust. This should be done with sensitivity to local cultural norms around private and public interests.
- **Invest in the expansion and quality of primary care**, particularly in rural areas. Ensure health facilities and health workers, especially nurses and CHWs have the supplies, funds and training they need to provide quality, consistent care to improve prevention, preparedness and response.
- **Provide financial, technical and social support to people to engage with epidemic response** (e.g. free treatment, transportation) and consider providing support for other health, social and economic issues which people are likely to prioritise. This may increase trust, and improve well-being overall.

- Find ways to facilitate ongoing economic and social activity in border regions while also improving disease prevention and control (e.g. synchronising immunisation campaigns) as cross-border movement is essential for livelihoods and health, but also increases vulnerability to disease.
- Ensure appropriate logistics are in place to respond in remote rural communities, especially during the rainy season, as these communities are far from areas where responders are likely to be concentrated, and may be unable to reach needed care on their own. Sustainable improvements to transportation systems are good investments in preparedness and offer additional benefits to such communities.

**Identifying and prioritising marginalised groups.** Some communities in Niger may be more likely to face vulnerability to disease, or to mistrust epidemic response due to political histories of neglect or abuse.

- Refugees, displaced people and seasonal domestic and international migrants require special attention as they face greater vulnerability in crowded, unsanitary conditions. Locations and movements of displaced people can change rapidly, and it is important to be aware of and track shifts and events that can influence this.
- Make special efforts to reach out to women – who are largely excluded from public life – including through local women’s groups (*foyandi* or *asusu*). However, to avoid disrupting social organisation, it is important to involve men as well (as they have greater decision-making power over health seeking and must grant permission for their wives’ participation in activities), such as through men’s groups (*fadas*).
- Make efforts to meaningfully engage with ethnic groups that have been historically excluded or discriminated against (especially nomadic Tuareg and Fulani), or who face persistent poverty. This includes Hausa communities along the Nigerian border. Representatives from key communities should be included in planning and decision-making around preparedness and response.

**Engaging communities effectively.** There are technical, social and political challenges to effective community engagement in Niger which responders should be aware of and prepare for.

- Communication about outbreaks and epidemics should focus on radio, and other aural messages and visuals (e.g. town criers, posters etc.), utilising local languages and concepts of illness and health. In urban areas, WhatsApp may be used to reach increasing numbers of young people. Studio Kalangou operates widely trusted radio programming.

- **Top-down messaging should not take the place of dialogue-based communication and meaningful community engagement** through which responders should listen to local people's concerns, priorities and understandings. Community priorities, understandings and needs emerging from this dialogue should feed back into all aspects of response.
- **Do not assume that formal community-based structures** are functioning, or representative of or trusted by all local people if they do exist. Make efforts to identify forms of informal local authority and social organisations.

**Nurturing trust in response.** Perceptions that the state and foreign actors are corrupt or have ulterior motives are widespread and can impact epidemic response.

- **Engage traditional and religious leaders** (especially Islamic but also Christian, Bahá'í) early and meaningfully – at the local, but also national and even regional level (e.g. religious authorities in Northern Nigeria) – as these actors are highly trusted and influential in determining people's willingness to engage with health interventions. Religious leaders in particular, can help align response in culturally appropriate ways.
- **Engage the wide range of private health providers in Niger** including herbal and faith healers (e.g. *marabouts* and Imams), and informal and itinerant medicine sellers whose services local people may be more likely and able to seek when in need. These actors may be highly trusted by local people, and can support all aspects of response from surveillance to community engagement.
- **Strive for transparency in all aspects of response** as people may be suspicious of government and responders' motives due to mistrust and perceptions of corruption. Dialogue (via radio or community meetings, including among vulnerable groups) and accountability mechanisms (e.g. anonymous reporting mechanisms) may be options for doing this, although it is crucial that feedback is acted upon.

**Building contextual knowledge.** People's perceptions, trust and ability and willingness to engage with response is profoundly shaped by social, economic and political context. There is currently limited research on this in Niger.

- **Engage social scientist and social research methods** to increase what is currently scarce knowledge on the broader contexts of infectious disease in Niger, with a focus on local people's experiences and perceptions. Methods may include rapid research during health emergencies and may include Knowledge, Attitudes and Practices (KAP) surveys, and rapid context analyses.

## KEY ACTORS

This section presents a list of key actors identified in the process of researching for this brief with whom early responders may want to engage with.

### SOCIAL SCIENCE INSTITUTIONS

- **LASDEL** (*Laboratoire d'Etudes et de Recherches sur les Dynamiques Sociales et le Développement Local*) - a key in-country social science research institute with a long history of critical research on health and development in Niger. Partnership could include qualitative and mixed-methods assessments of perspectives on epidemic response and uptake of related behaviours and services. Its website contains many useful references and working papers. <https://www.lasdel.net>
- **IRSH** (*L'institut de Recherches en Sciences Humaines*) - a research institute at the University of Abdou Moumouni in Niamey. It brings together four academic departments in the social sciences and humanities. IRSH could be helpful in identifying early-career researchers or doctoral students for epidemic-related investigations.

### ORGANISATIONS INVOLVED IN EPIDEMIC RESPONSE IN NIGER

#### International organisations

- **MSF** (*Médecins Sans Frontières/Doctors without Borders*) - supports the Epicentre research facility in Maradi, and many in-country health programmes. The organisation's presence includes MSF-E (Spanish MSF), MSF-F (French MSF), MSF-B, (Belgian MSF) and MSF-S (Swiss MSF). MSF has long played key roles in responding to health crises, including the recent 2018 cholera epidemic. <https://www.msf.org/niger>
- **Red Cross** - The Red Cross has a strong presence in health in Niger through several different offices, including: CICR (International Red Cross Committee), CRF (French Red Cross), CRI (Irish Red Cross), CRN (Nigerien Red Cross), QRC (Qatari Red Cross). <https://www.ifrc.org/en/what-we-do/where-we-work/africa/red-cross-society-of-niger/>
- **ALIMA** (Alliance for International Medical Action) - NGO focused on providing medical services in West and Central Africa, with experience supporting the country during infectious disease epidemics such as the 2016 Rift Valley Fever outbreak (in partnership with BENFEN, see below). <https://alima.ngo/nos-missions/niger/>
- **ACTED** - Humanitarian response and epidemic response in areas of the country with high rates of migration and displacement. <https://www.acted.org/fr/pays/niger/>

## Nigerien NGOs

- BEFEN (*Bien-Etre de la Femme et de l'Enfant au Niger*). BENFEN often partners with ALIMA during infectious disease response. <https://alima.ngo/nos-missions/niger/>

## United Nations agencies

- WHO/OMS (World Health Organisation) - has a country office in Niamey supported by the Africa Regional Office in Brazzaville, Congo. The agency is an important partner of the Nigerien Ministry of Health in responding to epidemics caused by infectious diseases and building healthcare capacity. <https://www.who.int/csr/don/archive/country/ner/en/>
- UNICEF (United Nations Children's Fund) - has supported the government in developing communication strategies and community mobilisation efforts for COVID-19 response. It could potentially help leverage efforts to reach difficult-to-reach populations in the case of future epidemics. <https://www.unicef.org/niger/what-we-do>
- UNFPA (United Nations Population Fund) - has supported the work of doctors mobilized in COVID-19 response. Focuses on capturing demographic data and policy response with an emphasis on human rights and gender. <https://www.unfpa.org/fr/data/transparency-portal/unfpa-niger>

## OTHER ORGANISATIONS ADDRESSING HEALTH ISSUES IN NIGER

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### International organisations

- Africare - <https://www.africare.org/country/niger/>
- Caritas Niger - <https://cadevniger.org>
- COOP I - <https://www.coopi.org/fr//niger.html>
- CRS (Catholic Relief Services) - <https://www.crs.org/our-work-overseas/where-we-work/niger>
- Concern Worldwide - <https://www.concern.net/where-we-work/niger>
- GOAL - <https://www.goalglobal.org/countries/niger/>
- HKI (Helen Keller International) - <https://www.hki.org/our-stories/hki-niger-and-lake-chad-crisis-combating-malnutrition-forgotten-emergency/>
- IRC (International Rescue Committee) - <https://www.rescue.org/country/niger>
- MdM-Be and MdM-F (Médecins du Monde Belgium and France) - <https://medecinsdumonde.be/regions/niger#Actualités>
- PLAN - <https://plan-international.org/niger>

- Save the Children International - <https://www.savethechildren.org/us/where-we-work/niger>
- World Vision International - <https://www.wvi.org/niger>

#### Nigerien NGOs

- APBE (Action pour la Paix et le Bien Etre) - <https://apbe.org>
- MASNAT - <https://www.masnat.fr/sante>
- Songes Niger- <http://songesniger.org/songes-niger/experiences.html>

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## ANNEXE: ADDITIONAL HISTORY AND CONTEXT

This annexe provides additional contextual information on aspects presented in the brief, as well as additional issues which responders may want to know about.

### BASIC CONTEXT

#### Geography and agroecology

Two-thirds of Niger (northern to central regions) is in the Sahara Desert. It is largely hot and arid, and thus prone to drought – although seasonal flooding also regularly displaces people – and the desert is expanding southward due to climate change. Only about 12% of land is suitable for agriculture, most of which is in the Sahelian semi-arid southern regions.<sup>118</sup>

#### Population

Although steadily urbanising, 83.5% of Niger's population of 23.3 million is rural,<sup>119</sup> and concentrated in southern regions as sedentary agriculturalists. Sparser northern people are traditionally nomadic pastoralists, but might be sedentary for part of the year, while some have settled permanently in villages throughout the country. There are ten main ethnolinguistic groups, with the southern dwelling Hausa as majority representing just over half the population.

The largest cities are Niamey, the capital, with a population nearing a million, followed by Zinder, Maradi, and Agadez in the north (populations between 100,000 and 350,000). Niger has the world's youngest population, with over half of Nigeriens being under 15.<sup>120</sup> It also has the world's highest population growth rate<sup>121</sup> measured at 4.11% in 2015, the highest fertility rate at seven children per woman, and the sixth highest infant mortality rate.<sup>4,69</sup>

#### Livelihoods, socio-economic status and economic activity

Niger is the poorest amongst its West African neighbours, with 67.4% of people in severe, multi-dimensional poverty (a measure of income, health, education, and social deprivation).<sup>1</sup> They have regularly faced famine and food crises – variously caused usually by combinations of drought, locust damage, high food prices and chronic poverty – with records suggesting this as early as 1912.<sup>7</sup> Most people rely on subsistence agriculture, livestock rearing, and informal activities for their livelihoods, and while Niger is rich in mineral resources, local people have not benefitted from their extraction. A budding oil industry, and ongoing gold and large-scale uranium mining have seemed to enrich foreign investors and Nigerien elites while local people who have managed to find

employment in these sectors, have faced precarious labour, occupational health risks and low wages.<sup>122,123</sup>

### Emic understandings of health and illness

*Zahi* and *sanyi*, as they are known among the Hausa, are common illness categories in Niger. Both traditional and biomedical care may be sought for them. Epidemic responders need to be aware of these and the potential that other local illness categories become relevant to people amidst an outbreak, particularly of a new or unknown disease.

Emic illness category	Cause	Symptoms	Treatment
<i>zahi</i>	Over-exposure to the sun, too much sugar or tobacco or oil in meals, not eating well or eating at irregular times.	Fever, chills, eye problems, impotence, stomach problems, diarrhoea, articulation pain, regular headaches, mental instability.	Drinks made with the powder of local plants, biomedical treatments such as Flagyl (metronidazole). Lion urine, purchased from the National Museum, may be used as a treatment in advanced cases.
<i>sanyi</i>	Sometimes seen as a more advanced version of <i>zahi</i> . Caused by giving birth, can be transmitted by women to men, or arise in men who do not fully ejaculate.	Urinary problems, genital discharge, fever, pain in lower limbs and stomach, shrinking of male sex.	Plants, Koranic verses, amulets, bush animals (skins or meat).

## POLITICAL ECONOMY AND HISTORY

### Precolonial and colonial history

For centuries, a key trans-Saharan trade route passed through Niger, which brought Islam to West Africa in the 14<sup>th</sup> century, along with an Islamic education system and Islamic medicine. Records suggest Niger was occupied by the French as early as 1897, despite resistance from local populations, especially nomadic Tuareg.<sup>124,125</sup> France eventually claimed Niger as a colony in 1922. During occupation, people were forced to build roads and other infrastructure, engendering resentment of foreign actors that persists to today.<sup>126</sup> Nigeriens occupied few administrative or industrial positions in colonial Niger, which were held instead by West Africans from other countries. Colonial Niger had much lower rates of schooling and very little industry compared with other French territories.<sup>124</sup>

## **Power and decision-making after independence**

The French and Nigerien governments remained close following Niger's independence in 1960, with the economy growing in the 1970s, mainly due to French development of uranium mining in the north.<sup>127</sup> However, a budget deficit also began in this decade, and along with structural adjustment policies in the 1980s, entrenched dependence on foreign aid.<sup>128</sup> The country only had its first democratic multi-party elections in 1993, and has experienced four *coup d'états* (1974, 1996, 1999, 2010) followed by periods of military rule.

Sitting President Mahamadou Issoufou, an ethnic Hausa, was elected in 2011 in elections largely considered free and fair by the international community. His appointment to Prime Minister of an ethnic Tuareg, provision of emergency food crisis aid to previously neglected northern regions, ambitious development plans and anti-corruption reforms gained him favour domestically and abroad.<sup>129</sup> Although re-elected in 2016, the election was rife with scandal. Issoufou's main opponent Hama Amadou led his campaign from prison held on fraud and child trafficking charges. Another presidential election is scheduled for December 2020.<sup>130</sup> As suggested in the core brief, for most Nigeriens however, it is local leaders who are most influential.

## **Rebellions and unrest**

Ethnic Tuaregs, a nomadic group who traditionally inhabit a sizable expanse of Niger's northern territory have mounted several rebellions against the government. A major grievance has been the state's allowance of international interests to exploit vast uranium reserves in Tuareg territory without benefitting local people, including by polluting the local environment, disrespecting cultural practices, and perpetuating poor working conditions. Health services provided by French mining companies have been accused of failing to address local communities' actual health needs, including those caused by mining activities.<sup>86,123,131</sup>

Fundamentalist Islamic armed groups have emerged in border regions over the past two decades (in and near Chad, Mali, Burkina Faso and Nigeria), with extreme poverty, lack of employment, and feelings of abandonment by the government driving young Nigeriens' recruitment into these groups.<sup>132,133</sup> There are fears that a continued lack of economic opportunity, education and jobs for the country's rapidly expanding youth population may worsen unrest,<sup>121</sup> although most Nigeriens do not support extremist views.<sup>129</sup> Increasing security issues challenge the work of INGOs and government development programmes, and have led some donors to leave the country or restrict their zones of intervention. Despite these growing threats, with the exception of its border areas, Niger is considered relatively stable compared to neighbouring regions in Mali and Nigeria.<sup>129</sup>

## **Cross-border flows, migration and displacement**

As suggested in the brief, cross-border flows are a key aspect of Niger. Interruptions to this flow can cause problems for local people. Nigeria halted trade across its land borders in October 2019 leading to severe increases in the price of goods in neighbouring countries and increased smuggling.<sup>58</sup> Border closures due to Covid-19 have also caused recent additional challenges, especially for migrants moving through the region.<sup>59</sup> Niger, especially the northern town of Agadez, also became a transit hub for international migrants hoping to reach Europe by crossing the Sahara. While the government has stemmed the flow with prodding and support from the EU, some smuggling continues.<sup>57</sup>

## **Corruption, civic space and human rights**

Nigerien governments and state actors have long been perceived as corrupt by ordinary Nigeriens. Although Issoufou enacted popular anti-corruption reforms early in his tenure, recent revelations about corrupt arms deals made by government officials prompted mass demonstrations led by civil society, unions and opposing political parties. Concerns about COVID-19 transmission were used to justify violent suppression of protestors.<sup>134</sup> In recent years, activists and journalists have also been arrested, including for reporting on corruption, and more recently, for reporting cases of COVID-19.<sup>135,136</sup> This, along with Issoufou's imprisonment of political opponents, has prompted alarm among international human rights groups,<sup>129</sup> and reflects what some see as a deteriorating relationship between the state and civil society.<sup>91</sup>

## **Civil society**

While technically supported by the state through legal guarantees and privileges, including the freedom to organise and form networks, civil society in Niger remains weak, and has limited influence on policy and decision-making. While some organisations are politically active in urban areas, grassroots activity in the rest of the country is minimal. This has been attributed to a lack of a culture of civic engagement, due to many years under authoritarian or military rule prior to 2011, as well as to lack of resources including money, and membership. Additional factors include low literacy levels and social exclusion of rural populations. As participation is generally voluntary, given widespread poverty, most people cannot afford to forego subsistence farming or paid work to contribute.<sup>91,92</sup>

# **SOCIAL GROUPS, STRUCTURES AND ORGANISATION**

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## **Ethnicity, languages, religion and interethnic difference**

Although each has many subgroups, 98% of people in Niger belong to one of five main ethnic groups: Hausa (53.1%), Zarma (21.2%), Tuareg (11%), Fulani (6.5%), or Kanuri (5.9%).

Other groups include the Gurma, Arab and Tubu.<sup>69</sup> Each group has its own language, with Hausa often used to communicate between them. Different ethnic groups have mostly peacefully co-existed although traditionally nomadic-pastoralist groups such as the Tuareg and Fulani have historically been excluded from education and government employment opportunities, in contrast to the more sedentary Hausa and Zarma who inhabit southern regions. These groups also have different colonial histories, with the Zarma having collaborated more easily with colonial powers than the Tuareg, Fulani, and Hausa who more strongly resisted. There is also a history of farmer-herder conflict, and although sometimes resulting in violence, this has often been mediated through local networks and institutions.<sup>137,138</sup> While the state is secular, over 98% of Nigeriens are Muslim, although there are small communities of Christians and Baha'is in urban areas.<sup>41</sup> Indigenous religious beliefs and animist practices also persist, including among Muslim communities, although this has become less common with the spread of more fundamentalist versions of Islam (such as 'Izala'). Fundamentalist Islamic beliefs are strongest among the Hausa in the south, and weakest among Tuareg and Fulani (especially WoDaaBe subgroup).

## Education and youth

Most Nigeriens (65%) are illiterate<sup>139</sup> and over half of children (aged 7-16) are not in school, with girls facing more educational exclusion.<sup>140</sup> Only 17% of women aged 15-24 years could read a sentence or had attended secondary school in 2012.<sup>4</sup> Urban men's focus groups have expressed the continuing education of girls to be a 'waste of time' and that unmarried, professional women without children are not respected.<sup>141</sup> Providing children with an Islamic education is seen as an obligation for parents and is initiated as early as age four.<sup>106</sup> Informal Koranic education (*makaranta allo* in Hausa) may be attended in addition to government schooling. However, since the 1990s with the rise of fundamentalist movements, *madrasa*, Franco-Arab schools, both private and public, have begun to emerge throughout the country to offer religious-based bilingual education.<sup>107</sup> Islamic influence also reaches into public schools through the Young Muslims National Organisation which has chapters in both state and religious schools across the country.

## Gender

Nigerien society is strongly divided by gender. Polygamy is widely practiced, with the highest rates in Maradi region (52%).<sup>4</sup> The increasingly fundamental version of Islam practiced in Niger has led to an increase in cloistered women who are only allowed to leave home occasionally with their husband's permission, especially in Hausa areas along the Nigerian border. This also goes for accessing health care. Traditional birth attendants

and elderly female community members play a key role in reproductive health and birth.<sup>142</sup>

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