

## Key questions and information gaps

Thematic report – May 2020

Despite a large amount of information published on the COVID-19 pandemic, there remain significant gaps in our knowledge and understanding. This is particularly so in relation to the impact of the pandemic in places already in humanitarian crisis. Many of the information gaps are unlikely to be filled until long after this health crisis has passed.

**This report provides an overview of the key information gaps and limitations in interpreting existing COVID-19 data.** This includes:

- Information gaps surrounding key factors that are thought to exacerbate the spread of the virus.
- Challenges in making sense out of caseload and mortality data.
- Information gaps pertaining to the secondary impact of the crisis.
- Information gaps in relation to national government and humanitarian response plans.

Humanitarian and development actors need to be aware of the gaps and limitations of the current information landscape in order to ensure that, where possible, efforts are made to avoid uninformed assumptions.

These information gaps include, but are not limited to:

### Environmental factors

- Demographics
- Population density
- Seasonal/climate impact
- Air pollution

### Secondary impact

- Domestic violence
- Mental health
- Primary health care utilisation
- Food insecurity and malnutrition
- Interruptions to supply chains
- Changes in malnutrition and food security
- Community coping mechanisms
- Interruption to existing humanitarian programming

### Pandemic trajectory

- Standards of testing and extent to which different standards are implemented
- Mortality rate
- Excess deaths
- Asymptomatic cases
- Immunity
- Extent of adherence to containment measures

### Response

- Government response plans
- Donor planning
- Humanitarian data
- Extent of humanitarian exemptions
- Extent to which containment measures can be implemented

### Limitations

This report identifies the big questions that are important for our understanding of the impact of COVID-19. It does not seek to provide answers to these questions or provide detailed analysis of the issues identified, rather it intends to highlight key gaps in our understanding and knowledge. It is beyond the scope of this report to provide country or region-specific information, instead the report provides a broad overview of some of the key gaps and limitations within the global information landscape for COVID-19. This report does not provide epidemiological analysis as this is not within the scope of ACAPS analytical expertise.

This report is based on a review of existing secondary information, as well as information received via the ACAPS Humanitarian Experts Network.

## Why are some cities or countries seemingly more affected than others?

Understanding the underlying reasons why countries are seemingly affected differently is crucial to informing aid planning and delivery. A lack of clear understanding why some areas have been particularly hard hit, in terms of cases and deaths reported and health systems overwhelmed, hinders responders' ability to apply that learning to effective response planning in less developed parts of the world.

In many countries the reported number of cases is lower than expected, death rates have not spiked, and health systems are not observed to be reaching capacity at this stage in the pandemic. Large cities such as New York and London have been heavily impacted while others including Bangkok and New Delhi, seemingly less so.

There is no clear understanding of why this might be the case. While in some cases insufficient testing, or false government reporting, is likely to be masking the true spread of the virus, if a noticeable increase in deaths were occurring in some contexts it is expected that journalistic reporting of this would have reached international media.

Many countries may just remain behind the curve and the worst is yet to come – there are speculations that the virus will peak in parts of Africa three to six months from now.

### Reasons for seemingly significantly different impact across countries include:

- We may not have a clear understanding of the current reality due to limited or no testing.
- Government reporting may be inaccurate.
- In some contexts, the containment measures may be having the desired impact; however, Myanmar and Cambodia have reported few cases and neither country imposed strict lockdown measures.
- Questions are also being raised around whether certain environmental or demographic factors play a role in exacerbating the spread of the virus. Numerous studies are underway that explore the way different factors may interplay and shape the trajectory of the pandemic in different cities, countries and regions (New York Times, 03/05/2020; USA Today, 07/05/2020).
- **Demographics:** Much of the data suggests that older people are more vulnerable to COVID-19 – leading to speculation that the impact of the epidemic in developing countries may be less severe because many of them have younger populations. **It is however unclear whether the oldest age groups in developing countries will be similarly affected, even where the overall life expectancy is lower.** It is not clear how factors that influence the overall life expectancy, including poverty rates, the prevalence of other diseases, and high rates of malnutrition, interact with individual vulnerability to COVID-19 (New York Times, 03/05/2020; USA Today, 07/05/2020).
- There are speculations that age may not be the most dominant factor in increased vulnerability to severe infection. Research is investigating the link between the virus and pre-existing health issues such as diabetes, obesity, and heart disease. There are also unknowns around the potential link between vulnerability to the virus and smoking, as well as whether or not blood type and genotypes are significant (Live Science, 05/05/2020).
- There are also **unknowns regarding how at-risk children are or how much they contribute to the spread of the virus.** While cases have been reported among children, the overall proportion of children having been affected is either very low or most cases among children are asymptomatic (ACAPS HEN, 04/2020).
- In higher income countries there are a number of reports that analyse how different ethnic groups have been impacted by COVID-19. In the UK for example, data shows that **people from minority ethnic groups have been disproportionately affected by both the primary and secondary impacts of the virus.** Analysis of this issue has taken in to account pre-existing characteristics of different communities including wealth, health, living standards and education. Socioeconomic disadvantage and health status does impact how vulnerable a particular ethnic group might be to the impact of the virus; however, research shows that this alone does not account for the disparity and there are other issues at play that are not yet fully understood (IFS, 01/05/2020; The Guardian, 07/05/2020). Although more research is required to better understand the significance of ethnicity, this is relevant information for humanitarian actors to consider when assessing why some groups may be more affected than others.
- **Population Density:** this is a known variable in the spread of COVID-19 but cannot be considered as a stand-alone factor. The interaction of population density with other variables such as service availability and success of containment measures will determine the trajectory of the virus. A number of studies reveal how higher population density can go hand in hand with better access to health services as well as higher financial capacity to provide the resources needed to manage the spread. Differences in affluence of densely populated areas has also been observed as a potential factor. For this reason **it should not be assumed that population density immediately results in faster disease spread** and should be analysed according to each specific context and the other variables at play (World Bank, 20/04/2020).
- **Seasonal/climate impact:** There are speculations that warmer temperatures will help to limit the spread of the virus, as is the case during an influenza outbreak. However, it is too soon to tell whether this is the case with COVID-19. **Brazil, Peru, and Indonesia are all warmer climates and have experienced significant spread of the virus** (New York Times, 03/05/2020).
- **Air pollution:** It remains unknown as to whether air pollution exacerbates the spread of COVID-19. Previous studies of other viruses have found a link between pollution levels and spread of disease, and there are speculations that particularly high levels

of pollution in northern Italy may have exacerbated the spread of COVID-19 in the region. **While COVID-19 has been detected in pollution particles in the air, more research is required to determine if this means that the virus can be carried over longer distances** and increase the number of people infected (The Guardian, 24/04/2020; SIMA, accessed 11/05/2020).

### Humanitarian considerations:

- Potential for rapid spread and severe impacts on populations living in congested conditions, particularly with limited access to health resources.
- Impact on co-morbidities is not clear. How the virus interacts with malnutrition or endemic diseases such as malaria or dengue are unknown and should be carefully monitored.
- Potential for disproportionate impact on marginalised groups due to their greater socio-economic vulnerability, among other factors, must be taken into account.

### Why is predicting the trajectory of the virus so difficult?

While there are many unknowns surrounding the underlying environmental factors that increase or limit the spread of the virus, the following issues also hinder our ability to assess the trajectory: inconsistencies in the extent of testing and types of tests used; varying ways of counting the mortality rate; and uncertainties around asymptomatic cases and levels of immunity.

Challenges in interpreting available data mean that assessing the full impact of the virus is complicated and comparing COVID-19 data across countries is potentially misleading.

### Testing

Testing, followed by tracing, has proven effective in managing and mitigating the spread of COVID-19. In many countries, including in higher income countries, testing is far from adequate. **A lack of testing results in a lack of understanding regarding the spread** of the virus, making it impossible to assess which interventions should be implemented.

- The most commonly used test (Polymerase Chain Reaction – PCR) assesses the presence of the virus in the body. Often there are significant time lags between being tested for the virus and receiving the result. It is therefore not always possible to know if a sudden spike in cases is due to an actual rise, or due to testing results long after samples were collected. This is likely to be of greater concern in countries with lower laboratory capacity. An antibody test is in development and beginning to be used in some contexts. Until an antibody test is widely implemented it is impossible to know whether someone suspected as having been infected has passed the virus on to others - hindering ability to track the virus spread (The Conversation, 24/03/2020).

- The accuracy of both types of test is disputed and the extent to which different standards of testing are being implemented across countries is not clear (Our World in Data, 30/04/2020; John Hopkins University, 04/2020; Nature, 02/04/2020).
- In many developing countries testing may be available but only in the capital city. It is not clear to what extent any form of testing has been rolled out beyond some capital cities (Nature, 02/04/2020).

### Mortality rate

Officially more than 250,000 people are reported to have died due to COVID-19. Unpacking what this means is not straightforward and one country's death toll is not directly comparable to another. Even in countries with adequate systems in place for recording deaths, counting the mortality rate is complex for the following reasons:

- Most countries only report COVID-19 deaths that occur in hospitals. Deaths in the community are largely unaccounted for.
- Reporting of deaths is not timely. Daily figures refer to deaths reported on that day, rather than deaths that occurred on that day. There is usually a lag between time of death and when that death is reported. Some countries have now only begun to report deaths once the death certificate has been issued. This is a more reliable indicator than the daily hospital figures released (Oxford University, 01/05/2020; The Economist, 16/04/2020).
- The death count does not include people who were not tested for COVID-19.
- The way in which countries are counting the death rate varies. Some countries are counting people who have died with COVID-19 in their system, even though the eventual cause of death may have been another affliction. Other countries are only counting when it is known that COVID-19 was the final cause of death.

### Excess deaths

Due to limitations in counting the death rate researchers are considering the number of excess deaths in a country to be a more reliable proxy indicator. Numerous studies have been published that analyse the total mortality rate and compare this to the expected mortality rate (based on data from the same time period in previous years). The total count includes people recorded as having died due to COVID-19, as well as those from other causes, including those who perhaps could not be treated either due to hospitals being overwhelmed or due to people choosing to avoid hospitals and forgoing necessary treatment. In many European countries, for example, recent data shows that up to 30% more people have died than is normal, far above and beyond the official COVID-19 death figures (New York Times, 27/04/2020; The Economist, 16/04/2020).

In many lower income countries, systems for recording deaths are often limited or unreliable and it is common for people to die at home and be buried or cremated without

a formal death certification. This means that any assessment of the overall mortality rate is still highly inaccurate. In some countries, official mortality data may not be available but crematoriums and gravesites are being monitored to assess increased use. This is the case in Indonesia where an increase in burials in Jakarta suggests a spike in the number of deaths due to COVID 19 (The Economist, 16/04/2020).

## Asymptomatic cases

It is known that a proportion of people with COVID-19 are asymptomatic. However **the proportion of people who remain asymptomatic is not clear**. It is also not clear to what extent asymptomatic carriers of the virus contribute to transmission. It is speculated that the level of contagion does not differ significantly between people who do and do not display symptoms, however more research is needed to confirm whether this is the case. It is suspected that younger people and people with no underlying health conditions, who often display milder symptoms, may be more likely to be asymptomatic, but again more research is required to confirm whether this is accurate. Evidence regarding asymptomatic cases is so far anecdotal and specific to particular case studies. Research shows that in some instances up to 40% of people carrying COVID-19 may be asymptomatic (The Conversation, 30/04/2020).

A better understanding of asymptomatic cases is important because it would allow for a more accurate understanding of the mortality rate: while the spread of the virus may be more widespread than is reported, the overall mortality rate would be lower. Furthermore, uncertainty around asymptomatic infection complicates the ability to identify cases and understand how best to respond, and reduces confidence in the ability to relax lockdown measures (Axios, 01/05/2020; Financial Times, 30/04/2020).

## Immunity

**Initial beliefs that having had COVID-19 results in antibodies that provide some level of immunity are in doubt** as there have been reports of people testing positive a second time. Thus, the theory that herd immunity can be achieved is debatable (The Conversation, 30/04/2020; WHO, 24/04/2020).

## Community adherence

Information on the different government measures implemented is readily available; however, information on the extent to which the general public adheres to these measures, is scant. There may be numerous factors that influence the level of adherence. These include certain social and cultural practices, such as the significance of attending religious events, and the extent to which measures reduced household income of the poorest communities. The level of trust a population has in its government, and the authorities' ability to mitigate the economic effects of the measures may also impact the

extent of adherence to such measures. In many lower income countries, the decision to pursue livelihood activities in order to afford food will take precedence over staying home. There are also reports that in some communities people are not interpreting the crisis as a real threat and believe that the virus only affects wealthier people or people who have travelled from parts of Europe, Asia or the USA (Nature, 02/04/2020; ACAPS, 21/04/2020). **Without a clear understanding of community adherence, we are unable to accurately analyse the effectiveness of containment measures.**

## Humanitarian considerations:

- In low resource settings it is unlikely that testing will be sufficient to understand the evolution of COVID-19 in real time. Contingency plans for containment given this critical information gap are essential.
- If reliable mortality rates and expected mortality rates are available, a comparison of these figures could provide the most accurate picture of the health impacts (both primary and secondary combined) of COVID-19.
- Lack of clarity on the proportion and profile of asymptomatic carriers, as well as the extent to which asymptomatic cases drive transmission means that screening for COVID-19 symptoms is likely to be insufficient in containing the disease spread.
- Understanding of the disease and its risks, trust in health services, capacity of health services to distribute public health messaging, as well as community ownership in the pandemic response are demonstrated to be key factors impacting people's adherence with containment measures.
- Understanding communities' perceptions of the relative threats posed by the disease and the containment measures will indicate the extent to which communities are likely to adhere to measures.

## How will the secondary impacts of the pandemic vary across countries?

Secondary impact falls into two categories:

- the reduced capacity of the health system, and
- the effects of containment measures.

The first is largely dependent on the pre-existing capacity of the health system, its ability to respond, and the number of people seeking healthcare. The second is primarily dependent on the type and severity of containment measures, the populations adherence to them, and government's enforcement policies.

## Primary healthcare utilisation

The extent to which primary healthcare use has already been disrupted remains unknown. There are potentially three factors at play that will lead to interruptions in the delivery of healthcare:

- 1) The spread of the virus risks overwhelming health systems due to a rise in COVID-19 patients, hindering the capacity to deliver services beyond treatment for the virus.
- 2) The containment measures have rendered many services inaccessible or only partly operational as they are deemed non-essential, or movement restrictions inhibit use. This has affected family planning services and maternal care, psychosocial support services, nutrition services, among others. Treatment for other widespread diseases is also at risk of being interrupted including malaria, TB, and HIV. The extent to which other health services remain open is not always clear across countries (Nature, 02/04/2020).
- 3) As reported in parts of Europe, there is a risk that many people in need of healthcare for a range of issues, will actively avoid health services for fear of catching COVID-19. It is not clear to what extent this is happening and whether the avoidance of healthcare is resulting in increased suffering due to choosing to forgo treatment for other illnesses.

Factors that will help to inform our understanding of the impact on health systems include:

- Rate of use of different health services including whether this is due to: reduction in service availability; inability to move as a result of containment measures; choosing not to visit a hospital or clinic for fear of contracting the virus
- Changes or reduction in medical personnel at hospitals and health clinics
- Changes in number of deliveries in hospital
- Changes in the number of surgeries performed
- Trade restrictions preventing access to essential medical equipment and personnel
- Excess deaths may provide some indication of the extent to which other health services have been interrupted

## Medical supply chains

Lower income countries are highly reliant on the importation of medical equipment, making them vulnerable to interruptions in trade resulting from government containment policies. As the majority of medical supplies are diverted to Europe, the US, and parts of Asia, lower income countries will be especially hard hit by the global competition for

resources, including the rising prices of essential medical goods. **There is a lack of clear information regarding the ways trade interruption and increased competition have impacted lower income countries and where the most significant shortages are with regard to medical equipment.** Information on medical supply chains will provide an indication of ways in which health systems have been affected (Nature, 02/04/2020; The Lancet, 25/04/2020; Vox, 09/04/2020).

## Domestic violence

Across the world there have been anecdotal reports of an increase in incidents of domestic violence as people are confined to their homes, livelihoods are lost, and tensions build amid increased financial worries. The UN estimates a global increase in incidents of domestic violence during periods of lockdown of 20%, or a total of 15 million incidents for every three months of lockdown. Reduced availability of services and movement restrictions will limit access to support services. While this is a universal concern, **there is currently limited information to allow for a more granular understanding of how domestic violence is impacting different people in different communities and countries** (UNFPA, 27/04/2020). Gathering this data within contexts where there are severe movement restrictions and social distancing measures in place is however not possible and potentially places vulnerable people at higher risk if they are unable to be alone in their homes (Devex, 06/05/2020). Key informant respondents to ACAPS' Humanitarian Experts Network surveys have regularly highlighted concerns around increased risk of GBV.

## Mental health

There is significant anecdotal reporting on the impact of the COVID-19 crisis on mental health and particular concern over people already suffering from mental health conditions such as depression, anxiety, and obsessive-compulsive disorder (OCD). Loss of income, isolation or separation from loved ones are some of the consequences of containment measures that are affecting mental health. The virus itself is also a cause for anxiety, and there are some studies that are beginning to explore the impact on mental health, specifically in COVID-19 patients. The psychological toll on health care workers is also of high concern and is beginning to be reported in some contexts.

**The short- and long-term implications of the crisis on mental health are largely unknown.** A better understanding of impact on mental health is necessary in order for more targeted response strategies. While the majority of resources are channelled to addressing physical needs caused by COVID-19, there is a risk that investment into mental health services is overlooked (The Guardian, 15/04/2020).

## Changes in levels of food security and malnutrition

Countries or regions most vulnerable to food insecurity include those affected by conflict, those which are particularly prone to climatic shocks, as well as areas with high refugee or IDP populations. Urban areas will be particularly affected due to higher reliance on the functioning of markets - which in many cases are no longer functioning. **While pre-existing characteristics of a region give an indication of how vulnerable an area is to further shocks to the food supply, the extent to which COVID-19 is already exacerbating food insecurity and malnutrition in particular areas is not yet clear** (TNH, 14/04/2020).

International efforts are being made to implement measures that mitigate the impact of trade disruptions on essential food supplies. Policies have been put in place that protect against a block on the exportation of goods to import dependent countries. Despite these efforts, issues with domestic food supply, loss of labour and income as well as internal movement restrictions risk compounding levels of food insecurity and malnutrition. WFP estimates that the number of people facing severe food insecurity could double as result of COVID-19. In countries around the world aid agencies have been prevented from delivering essential food supplies and children often depend on school feeding schemes but widespread school closures have rendered this service unavailable (World Bank, 04/05/2020; WFP, accessed 15/05/2020).

## Community coping mechanisms

In countries where containment measures may be preventing people from accessing their regular source of income there is a concern that more people will pursue illegal and more dangerous lines of work, out of sight of the authorities. This might include sex work, organ sales, or other illicit trade networks (ACAPS, 21/04/2020). There is no data available that examines where this may already be happening. Analysis of this issue largely depends on a clearer understanding of the extent to which containment measures are enforced. What is not necessarily known is to what extent communities are willing or able to support each other in meeting their basic needs at the local level.

## Interruptions to existing humanitarian programming

It is not clear to what extent existing humanitarian programming has been impacted or will be impacted over the coming months. There are numerous reports about delays in the delivery of essential goods, including food and medicine. There are also multiple immunisation campaigns being forced to stop in part due to interruption to supply chains that provide the necessary equipment, but also due to movement restrictions.

In many instances international humanitarian agencies have been forced to suspend their programmes due to government restrictions. Many aid workers are under lockdown in country, or have been evacuated and the redeployment of staff is limited. It is not known

how long this shortage of humanitarian personnel will continue (The Guardian, 25/03/2020; TNH, 14/04/2020, NRC/EGMONT Webinar, 07/05/2020).

Aid agencies have publicly stated that hundreds of thousands of people across different regions, dependent upon aid, are now inaccessible. **It is not yet clear how many people are currently experiencing gaps in their basic needs due to the reduction in humanitarian programming.** Neither is it clear how decisions will be made regarding the prioritisation of different groups in areas where aid operations are able to continue, albeit at a reduced level.

## Humanitarian considerations:

- Reductions in health services utilisation, whether a result of overwhelmed systems or containment measures, could have substantial impacts on the ability to tend to other health issues, including those with higher mortality rates than COVID-19. These will need to be carefully monitored and assessed.
- In addition to the likely increase in GBV, the reduction in humanitarian operations as a result of containment measures has the potential to constrain humanitarian protection actors' ability to respond to GBV in humanitarian response settings.
- Existing and previously projected food insecurity and malnutrition are likely to worsen over the next months; particular attention must be paid to contingency planning in areas and among populations that are vulnerable to sudden shocks as a compounding crisis could tip a population over the edge.
- In the absence of regular data collection, innovative ways of tracking and understanding negative coping mechanisms should be adopted.

## What needs to be better understood in relation to government and donor planning in order to adapt humanitarian response?

### Government response plans

A point consistently raised by ACAPS Humanitarian Experts Network is a need for increased clarity regarding government response plans. Access to this information will likely vary depending on the context. It may be the case that while information regarding certain response initiatives, including the launch of social protection programmes, is available on paper, it is more difficult to assess the degree to which such planning has already been implemented.

There is also uncertainty surrounding government plans for when and how to begin lifting lockdown. Without a full understanding of government plans, it is unclear how

humanitarian organisations can best operate alongside governments to enable and boost national response plans.

## Donor planning

It is not yet known how a global recession as a result of the pandemic will affect the overall aid budget and therefore the amount of funding available to support the COVID-19 response and other crises after 2020 (USA Today, 07/05/2020). Contributions to the aid budget are often based on national GDP, therefore a drop in national GDP is likely to result in reduced aid spending. This may lead to a shift in humanitarian response as different types of organisations and aid programmes are prioritised (NRC/EGMONT Webinar, 07/05/2020).

There are concerns that funding will be reoriented away from existing programmes and into the COVID 19 response. This is also a concern raised by members of ACAPS Humanitarian Experts Network. Aid agencies have argued that rather than 'scale down' existing programmes, there is a need for them to be 'scaled up' at this time (TNH, 14/04/2020). From the secondary data available it is not clear if a reorientation of funding is a reality or at this stage, or only a speculation or fear among implementing agencies.

## Humanitarian data

The sudden and significant reduction in humanitarian personnel and scaled-down programming has meant that very few assessments are able to continue. It is not clear how long this reduced level of humanitarian operations will last. **Without assessment data, it is not possible to assess the scale and severity of humanitarian need, both in relation to the impact of COVID-19 but also pre-existing humanitarian crises.** Without this data it is not clear upon what humanitarian decision-making will be based over the coming months.

## Humanitarian exemptions

Even in contexts with strict import restrictions and social distancing measures, humanitarian operations have not necessarily been restricted. **In some contexts, different rules will apply within the same country depending on rules enforced by a particular local authority.** It is not immediately clear where restrictions do or not apply to humanitarian workers.

As well as considering the way in which COVID-19 measure will interfere with humanitarian response, humanitarian actors need to remain conscious of the way in which pre-existing access constraints, including security issues, bureaucratic constraints, and physical obstacles will interact and delay the COVID-19 response effort (ICRC webinar).

## Government capacity to enforce containment measures

Data on the government measures implemented across the world is generally available (ACAPS, 05/2020). **However, an understanding of the extent to which governments have the capacity to enforce these measures is less clear.** Capacity will vary between and across countries depending on the presence of law enforcement agencies. Different local authorities within the same country will likely apply the rules slightly differently. Furthermore, in many of the contexts within which humanitarian agencies operate, large swathes of territory are under the control of armed groups, also likely to impose their own version of containment measures.

Unless the extent to which containment measures are enforced is better understood, it is not possible to assess how well they limit virus spread. Furthermore, there is concern that successfully enforced containment measures will prevent millions of people from accessing their livelihoods and they will be unable to afford food. Without a clear understanding of the extent to which containment measures are enforced, it is not possible to determine whether the impact of the measures has the potential to be more severe than the impact of the virus itself.

### Humanitarian considerations:

- Rather than assume that there will be a reallocation of funding away from existing programmes, humanitarian actors require clarity as to whether this will be a reality, and to what extent.
- Local authorities will likely impose different rules with regard to the activity of humanitarian actors. Humanitarian exemptions may therefore not be consistent within the same country.
- A lack of clarity with regard to government capacity to enforce containment measures clouds ability to know how to plan humanitarian response around these measures. It also limits our understanding of how effective the measures are in containing the virus, and reduces ability to assess the secondary impact of the measures on people's lives.
- While there will likely be many information gaps with regard to the impact of COVID-19 specifically, reduced movement will result in a lack of data and information on crises generally. Over the coming months, humanitarian actors will have to turn to more innovative ways of assessing humanitarian need.