

## INTRODUCTION

To support considerations for COVID-19 response planning for the approximately 855,000 Rohingya refugees<sup>1</sup> currently residing in densely-populated camps in Cox's Bazar, Bangladesh, REACH has conducted additional spatial analysis on data collected during past assessments to summarize area-specific demographic patterns related to potential underlying vulnerabilities and risk factors. This analysis cuts across multiple sectors to provide an overview of possible risk factors associated with the novel coronavirus, covering the following topics:

- [1. Underlying camp and household demographics](#)
- [2. Health behaviours related to COVID-19](#)
- [3. Household-reported hand-washing practices](#)
- [4. Household-reported access to water](#)

## INTERPRETATION OF MAPS

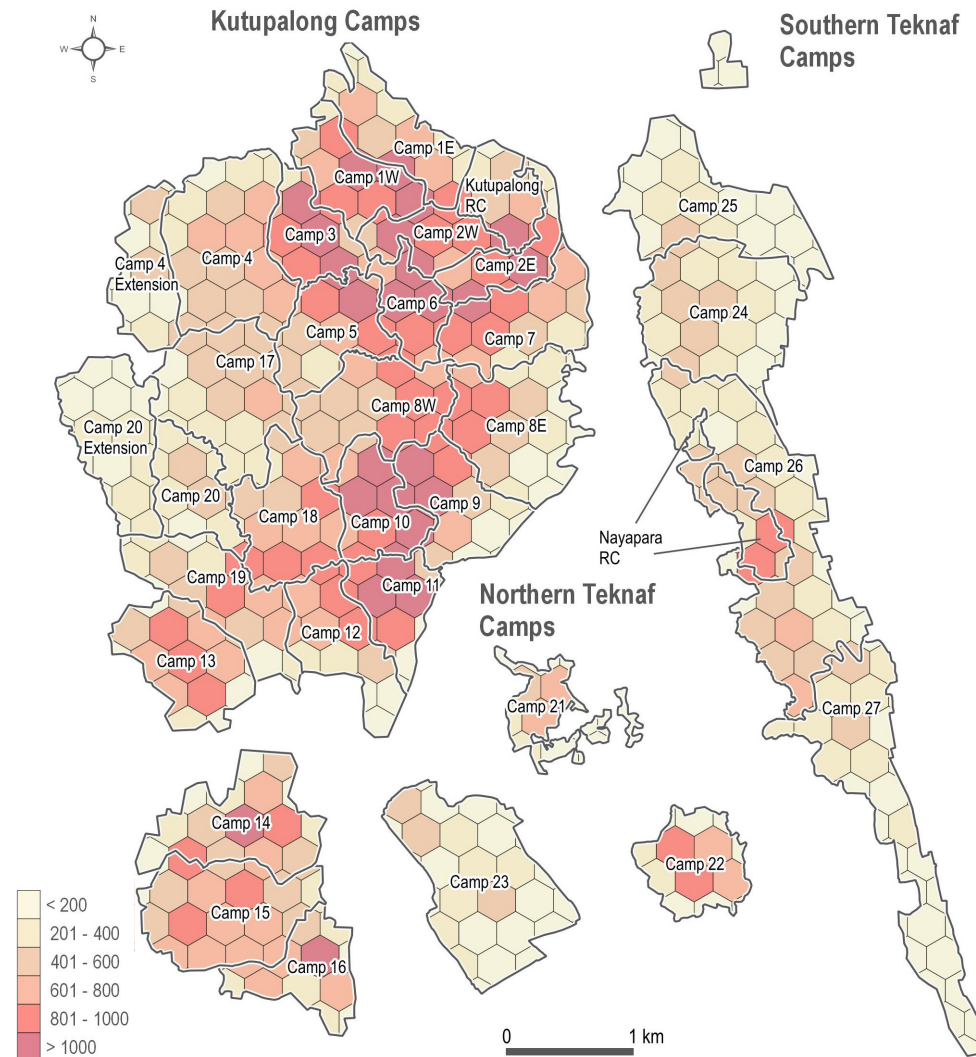
Relevant indicators have been analysed and aggregated over a hexagon grid across the camps. Each hexagon measures roughly 300 metres across. **All grid-level findings are indicative only**, and are intended to provide insights into possible granular variations in findings. These outputs should complement the official outputs from each assessment (linked below), which present robust and representative findings generalisable to populations living in each camp. A reference map of the geographic distribution of the 34 camps is included in the appendix.

Data sources are specified under each map. Data are primarily sourced from:

- The third round of the Water, Sanitation, and Hygiene (WASH) Sector / REACH Household Survey. The third round was selected for COVID-19 analysis given that data collection was conducted in May 2019 - roughly the same time period, in order to capture household-reported conditions during dry season. In-depth assessment outputs ([factsheets](#) and [report](#)) provide additional findings on water, sanitation, and hygiene conditions across the camps;
- The Joint Multi-Sector Needs Assessment (J-MSNA) in refugee camps, September 2019. In-depth assessment outputs ([factsheets](#) and [report](#)) provide additional findings across all sectors;
- Joint Government of Bangladesh - United Nations High Commissioner for Refugees (UNHCR) [population factsheet](#), 15 March 2020;
- UNOSAT-REACH [Shelter Footprint data](#), May 2019.

<sup>1</sup> Joint Government of Bangladesh - UNHCR Population factsheet, March 15, 2020

## SHELTER DENSITY

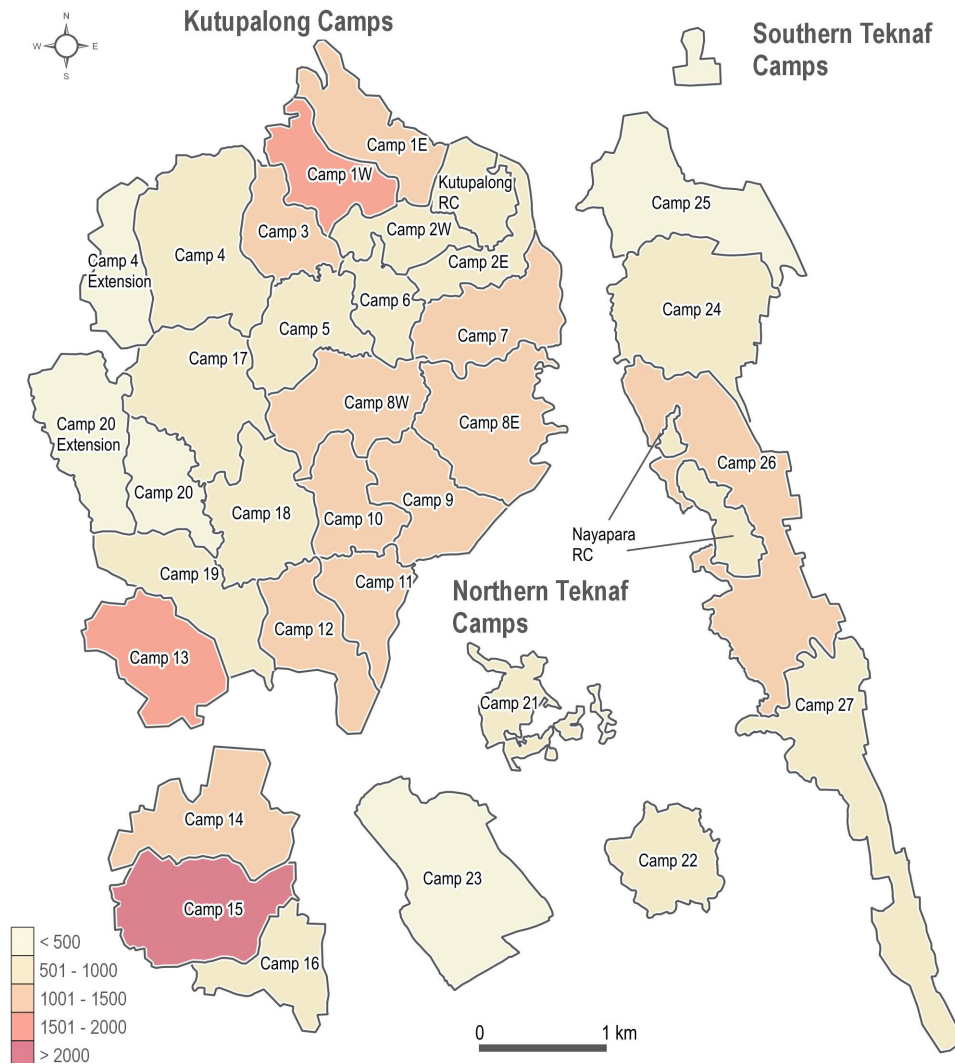


Rohingya refugees live in some of the densest conditions in the world, with population densities greater than the most crowded cities in the world. The average density of the Rohingya camps is roughly 40,000 people per square kilometer, with certain areas of the camp facing even more extreme over-crowding. The above map shows the number of shelters per hexagon, highlighting areas where the recommended practice of physical distancing may be particularly challenging.

Source: UNOSAT-REACH Shelter Footprints, May 2019

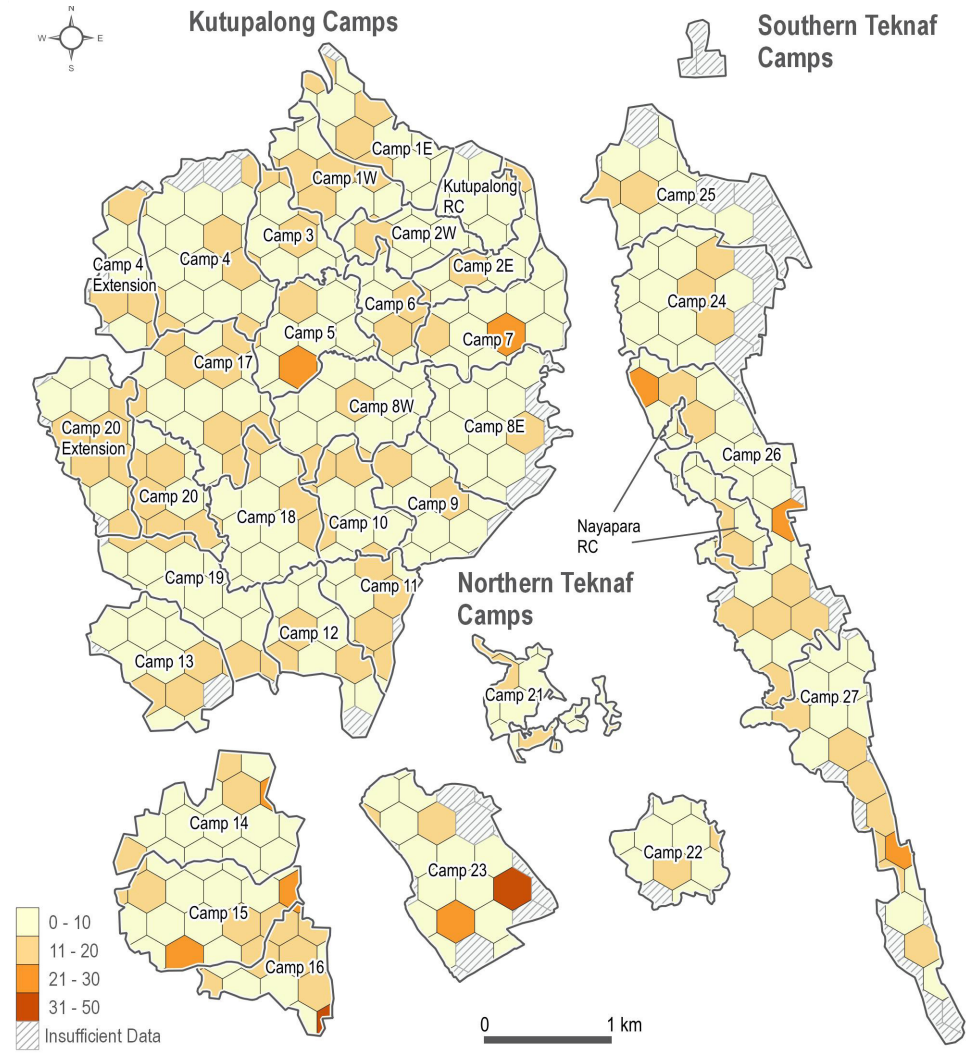
Current global data suggests that the elderly may be at a higher risk of worse-off outcomes from COVID-19, with [higher case-fatality rates for older individuals](#). While the demographics of the Rohingya population skew young, with approximately half of the in-camp population below the age of 18, joint population data from the Government of Bangladesh and UNHCR highlights the more than 30,000 elderly individuals (aged 60+) living within official camp boundaries (map on the left). Data from J-MSNA, shown in the map on the right, displays the estimated percentage distribution of individuals aged 50 and above. Studies have shown that the increased case-fatality rates, though pronounced at the 60-year threshold, [may begin to increase from age 50 upwards](#). Additional risk to these age groups is compounded by poor camp conditions such as weakened health care systems, poor sanitation, and hilly terrains that may pose an additional challenge for elderly individuals seeking healthcare services. Even in areas of the camps with lower proportions of elderly individuals, the vast numbers of youths and adults, who are more likely to move in public areas, means that they may still potentially be exposed to risks from other household members.

Distribution of individuals aged 60+ (absolute figures)



Source: Joint Government of Bangladesh - UNHCR population factsheet, March 2020

Estimated percentage of individuals aged 50+



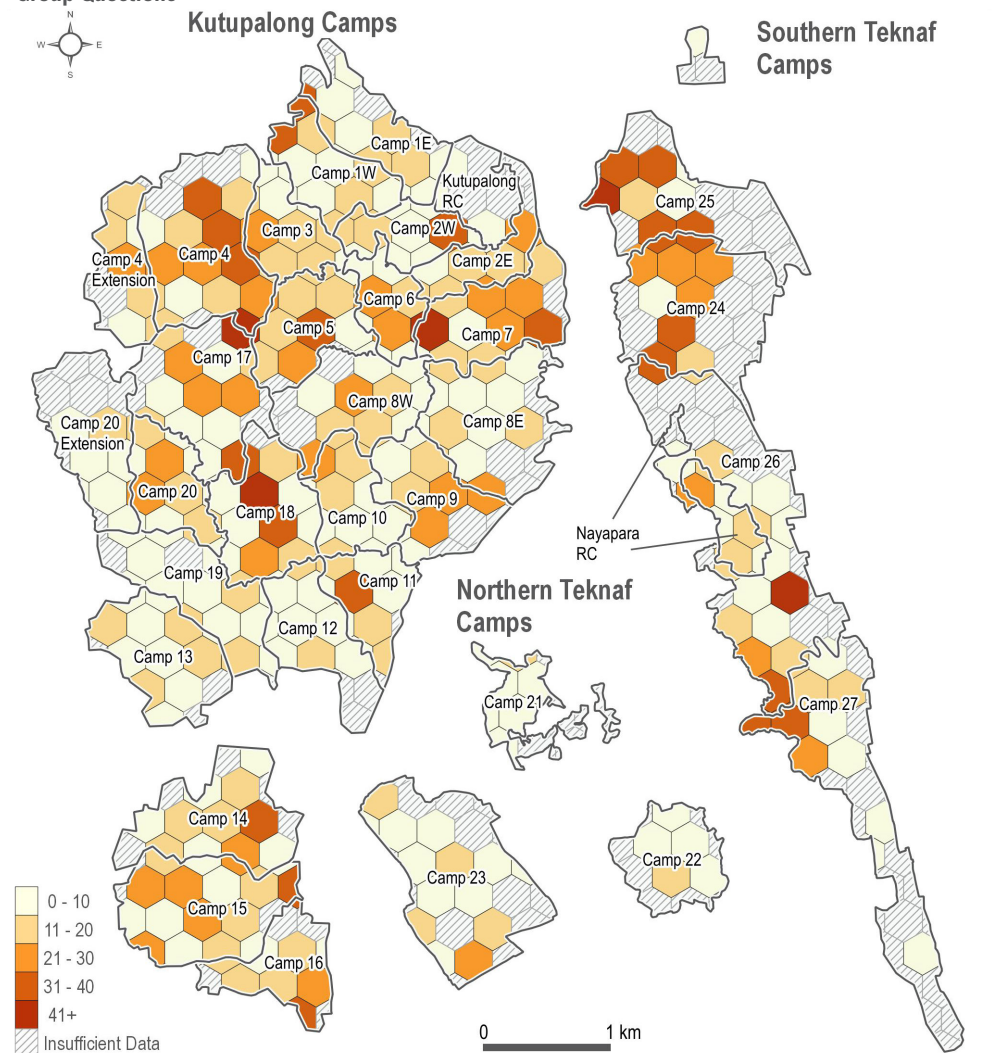
Source: Joint Multi-Sector Needs Assessment, September 2019

# Mapping Risk Factors for the Spread of COVID-19: Rohingya Camps

## Camp and household demographics

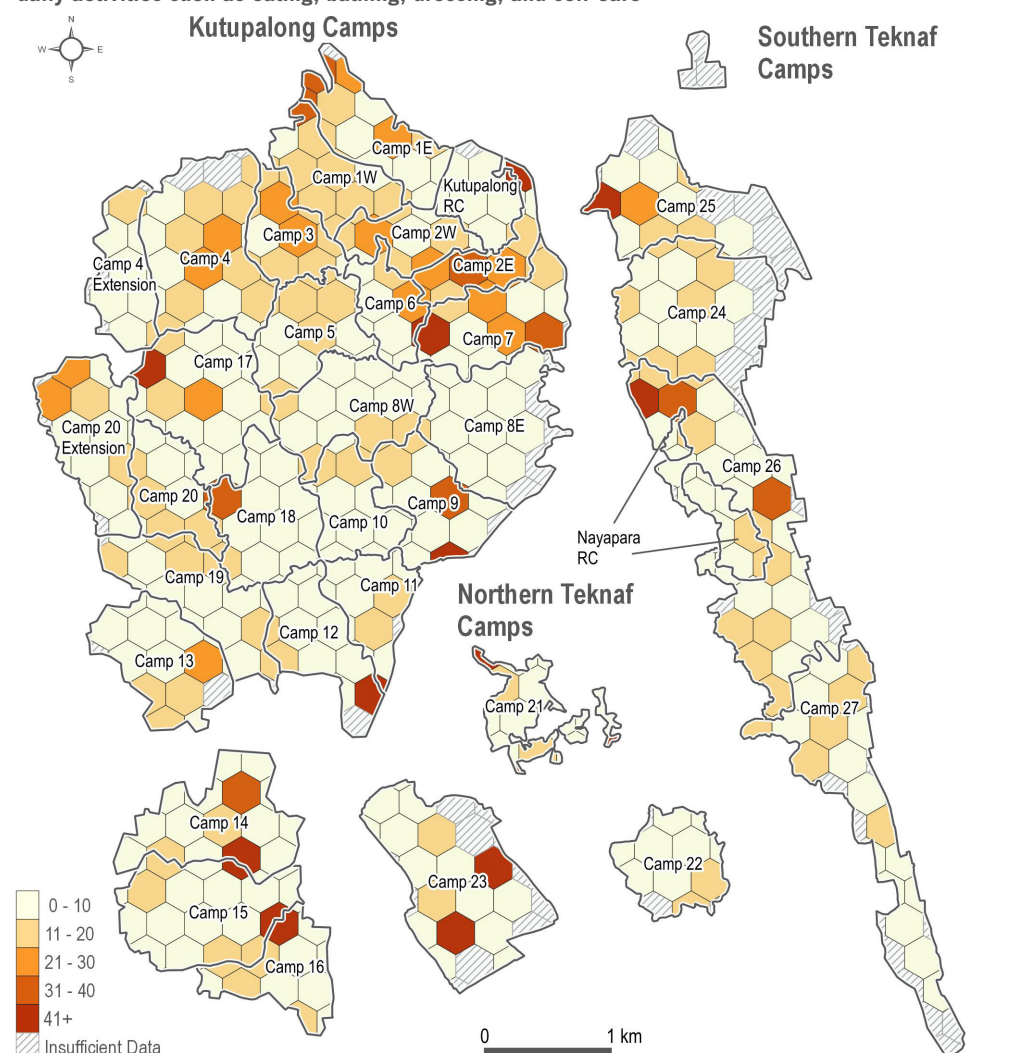
An estimated **14% of households across the refugee camps were found to have at least one individual with a disability** (using the [Washington Group Short Set of Questions on Disability](#)). Among individuals aged 60 years or older, **34% were found to have a disability** and **28% were reported to require assistance to complete daily activities** such as dressing or bathing, highlighting the compounding set of vulnerabilities facing elderly populations. The nuanced needs of persons living with a disability must be considered at each stage of disease prevention and response; preventative measures such as social or physical distancing, while important for virus containment, may have adverse effects on those who require assistance to perform every day tasks. Inclusion is even more important to ensure that individuals with [vision or hearing impairments have equitable access to information campaigns](#), and to [ensure persons with disabilities have equal opportunities to access emergency health services](#).

**% of households with at least one individual (aged 5+) found to have a disability using Washington Group Questions**



Source: WASH Sector / REACH Household Survey - Dry Season Follow-up, May 2019

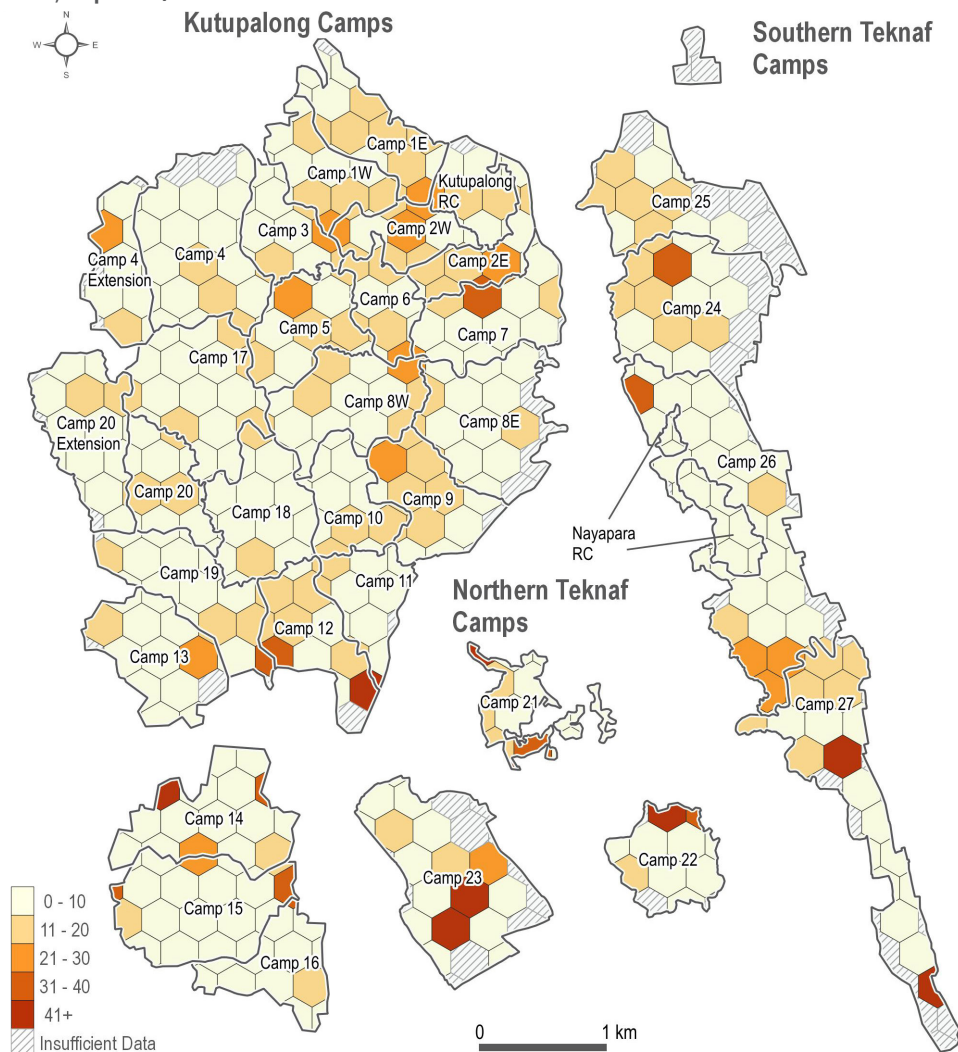
**% of households with at least one individual (aged 5+) reported as requiring assistance to complete daily activities such as eating, bathing, dressing, and self-care**



Source: Joint Multi-Sector Needs Assessment, September 2019

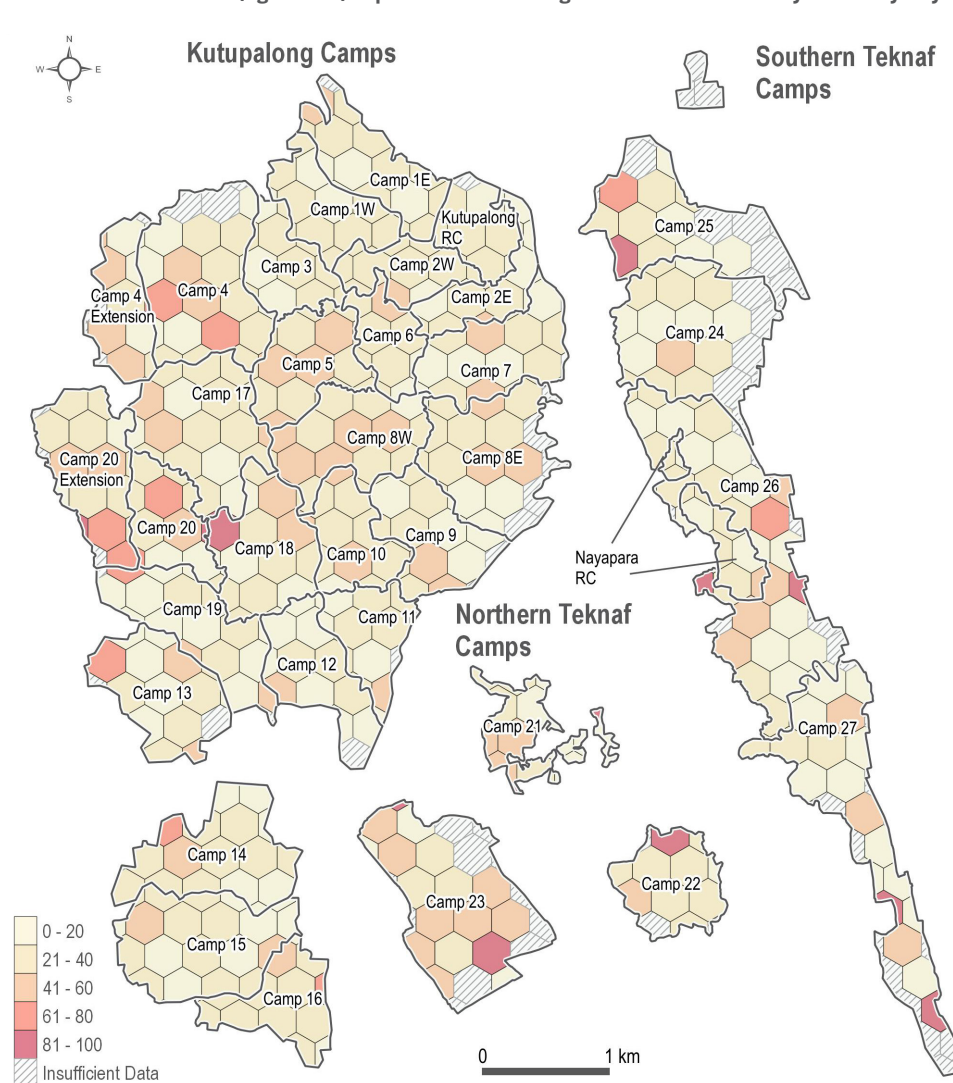
Health-seeking behaviours within the refugee camps have been found to be relatively high across multiple assessments in 2018-2019. The vast majority (>90%) of individuals who were perceived to require health-related treatment reportedly accessed some form of treatment, though specialised services such as obstetric care or non-communicable disease management may face larger gaps. Notably, refugees are not consistently reported as seeking health services at formal clinics, and are often going directly to pharmacies, traditional healers, or seeking out private services despite the availability of free services across the camps. Proper treatment and containment of a potential outbreak will rely on refugees' trust in the health system within the camps and willingness to seek services at the 18 health facilities serving the camps where 72 isolation beds and 257 stand-by beds have been made available as of 28 March 2020. Sufferers of acute respiratory infections and regular smokers, a habit widespread amongst male residents as shown in the map on the right, may also be at heightened risk during a COVID-19 outbreak.

% of individuals requiring medical attention but not seeking treatment at a formal clinic (government, NGO, or private)



Source: Joint Multi-Sector Needs Assessment, September 2019

% of male individuals (aged 12+) reported to smoke cigarettes either some days or every day



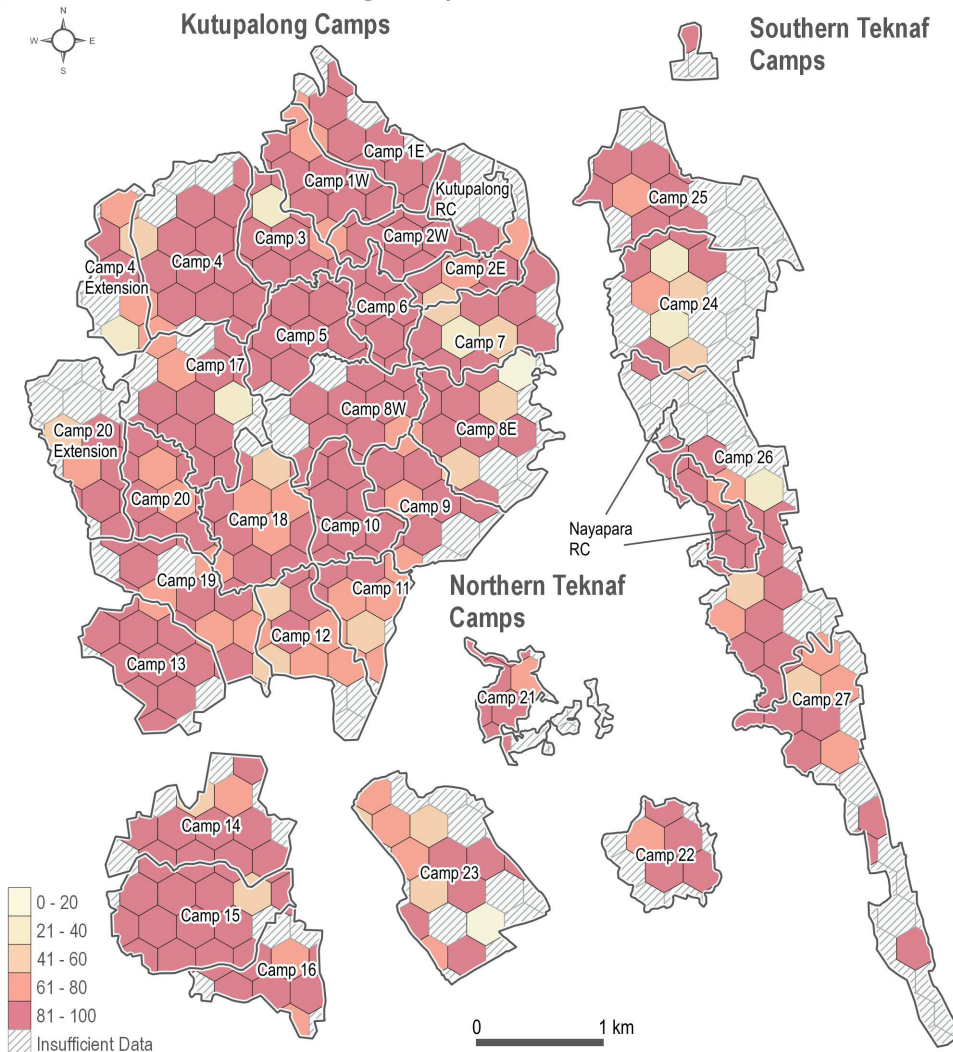
Source: Joint Multi-Sector Needs Assessment, September 2019

# Mapping Risk Factors for the Spread of COVID-19: Rohingya Camps

## Household-reported hand-washing practices

Across both rounds of the WASH Sector's Household Survey in 2019 (May and October), approximately 75% of households could identify at least three of the six critical hand-washing times (table to the right). While the majority of respondents cited "before eating" and "after defecation" as important times to wash their hands, gaps remained with regards to other critical times such as prior to close interactions with children and before handling food. Furthermore, given the mode of transmission of COVID-19, additional considerations should focus on households' ability to wash hands with soap prior to starting *wudu* - or Islamic ablutions and purification prior to prayer - as only 33% of households reported "before prayer" as a critical hand-washing time.

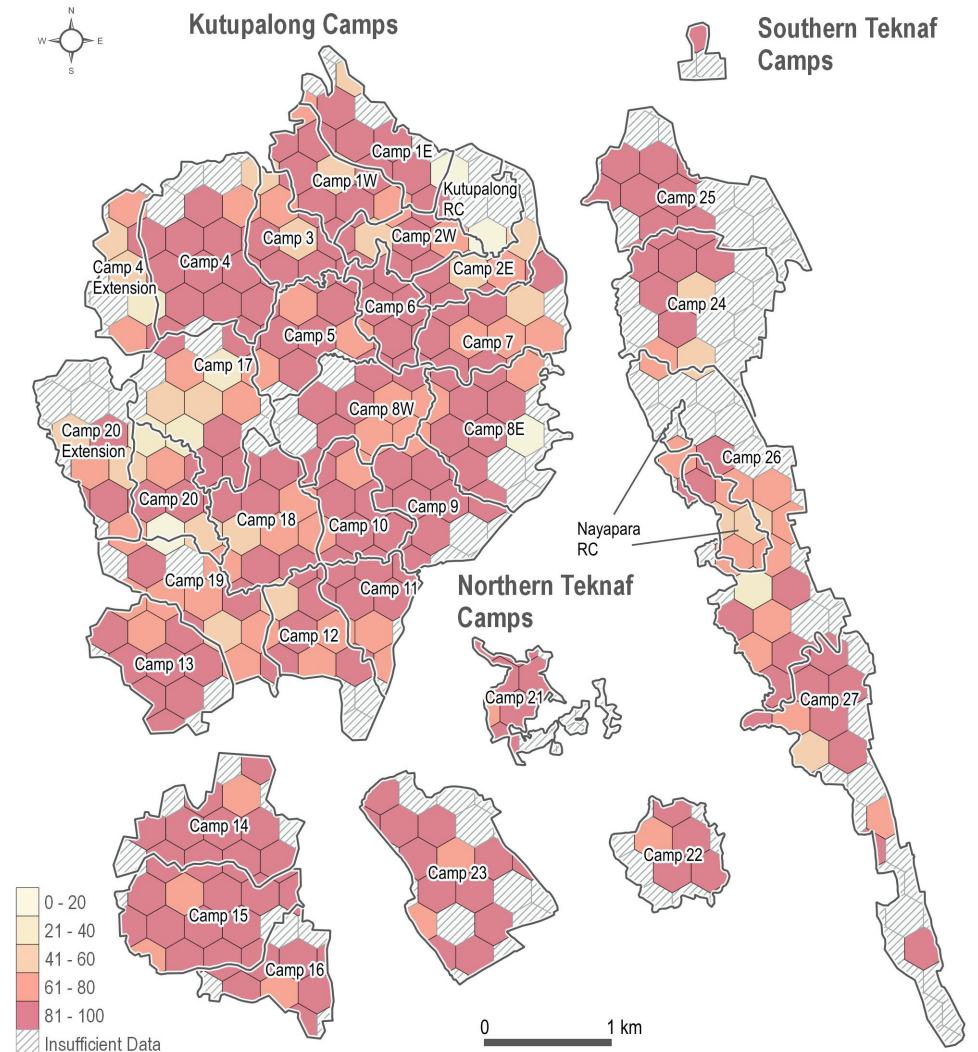
% of households who did not cite "before eating", "before meal preparation", "before feeding children", and "before breastfeeding" as important times to wash hands



Source: WASH Sector / REACH Household Survey - Dry Season Follow-up, May 2019

While household ownership of soap for hand-washing has been found to be high across multiple rounds of assessments (roughly 90% in May and October 2019, and [November 2019 in UNHCR-managed camps only](#)), only 17% of households reported the presence of soap at a hand-washing station outside of the latrine they most recently used (map below).

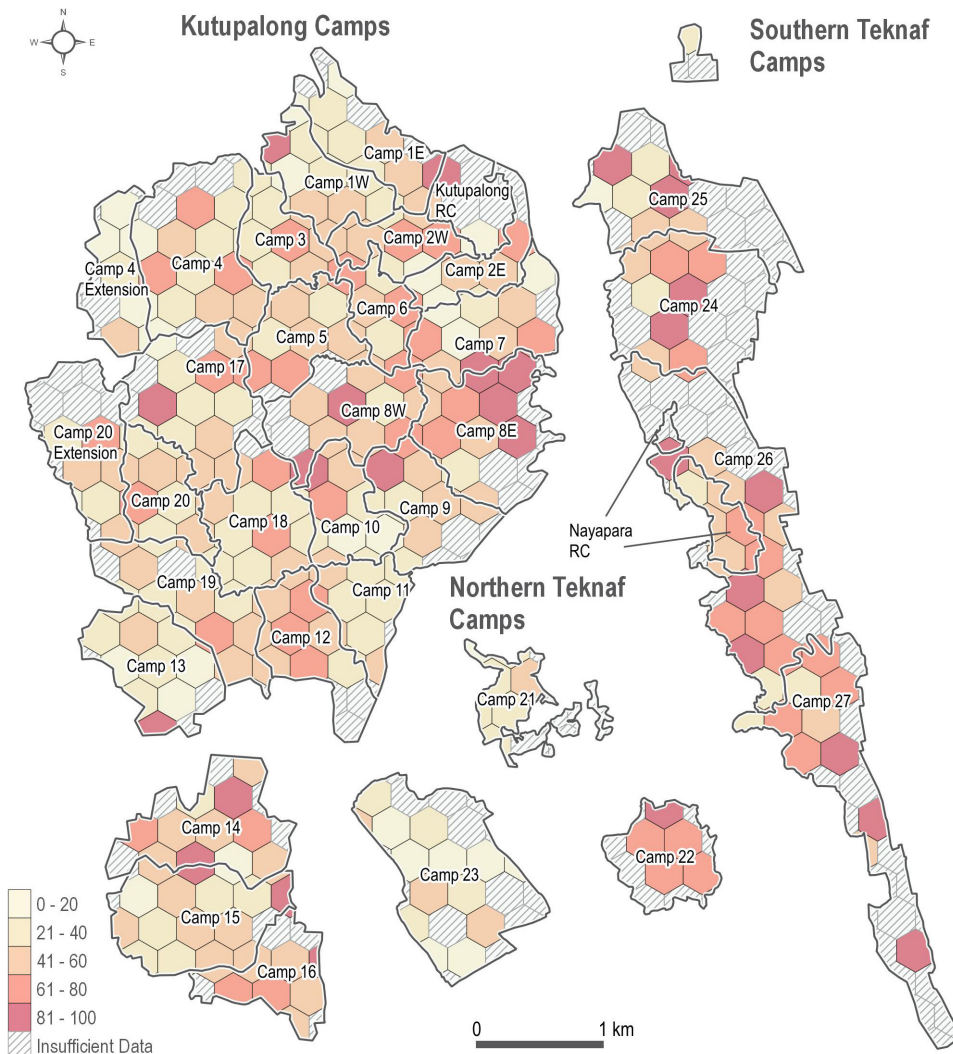
% of households reporting that the latrine they normally use did not have soap the last time they accessed it



Source: WASH Sector / REACH Household Survey - Dry Season Follow-up, May 2019

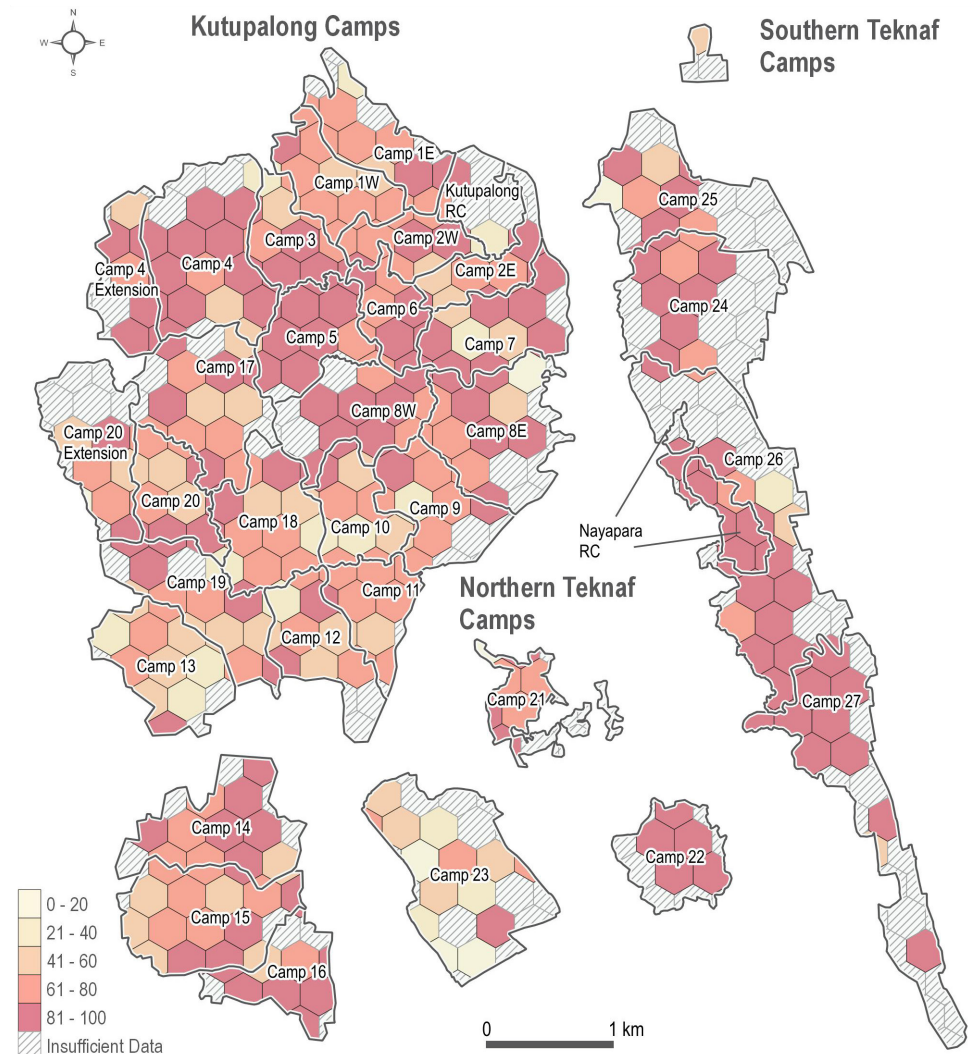
Access to sufficient quantities of water is a key component of maintaining personal and household hygiene during this health crisis. Additionally, long and often crowded waiting times at water points increases the potential exposure period, disproportionately affecting women and children [who are primarily responsible for water collection](#). The two maps indicate areas within the camps where households reported spending more than 10 minutes walking to and from their main water point (left) and those who reported spending more than 10 minutes waiting at their main water point (right). These maps indicate that most of the time spent collecting water is spent waiting at the water point, raising concerns about the ability to maintain proper distances at water points. Particularly as the dry season approaches, easy access to water will be crucial in supporting households' abilities to maintain proper hygiene and to put into practice the hygiene and sanitary messages being disseminated within the camps.

% of households reporting spending 10+ minutes traveling (roundtrip) to their primary water point



Source: WASH Sector / REACH Household Survey - Dry Season Follow-up, May 2019

% of households reporting spending 10+ minutes queueing / waiting at their primary water point



Source: WASH Sector / REACH Household Survey - Dry Season Follow-up, May 2019

## METHODOLOGY

Both the WASH Household Survey and the Joint Multi-Sector Needs Assessments were conducted using a stratified simple random sampling approach to collect data at the household level. Within each camp boundary, a random set of geopoints was generated using [UNOSAT/REACH shelter footprints](#). Approximately 3,500 household surveys were completed for the each activity, capturing information on roughly 17,000 individual household members in each assessment. Surveys are completed by equal-gendered teams of enumerators in order to aim for 50:50 male and female respondents and to capture the perspectives of both male and female Rohingya refugees. Both surveys were designed to be representative of the refugee population living within each camp at a 95% confidence level and 10% margin of error. Findings presented at the more granular grid level are therefore indicative only.

Cleaned and anonymised datasets from each survey are publicly available ([WASH Household](#), [J-MSNA](#)).

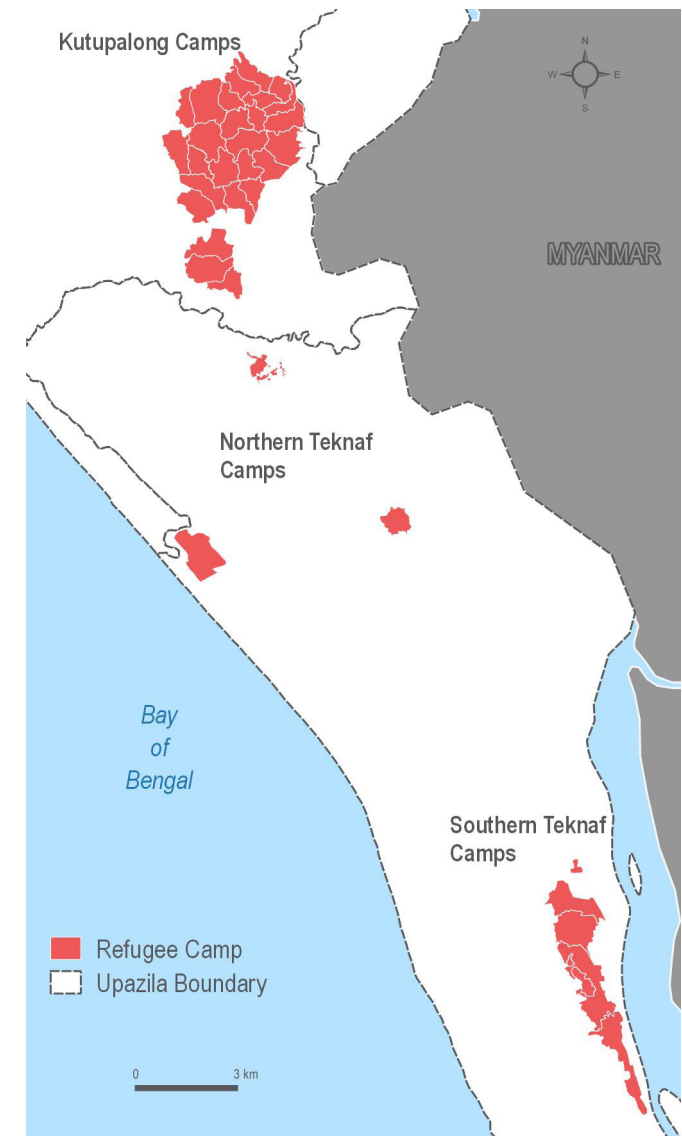
## ABOUT REACH

REACH Initiative facilitates the development of information tools and products that enhance the capacity of aid actors to make evidence-based decisions in emergency, recovery and development contexts. As an initiative deployed in many vulnerable and crisis-affected countries, REACH is deeply concerned by the devastating impact the COVID-19 pandemic may have on the millions of affected people we seek to serve. REACH is currently scaling up its programming in response to this pandemic, with the goal of identifying practical ways to inform humanitarian responses in the 20+ countries where we operate. All updates regarding REACH's response to COVID-19 can be found on [a devoted thread](#) on the [REACH website](#). For more information, please contact us at [geneva@reach-initiative.org](mailto:geneva@reach-initiative.org) or follow us on Twitter at [@REACH\\_info](#).

## CHALLENGES AND LIMITATIONS

- Assessment findings cannot be extrapolated to sites that were not visited. The WASH Household Survey did not cover populations living within Kutupalong Registered Camp and portions of Camps 26 and 27 due to a lack of community access or security incidents at the time of data collection.
- Respondent bias (social desirability bias) may have influenced the responses to some questions.
- Certain responses, including those around disability, were provided by the household representative on behalf of each household member instead of asked directly to each household member.

## REFERENCE MAP



Source (camp boundaries): [ISCG, 2019](#)