

PEOPLE AFFECTED BY CONFLICT

2013

Humanitarian needs
in numbers



**Centre for Research on the
Epidemiology of Disasters
CRED**

A WHO Collaborating Centre



Foreign Affairs, Trade and
Development Canada

Affaires étrangères, Commerce
et Développement Canada



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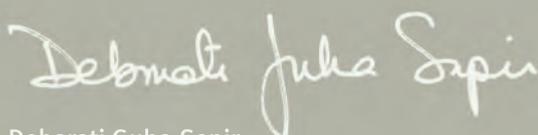
Foreword

The collection of health and population data for conflict-affected communities is notoriously scarce. Yet it is increasingly vital for the orientation of humanitarian work and the allocation of aid and resources.

Donors, humanitarian service providers and host governments need to understand the impact of their assistance. Proper evaluation, ideally in the form of validated data collected using sound and transparent methods, is essential.

The good news is that over the past decade field-based humanitarian agencies have made great progress in collecting health and nutrition data with small scale surveys of increasingly good quality. While local authorities may have too few resources for such non-urgent tasks, donors often recognise the benefits of having insights into trends in the communities they are serving, and sometimes go on gathering information for years. These surveys represent small populations and are quickly outdated. But together, they provide important and novel insights into highly insecure communities - information which is often not captured by nationwide surveys.

The humanitarian survey repository CE-DAT was set up in order to make the best use of these global data collection efforts. Originally supported by BCPRM/USG State Department and subsequently by DFID and CIDA, it now has over 3000 surveys and, thanks to the contributions of its partners, represents a unique resource. This report uses its survey data to provide an analysis of current trends and patterns. I am therefore confident, given the quality of the information in the repository and the experience of CRED in analysing its data, that it will be of great value, serving as a key source of information for all concerned with the needs of conflict-affected communities.



Debarati Guha-Sapir

Director of the WHO Collaborating Centre for Research
on the Epidemiology of Disasters (CRED)

Who we are

CRED

The Centre for Research on the Epidemiology of Disasters (CRED) was established in Brussels in 1973 at the school of Public Health of the Université catholique de Louvain as a non-profit institution. In 1980, CRED became a World Health Organization collaborating centre as part of the Global Program for Emergency Preparedness and Response. Since then, CRED has increased its international network substantially and works closely with numerous UN agencies, intergovernmental and governmental institutions, NGOs, research institutes and other universities.

Our goals

With a special focus on public health, epidemiology, structural and socio-economic issues, CRED promotes research, training, information dissemination and technical services in the field of international disaster and conflict health studies.

Our scope

CRED's activities focus on all emergencies with a major human impact. These include sudden, natural or man-made catastrophes, including hurricanes, earthquakes and industrial accidents, as well as longer-term disasters and complex emergencies such as famine and armed conflict. CRED focuses primarily on the public health and sanitary aspects of mass disasters as well as on their socio-economic and developmental effects. Disaster preparedness, mitigation and prevention for vulnerable populations have also gained a higher profile within CRED's activities.

Our staff

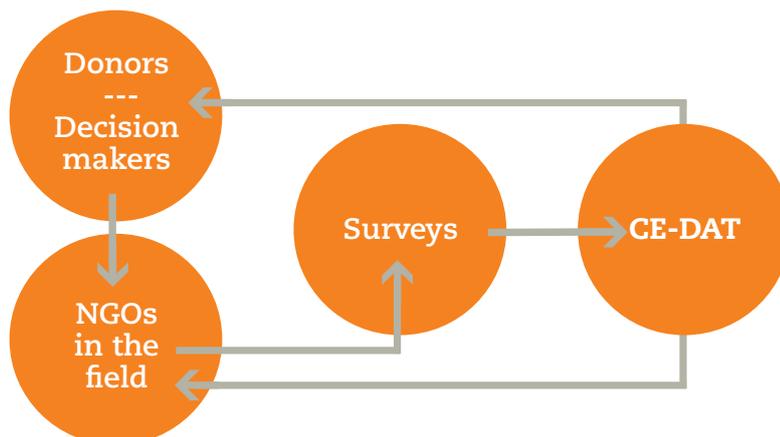
The centre is headed by Pr Debarati Guha-Sapir. Her multinational, multidisciplinary team includes experts in medicine and public health, informatics and database management, international relations, nutritional sciences, biostatistics, economics and geography. The working languages are English and French.

CE-DAT

The Complex Emergency Database (CE-DAT) was launched within the SMART initiative and has been developed and is run by CRED at the Catholic University of Louvain. It is an international initiative to monitor and evaluate the health status of populations affected by complex emergencies. The database focuses on mortality and acute malnutrition – the most commonly used public health indicators of the severity of a humanitarian crisis. CE-DAT currently contains more than 3,300 epidemiological surveys from 51 countries.

CE-DAT's aim is to collect all quantitative surveys realised in the field in order to provide comprehensive and reliable information to policy-makers and NGOs. It thus has a unique role in coordination among many international partners. Its main objectives are to:

- Provide key mortality, nutritional and health indicators for rational humanitarian aid decision-making.
- Promote the effectiveness of international policies on conflict prevention and response through evidence-based trend analyses and impact briefings.
- Strengthen the capacity of national and international field operators in data collection and analysis.
- Improve standardization and help establish norms to enable the comparability of complex emergency data across time and space.



Organisations who contributed surveys to CE-DAT

Accion Contra el Hambre (ACH)	Mercy Corps
Action Against Hunger - USA (AAH-USA)	Merlin
Action Contre la Faim - Canada (ACF-Canada)	Ministries of Health
Action Contre la Faim - France (ACF-France)	Norwegian Church Aid (NCA)
Aide Médicale Internationale (AMI)	Office of the United Nations High Commissioner for Refugees (UNHCR)
Care	Plan International
Centers for Disease Control & Prevention (CDC)	Sabin Children Foundation (SCF)
Centre National de Nutrition et de Technologie alimentaire (CNNTA)	Save the Children
ChildFund	Small Arms Survey
Concern Worldwide	Sudan Social Development Organisation (SUDO)
Focus Humanitarian Assistance	Tango International
Food and Agriculture Organization of the United Nations (FAO)	Tearfund
Goal	United Nations Children's Fund (UNICEF)
Hellen Keller International	United Nations Development Programme (UNDP)
International Committee of the Red Cross (ICRC)	United Nations Standing Committee on Nutrition (SCN)
International Federation of Red Cross and Red Crescent Societies (IFRC)	Women Training and Promotion (WOTAP)
International Medical Corps (IMC)	World Food Program (WFP)
International Rescue Committee (IRC)	World Health Organization (WHO)
Médecins Sans Frontières (MSF)	World Vision
	Zoa

Research Partners

FAFO Institute for Applied International Studies	Karolinska Institute, Division of International Health
Harvard Humanitarian Initiative (HHI)	Uppsala Universitet, Department of Peace and Conflict Research
International Peace Research Institute, Oslo (PRIO)	Armed Conflict Location & Event Dataset (ACLED)
John Hopkins Bloomberg School of Public Health (JHSPH)	The WorldPop Project

(Inter)governmental organisations and UN agencies

Canadian International Development Agency (CIDA)	UK Department for International Development (DFID)
European Centre for Disease Prevention and Control (ECDC)	United Nations Office for the Coordination of Humanitarian Affairs (OCHA)
European Commission (ECHO, RTD)	U.S. Agency for International Development (USAID)
	U.S. Department of State

Executive Summary

In 2012, we estimate that more than 172 million people were affected by conflict worldwide. Of this total, 149 million or 87% were conflict-affected residents (CARs). Internally displaced persons (IDPs) accounted for another 18 million and refugees for five million. The global total is higher because our figures only include 24 countries for which comparable and validated data are available.

Pakistan and Nigeria had the largest numbers of people affected by conflict (PAC) - at 28 million and nearly 19 million respectively - but Libya and Somalia had the largest proportion of their populations affected by violence and insecurity, at around 90% each.

These numbers represent the first systematic attempt to produce objective and comparable figures for all PAC. Our methods are transparent and reproducible over time and across countries, and our results are designed to be sufficiently detailed to be useful to decision-makers, policy advisors and members of the public alike.

Detailed analyses of CE-DAT surveys demonstrate that an individual's health is directly related to their status as a CAR, IDP or refugee:

- IDPs suffer the worst health impacts of conflict. They and their children are almost twice as likely as refugees to die from conflict-related causes, particularly disease and starvation. IDPs also suffer the highest rates of acute malnutrition and are half as likely as refugees to be immunised against measles.
- CAR adults and children suffer significantly higher death rates than refugees, and significantly higher acute malnutrition too. They have equally poor immunization rates to IDPs.
- Refugees have the lowest death rates of all three PAC groups. They also have the lowest rates of acute malnutrition and the highest level of immunisation against measles.

We find this an unacceptable level of inequality among victims of conflict. In order to rectify it, we think IDPs should be a higher priority for the humanitarian community and that the specific health needs of CARs should not be overlooked.

CE-DAT surveys also demonstrate that national health data are unreliable guides to the health needs of PAC. The three basic indicators of health (mortality, malnutrition and measles vaccination) are rarely the same for national and conflict-affected populations. Nor is it safe to assume that PAC health is always worse. Indeed, in some countries it is better. In South Sudan, for example, national data fails to reflect reality on the ground and small-scale CE-DAT surveys are a far better guide to health needs.

Looking at PAC health indicators, rather than national data, also changes the ranking of countries by need. These changes are sometimes dramatic. Yemen, for example, jumped from 10th place to the top of our list when the focus was PAC child mortality, rather than national death rates. For childhood malnutrition, Djibouti rose to second place from 11th, while Kenya climbed ten places.

For all these reasons, needs-based decision-making about humanitarian aid should not be based on national estimates of mortality or malnutrition. Small-scale surveys are a better source of timely and accurate information. Better use of this data resource should be made for needs assessment and funding appeals.

With regard to measles - a highly contagious viral disease - it remains one of the leading causes of death among children affected by conflict, even though a safe and cost-effective vaccine is available. CE-DAT surveys show measles vaccine coverage is below the UNHCR target in every surveyed country except Kenya. By involving local communities, it is possible to design locally-managed and remotely-supervised programmes to improve coverage even in places too dangerous for health workers to visit.

CE-DAT data show that, to some extent, mortality is under control in most conflict-affected countries. While we cannot give a full account why death rates are falling, we believe it is largely due to a lower intensity of conflicts that were of greatest concern a decade ago. Somalia is a notable exception.

It is important to note, however, that the causes of death in young children are overwhelmingly from preventable causes, including measles, diarrhea, malaria, respiratory and other infectious diseases, plus malnutrition. Thus, despite recent progress, all populations in surveyed countries remain a concern.

With regard to nutrition, CE-DAT surveys send a clear warning that acute malnutrition is a growing problem in conflict-affected countries. Unless action is taken, this is likely to result in increased deaths within two to three years. In the Horn of Africa, we think emergency responses need to be quicker and more effective. Famine alert systems exist and work well, but the warnings they sound must get better responses.

While food aid is clearly needed in emergencies, it can only contain acute crises temporarily. Sustainable improvements in nutritional status require different strategies and different approaches. Food aid is less able to bring children back to a sustainable nutritional status over time. Seasonal shortages and structural weaknesses in food supply chains are essentially development rather than humanitarian issues. We therefore think development specialists should be brought into humanitarian planning at an early stage.

We also question the current thresholds which are used to decide when a critical situation has become an emergency. Today in sub-Saharan Africa, for example, an emergency is not declared until 20 young children are dying every day in a community of 500,000 people. That means people are already teetering on the very edge of survival. However quickly food aid arrives, it will already be too late for many of them. We understand that thresholds are useful, even necessary triggers for action but we think action should begin before complete destitution sets in.

Fig. 1.1

People affected by conflict (PAC) in 2012 - the numbers

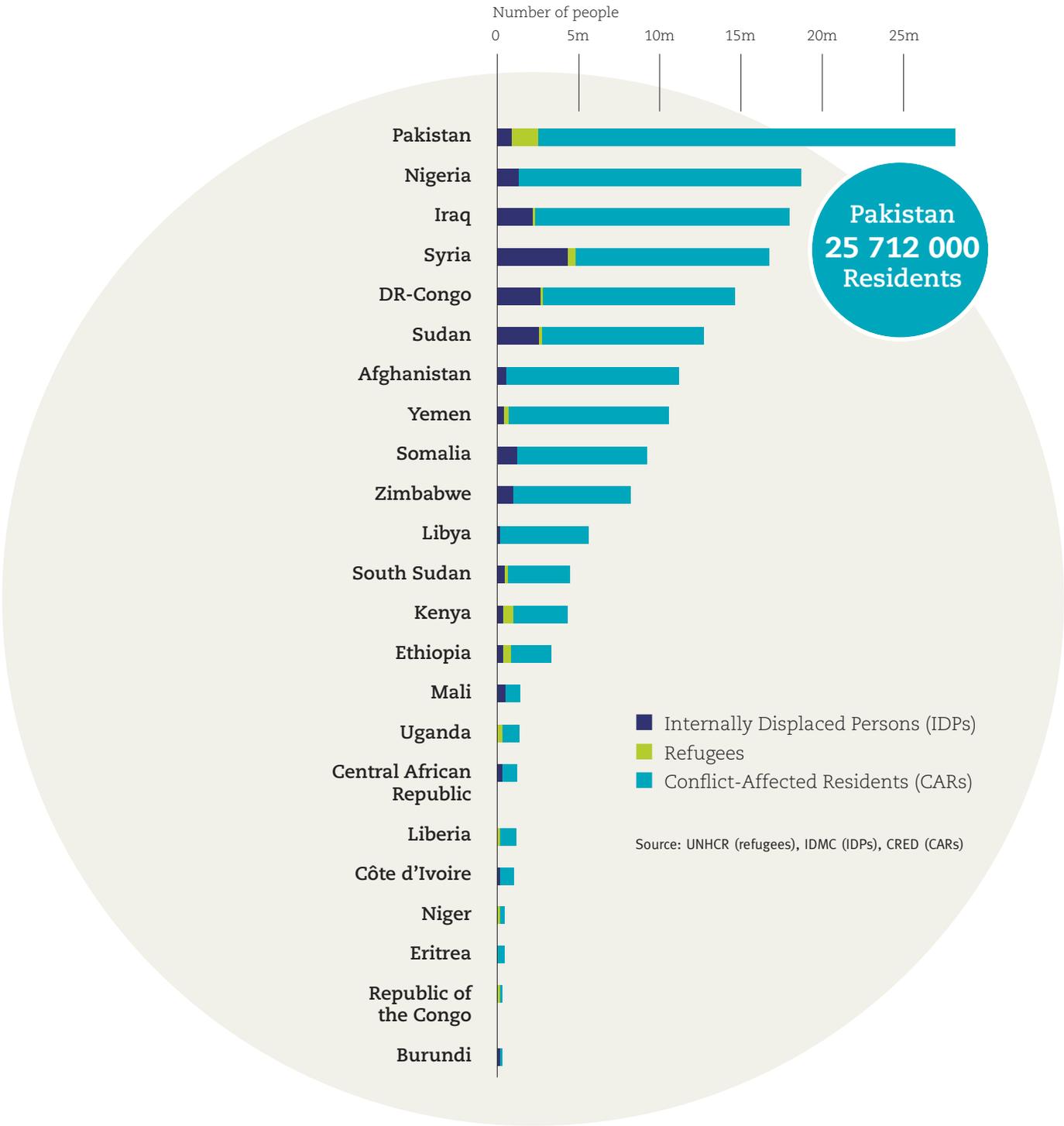


Fig. 2.1

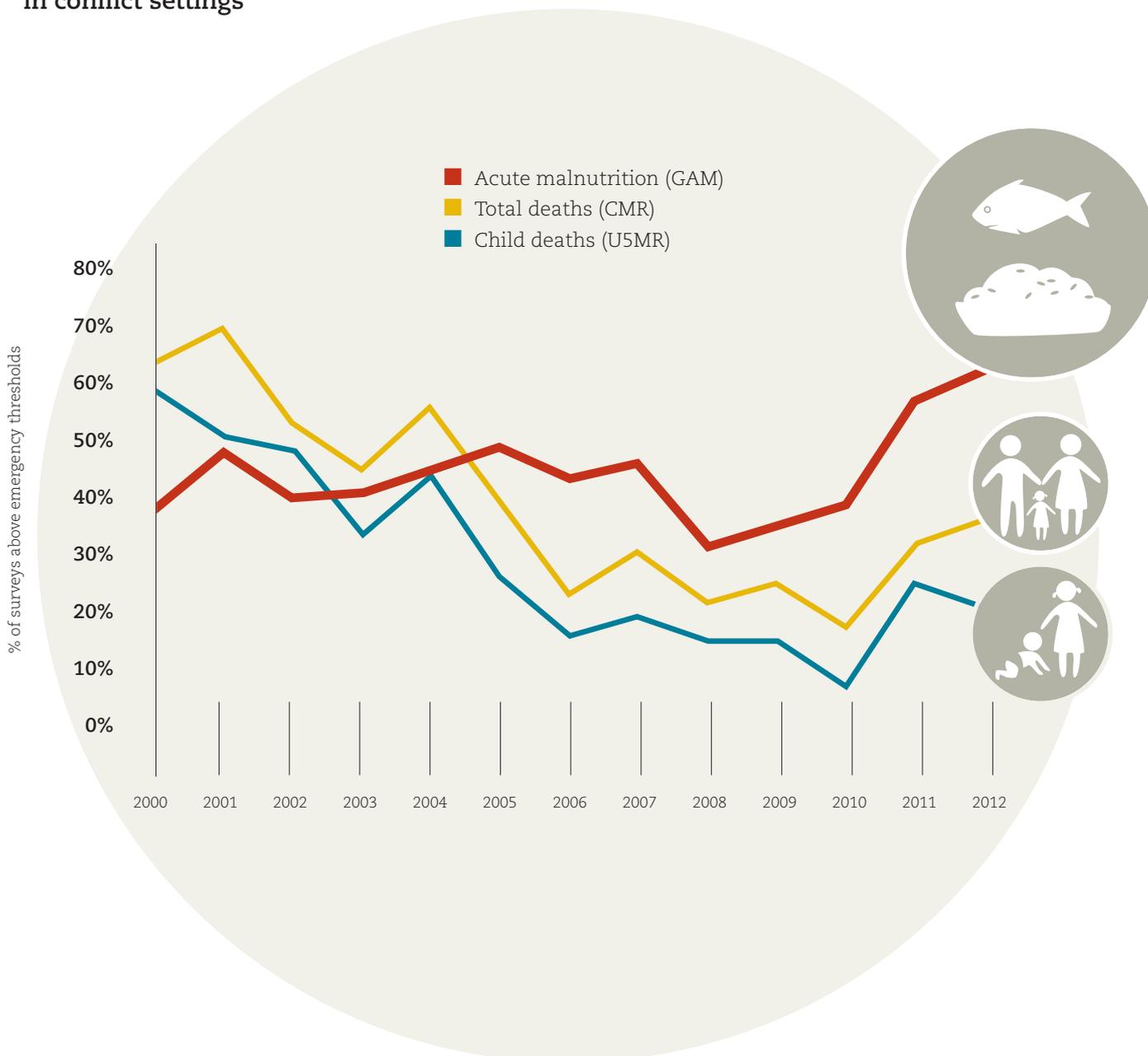
Child deaths by population status (deaths/10 000/day)

Source: CE-DAT surveys 2000-2012



Fig. 3.1

Surveys reporting critical situations in conflict settings



People affected by conflict in 2012 – the numbers

More than 172 million people worldwide were affected by conflict last year. The overwhelming majority of them were residents of conflict zones rather than refugees or other people who fled from violence, insecurity and fear.

Pakistan and Nigeria had the largest numbers of people affected by conflict - 28.1 million and 18.6 million respectively - while Libya and Somalia had the highest proportion of their populations affected by conflict, at around 90% each. Nearly three quarters of Syrians were affected by conflict last year, a level certain to be exceeded this year.

Figures 1.1 and 1.2 summarise the latest available data on Internally Displaced Persons (IDPs), cross border refugees and Conflict-Affected Residents (CARs). These terms are used consistently throughout the report and are described in Box 1. The sum of these sub-groups are referred to as People Affected by Conflict (PAC).

These numbers are the product of a new research method which we have developed to provide humanitarian organisations with the most accurate, objective and comparable data currently available.

These graphs represent a realistic snapshot of the relative burden of conflict, and highlight the fact that refugees and internally displaced persons are only the tip of the iceberg in terms of the total number of people affected by conflict today.

Population Status

Internally Displaced Persons (IDPs)

“Persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalised violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognised state border.” (OCHA, Guiding Principles on Internal Displacement.) The number of IDPs in the world is estimated and published annually by the Internal Displacement Monitoring Centre.

Refugees

“Any person who owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion, is outside the country of his nationality, and is unable to or, owing to such fear, is unwilling to avail himself of the protection of that country.” (United Nations Convention Relating to the Status of Refugee.) The number of refugees in the world is estimated and published annually by the UNHCR. In this report, this number is presented as the number of refugees in a country’s territory and not the number of refugees originating from this country.

Conflict-Affected Residents (CARs)

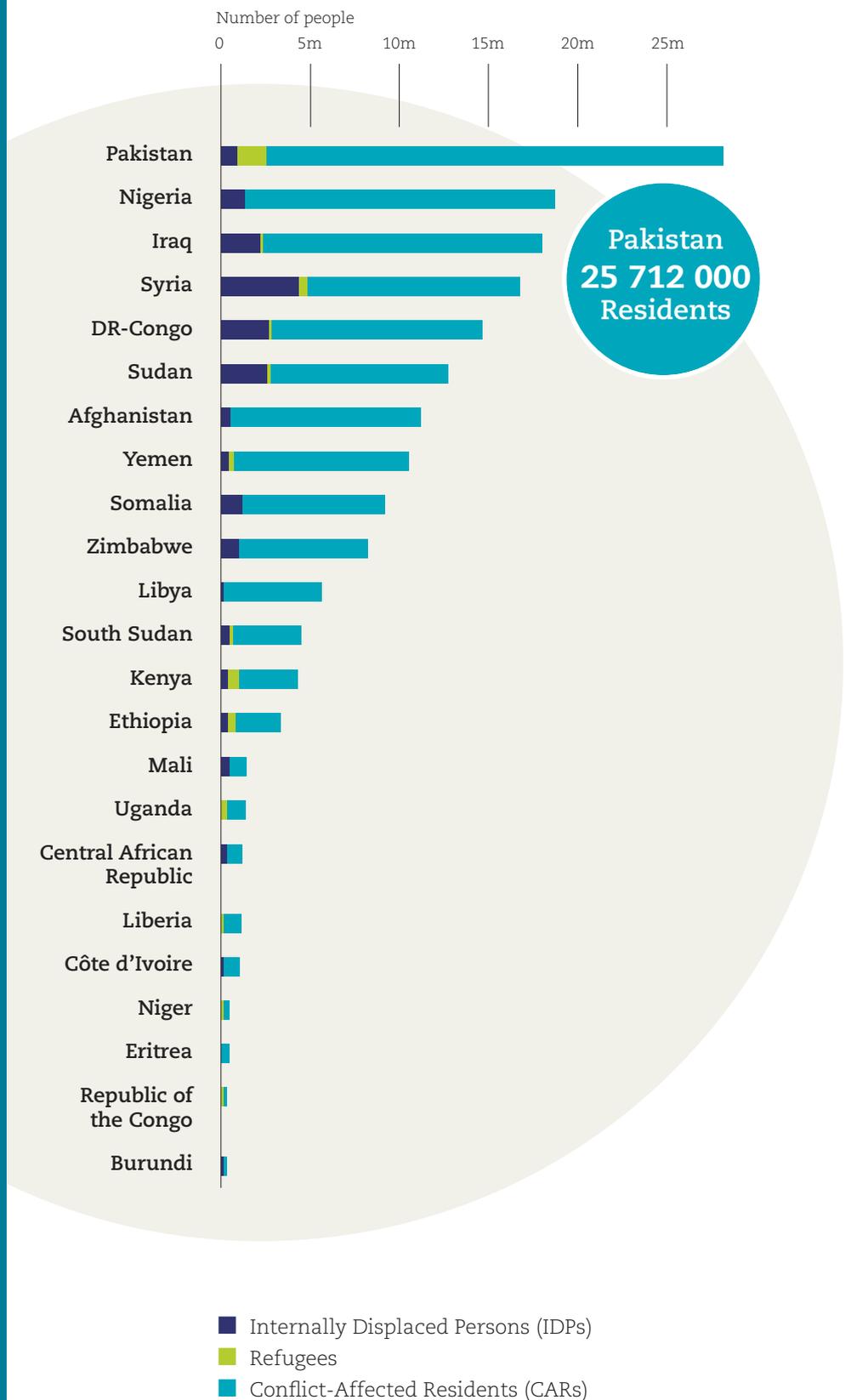
This new category includes all the people affected by conflict who, for any reason, did not flee or leave their homes or places of habitual residence. The methodology was developed by CRED and the estimates are based on external datasets on conflict intensity and population data.

People affected by conflict (PAC)

The total of the three categories mentioned above.

Fig. 1.1

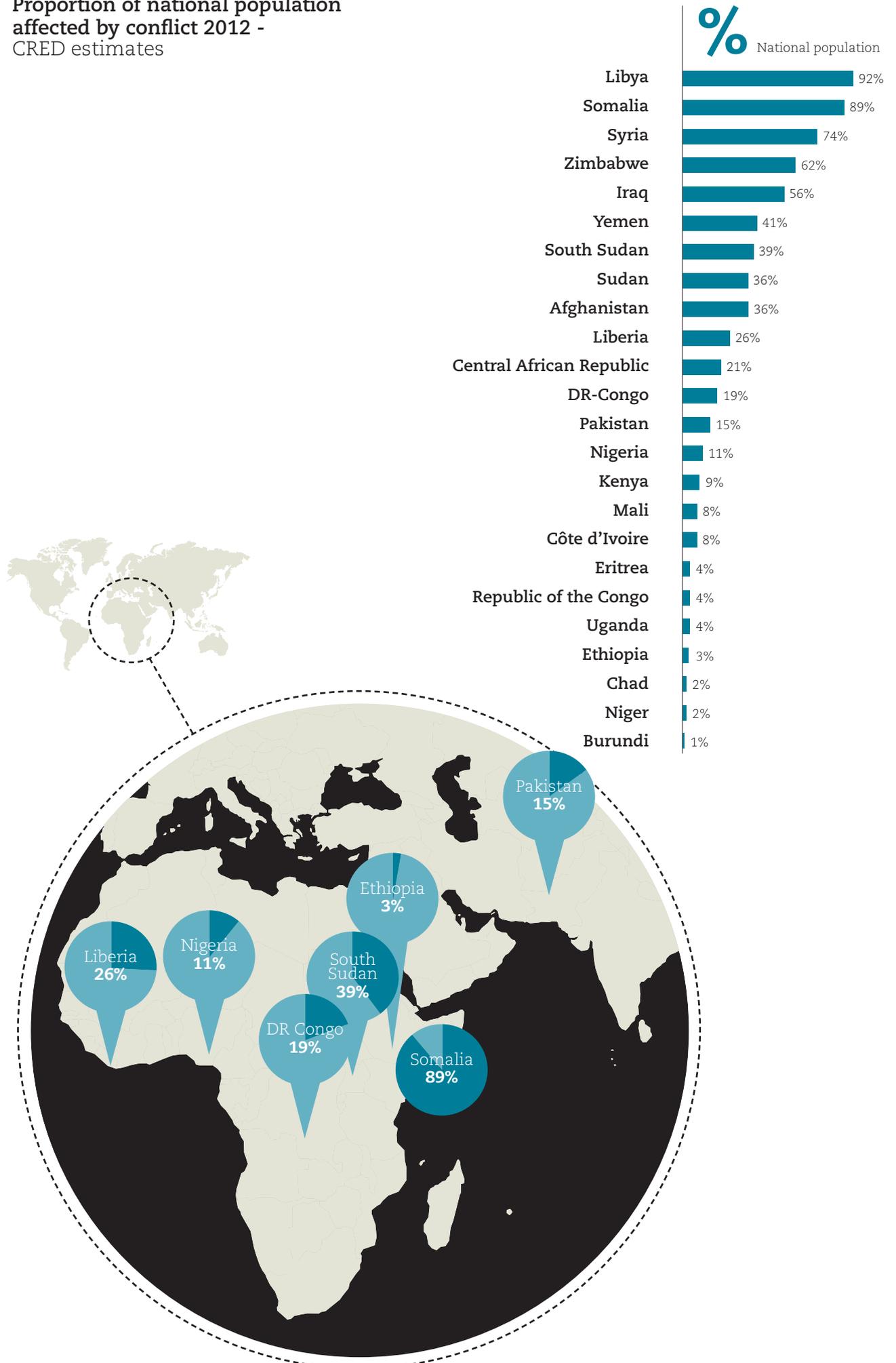
People affected by conflict (PAC) in 2012 - the numbers



Source: UNHCR (refugees), IDMC (IDPs), CRED (CARs)

Fig. 1.2

Proportion of national population affected by conflict 2012 -
CRED estimates



Why is it important to know these numbers?

Knowing how many people are the victims of conflict is crucial for the humanitarian community. Governments and charities need the best available estimates of people in need in order to work out how much aid to send to conflict zones. They also need accurate comparable figures to make sure that all those in need are getting a fair share of the available funds.

At the moment, however, the limited availability of good data makes it hard for decision-makers to measure the effectiveness of humanitarian spending in conflict zones. Nor can they work out whether one programme is more effective or efficient than another.

That makes it difficult for donors to meet their commitment to allocate funding fairly and on the basis of assessed need. It also means the public cannot hold the humanitarian community to account because no one knows which types of aid spending provide the best value for money.

For all these reasons, accurate data is vital for aid donors and beneficiaries alike.

What do these figures tell us that we did not know before?

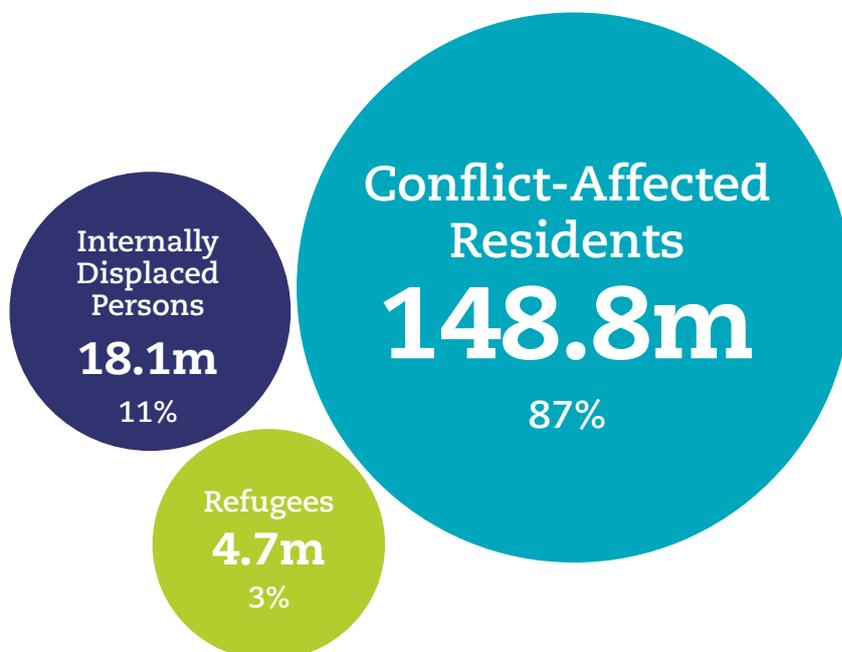
These figures show us that far more people are affected by conflict than previously thought. That is because donors, the media and advocacy groups have for decades focused their attention on the plight of refugees and internally displaced people. Our research shows that refugees and IDPs are far outnumbered by Conflict-Affected Residents in all surveyed countries.

In total we calculated that 149 million CARs were living in 24 countries (Figures 1.1 and 1.2). Aggregated data for these countries show that 87% of the total were CARs (Figure 1.3). Add 18 million IDPs and five million refugees and the headline figure rises to 172 million PAC last year.

These are not global figures. Our aim here is to provide the most accurate information and not the biggest number possible. We therefore exclude conflict-affected countries where we cannot be certain we are comparing like-with-like in terms of population. We discuss our new method below and provide it in full in technical notes at the back of this report.

As this is the first time we have calculated these numbers, there are no comparative figures for previous years. Broadly, however, our CARs estimates can be compared to the Internal Displacement Monitoring Centre's (IDMC) estimates of IDPs and the UN High Commission for Refugees' estimates of refugees. Our method also shows that the often-quoted UN figure of 1.5 billion people living in conflict-affected countries significantly overstates the impact of conflict on the world's population because it includes everyone living in these countries, rather than those directly affected by conflict.

Fig. 1.3
PAC by status in CE-DAT surveyed countries



Why do we hear so little about Conflict-Affected Residents?

There are probably many reasons why CARs have been overlooked in the past, not least because of the difficulty of calculating how many people we are actually talking about. Peace-time population estimates are often based on non-comparable definitions. Once regions are in conflict, census data - if it exists at all - rarely includes conflict zones in any useful or comprehensive way.

Refugees and IDPs, on the other hand, are more visible and therefore easier for humanitarian agencies to monitor. Global numbers of IDPs and refugees are better known, for example, since they are researched and published annually by the UNHCR and the IDMC.

Estimating numbers of CARs ensures a fair and efficient resource allocation. While it is clear that displaced people suffer greatly from the loss of their homes and livelihoods - and that IDPs in particular face serious deprivation in overcrowded and often insanitary camps - humanitarian agencies should also be concerned about the specific health needs of CARs and design special interventions for them where possible.

spotlight 1



How did we obtain our numbers?

Figures 1.1 and 1.2 represent the first systematic attempt to provide the humanitarian community with objective and comparable figures for people affected by conflict. Our methods are transparent and reproducible over time and across countries, and our results are sufficiently detailed to be useful to decision-makers, policy advisors and concerned members of the public.

So how do we do it?

In simple terms, we create a map showing how many people live in the immediate area of a known conflict event. We do this by combining two datasets: one is the Armed Conflict Location and Event Database (ACLED) and pinpoints as accurately as possible where and when bombs exploded, which villages were invaded, where massacres or violent riots took place etc. The other dataset (WorldPop) provides for detailed populations breakdowns for these locations.

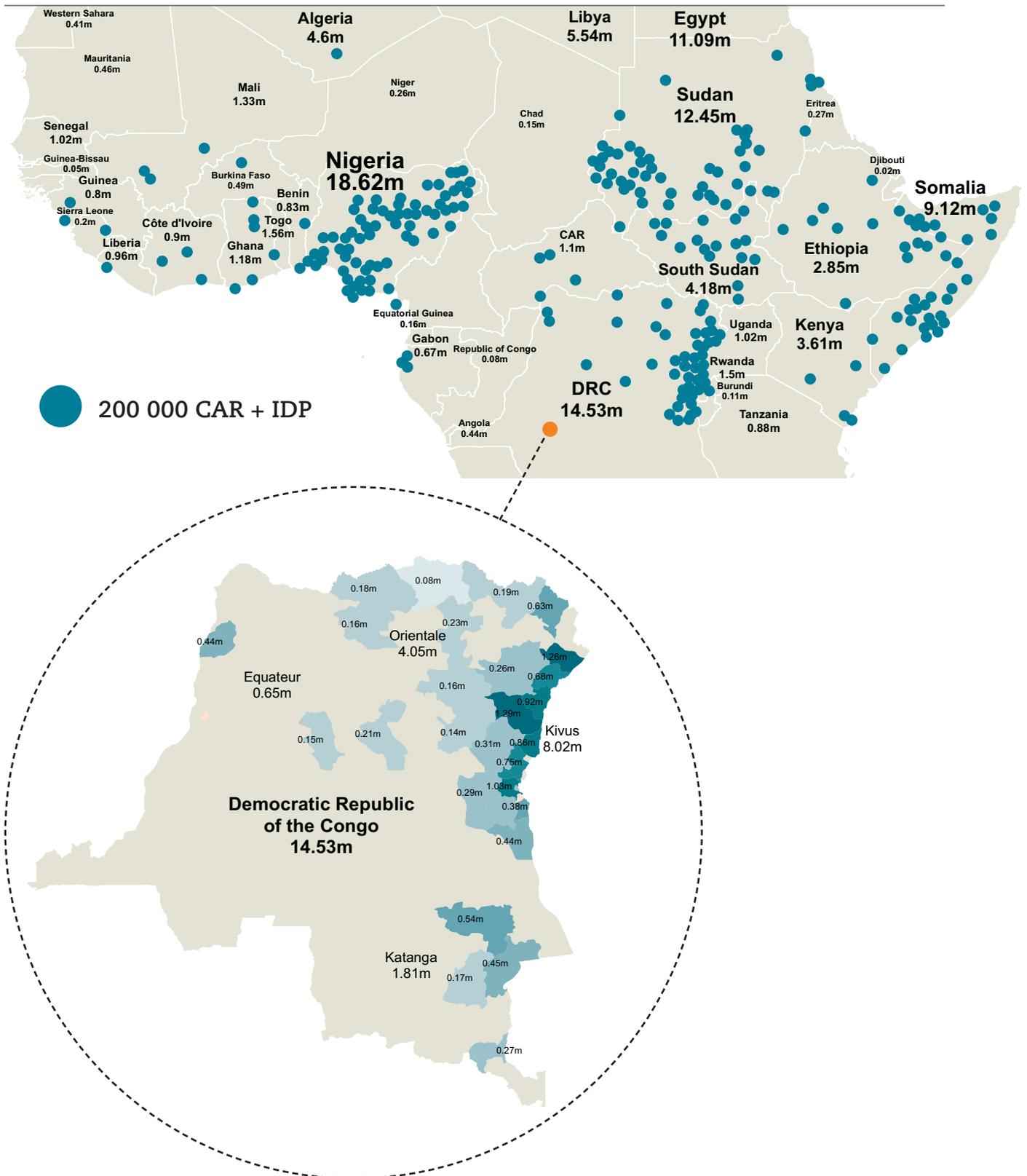
Although we cannot apply this formula to every country affected by conflict last year, our map captures the best current scientific knowledge about the numbers of PAC in 2012. Our input data are available at a very high spatial resolution. That means, for example, we can estimate the number of victims by district. By using updated datasets each year, and applying the same analytical formula, we will be able to monitor the development of needs among PAC over time.

Full details about our formula are provided in the technical notes at the back of this report. All our source data are freely available and produced by independent teams of researchers, so anyone with the skills can replicate our estimates.

We are confident that these figures, together with health data presented in the following chapters, will over time help the humanitarian community to design more effective health policies and help save more lives in complex, conflict-related emergencies.

Where are people living in conflict in 2012?

Fig. 1.4



Who fares worst in conflicts?

Civil conflicts affect the health and survival of population groups in different ways. Indeed, a person's status as a refugee, IDP or CAR effectively determines whether he lives or dies.

In this chapter we analyse more than 3 000 health surveys in the GE-DAT database which quantify the health impacts of violence and insecurity on these three different groups since 2000. We also compare GE-DAT health estimates (Box 2.1) to national data in selected countries.

Of course, analysing aggregated data cannot substitute for emergency surveillance systems that accurately follow developments on the ground. However, analysis of large datasets does allow us to spot patterns that cannot be seen in the field.

Our research reaches some surprising conclusions, including the fact that the health impact of conflict falls most heavily on IDPs. CARs also suffer measurably worse health than refugees.

Definition of health indicators used in this report

Death rates

A mortality rate is the number of deaths in a given time period divided by the amount of time lived by the population exposed to risk during the time period:



Child Deaths (Under five mortality rate – U5MR): The rate of death among children below 5 years of age in the population.

$$\frac{\text{Total number of deaths in children <5 years during time period}}{\text{Mid-period population of children under 5 at risk x number of days in time period}} \times 10\,000 \text{ persons} = \frac{\text{Deaths/10 000 children under 5 years/day}}{\text{persons/day}}$$



Total Deaths (Crude mortality rate – CMR)

The rate of death in the entire population, including both women and men, and all ages.

$$\frac{\text{Total number of deaths during time period}}{\text{Mid-period population at risk x Number of days in time period}} \times 10\,000 \text{ persons} = \frac{\text{Deaths/10 000 persons/day}}{\text{persons/day}}$$



Acute malnutrition (Global acute malnutrition – GAM)

The nutritional status of a population is one of the basic indicators, together with death rates, to assess the severity of a humanitarian crisis. In an emergency situation, the weight and height of children between 6 and 59 months are measured and the results are used as a proxy indicator for the general health of the entire population. The table below shows the commonly used indicators of different grades of malnutrition among children aged 6–59 months, including Weight for Height (WFH) indices (calculated using the WHO 2006 child growth standards) and the Middle Upper Arm Circumference (MUAC).

GLOBAL acute malnutrition	MODERATE acute malnutrition	SEVERE acute malnutrition
Children 6.0 -- 59.9 months		
WFH <-2 Z score and/or	WFH -3 <-2 Z score and/or	WFH <-3 Z score and/or
MUAC <12.5 cm and/or	MUAC 11.5 - <12.5 cm	MUAC <11.5 cm and/or
Nutritional oedema		Nutritional oedema



Measles Vaccination Coverage (MCV)

Immunisation is an essential component for reducing under-five mortality while immunisation coverage is a good indicator of health system performance. Measles Containing Vaccine (MCV) coverage is generally defined as the percentage of children under one year of age who have received at least one dose of measles-containing vaccine in a given year.

These definitions are adapted from the Sphere handbook & World Health Organization (WHO).

Figures 2.1 and 2.2 present aggregated health data from all countries in humanitarian crisis between 2000 and 2012. Our analysis shows that IDPs experience the highest levels of excess deaths, both for adults and young children, and the highest rates of acute malnutrition.

Overall, IDP children are nearly twice as likely to die prematurely as refugee children. IDP children are also half as likely to receive a measles vaccine.

CE-DAT data also show that CAR adults and young children suffer higher death rates than refugees, and that CAR young children suffer substantially higher acute malnutrition too. Their immunisation coverage is similar to IDPs, meaning they are half as likely as refugees to receive protection against diseases such as measles.

Figures 2.1 and 2.2 also show that refugees have the lowest death rates of all three groups, the lowest rates of acute malnutrition and the highest level of immunisation against measles.

In our opinion, this demonstrates an unacceptable level of health inequality among victims of civil conflict. In order to address this problem, creative health strategies are needed to target aid at IDPs and CARs in particular.

Mortality and other health indicators by population status

Fig. 2.1

Mortality by population status (deaths/10 000/day)

Source: CE-DAT surveys 2000-2012

- Internally Displaced Persons (IDPs)
- Conflict-Affected Residents (CARs)
- Refugees

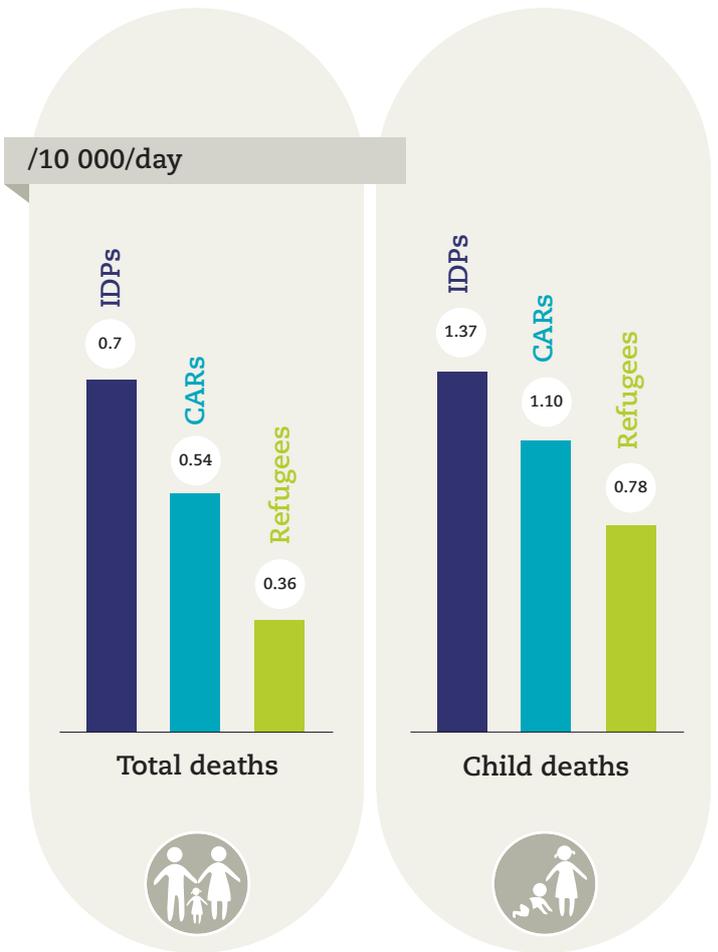
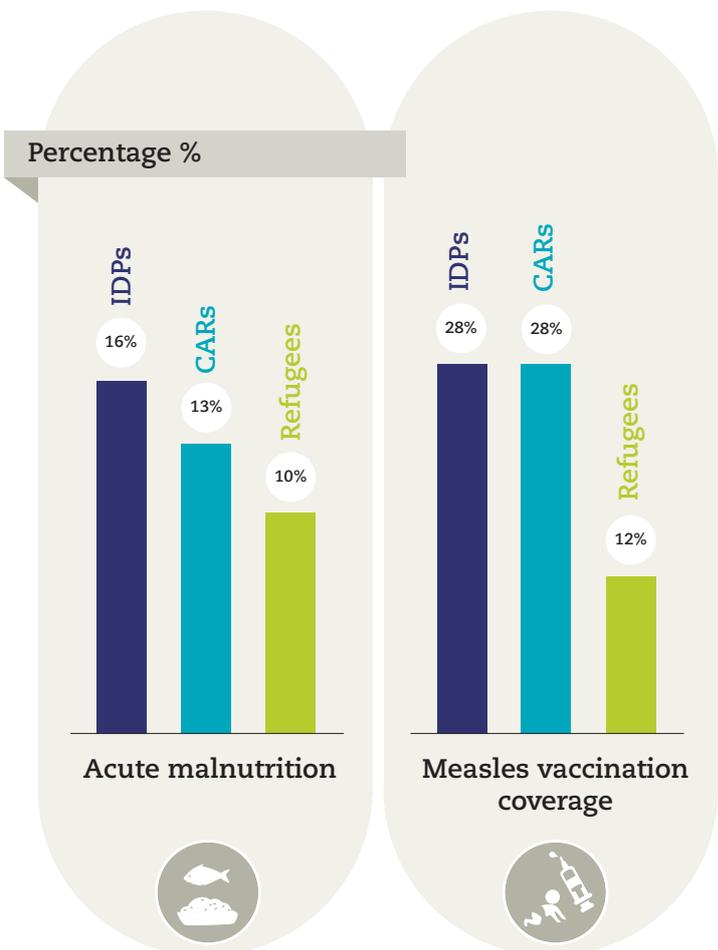


Fig. 2.2

Other health indicators by population status (%)

Source: CE-DAT surveys 2000-2012

- Internally Displaced Persons (IDPs)
- Conflict-Affected Residents (CARs)
- Refugees





IDPs in the Democratic Republic of the Congo

Since 2010, around two million Congolese have been forced to flee their homes because of violence in the north east of the country. Just 2% of them settled in camps. The rest live in the community where it is particularly hard to get health services to them.

By comparing health data from mixed IDP/resident populations in North Kivu with surveys of resident-only communities, we were able to spot differences in the relative health of IDPs and residents.

We found child malnutrition was higher among mixed populations. Premature deaths were also significantly more frequent, while measles vaccination rates were lower.

This shows that displacement has a serious impact on health. Aid agencies should do more to support local health providers in conflict-affected places like North Kivu in order to reach IDPs and returnees living within resident communities.

How does health of PAC compare with health of nationals?

The difficulty of getting reliable health data out of conflict zones often leaves relief agencies looking for substitute data on which to base their assessments of need. These assessments help international donors and aid agencies to decide on funding priorities.

One dataset commonly used by the humanitarian community is national statistics provided either by the government or international institutions such as the World Bank.

Analysis of the CE-DAT database demonstrates that national statistics may be misleading if used as a proxy for health of PAC. In some settings people affected by conflict may suffer from worse health than the other nationals, but in rare cases they may not (Figure 2.3 to 2.5).

Indeed if we rank countries in terms of needs, looking at PAC health indicators rather than national statistics does in many cases change our priorities. (Tables 2.1 to 2.3).

Yemen, for example, rises to the top of the list from 10th place when you focus on the rate at which PAC children are dying, rather than the lower national under-5 death rate.

In terms of malnutrition, Djibouti jumps to second place from 11th, while Kenya climbs ten places to rank as the fifth worst country in terms of acute hunger among PAC.

CE-DAT surveys for Chad, on the other hand, show that PAC are better off in terms of health than the national average. That is because the surveys mainly include officially-recognised refugees – including large numbers who fled from neighbouring Darfur – who have access to better food, sanitation and health services from humanitarian agencies than most ordinary Chadians.

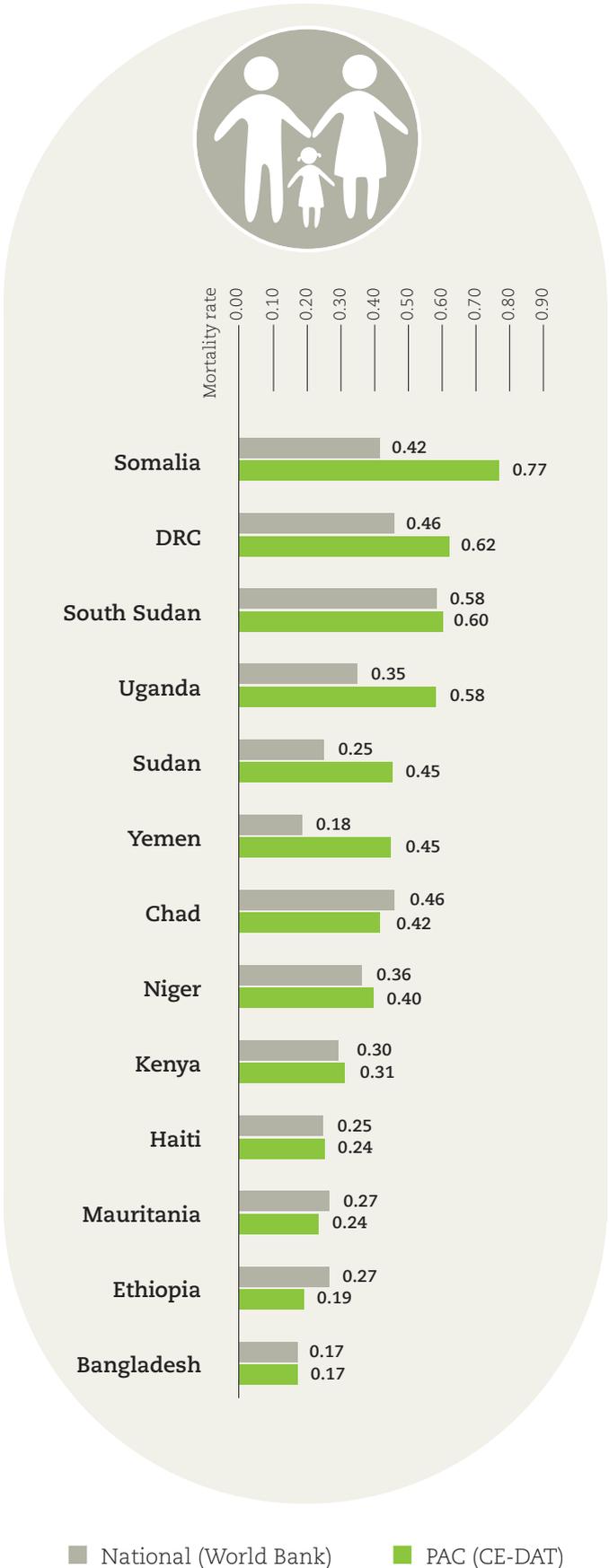
In South Sudan, appalling levels of malnutrition in both national and PAC estimates reflect the severity of the crisis in a country emerging from decades of conflict.

For all of the above reasons, our take away message is this: humanitarian aid should be needs-based and needs cannot be accurately assessed for PAC based on national estimates alone. Small-scale surveys clearly provide more timely and more accurate representations of the condition of people living in states of high insecurity.

Total mortality: national vs PAC

Fig. 2.3

Total mortality (2007-2012): national vs PAC estimates



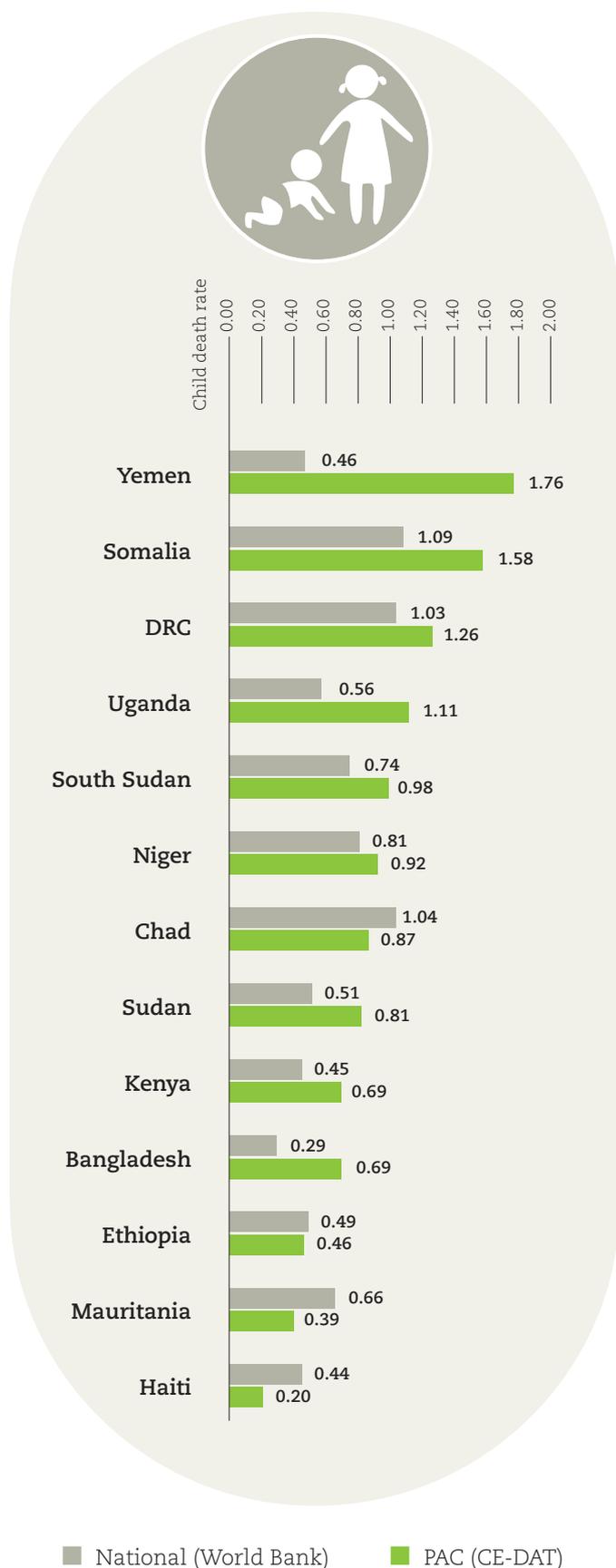
- Country ranking based on national CMR
1. South Sudan
 2. DRC
 3. Chad
 4. Somalia
 5. Niger
 6. Uganda
 7. Kenya
 8. Ethiopia
 9. Mauritania
 10. Sudan
 11. Haiti
 12. Yemen
 13. Bangladesh

- Country ranking based on PAC CMR
1. Somalia
 2. DRC
 3. South Sudan
 4. Uganda
 5. Sudan
 6. Yemen
 7. Chad
 8. Niger
 9. Kenya
 10. Haiti
 11. Mauritania
 12. Ethiopia
 13. Bangladesh

Child mortality: national vs PAC

Fig. 2.4

Child mortality (2007-2012): national vs PAC estimates



Country ranking based on national child death rate

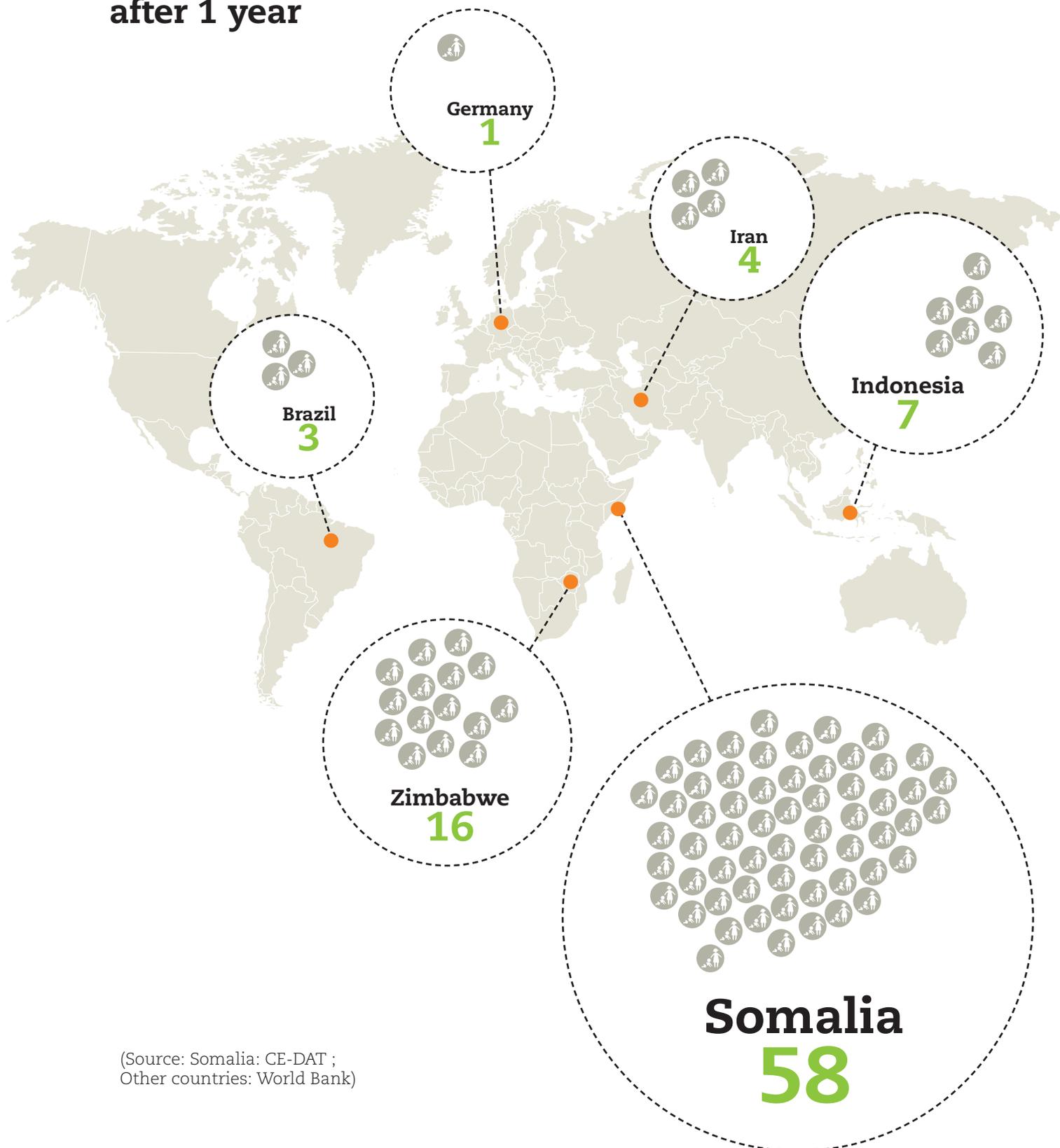
1. Somalia
2. Chad
3. DRC
4. Niger
5. South Sudan
6. Mauritania
7. Uganda
8. Sudan
9. Ethiopia
10. Yemen
11. Kenya
12. Haiti
13. Bangladesh

Country ranking based on PAC child death rate

1. Yemen
2. Somalia
3. DRC
4. Uganda
5. South Sudan
6. Niger
7. Chad
8. Sudan
9. Kenya
10. Bangladesh
11. Ethiopia
12. Mauritania
13. Haiti



Deaths in a group of 1 000 children after 1 year

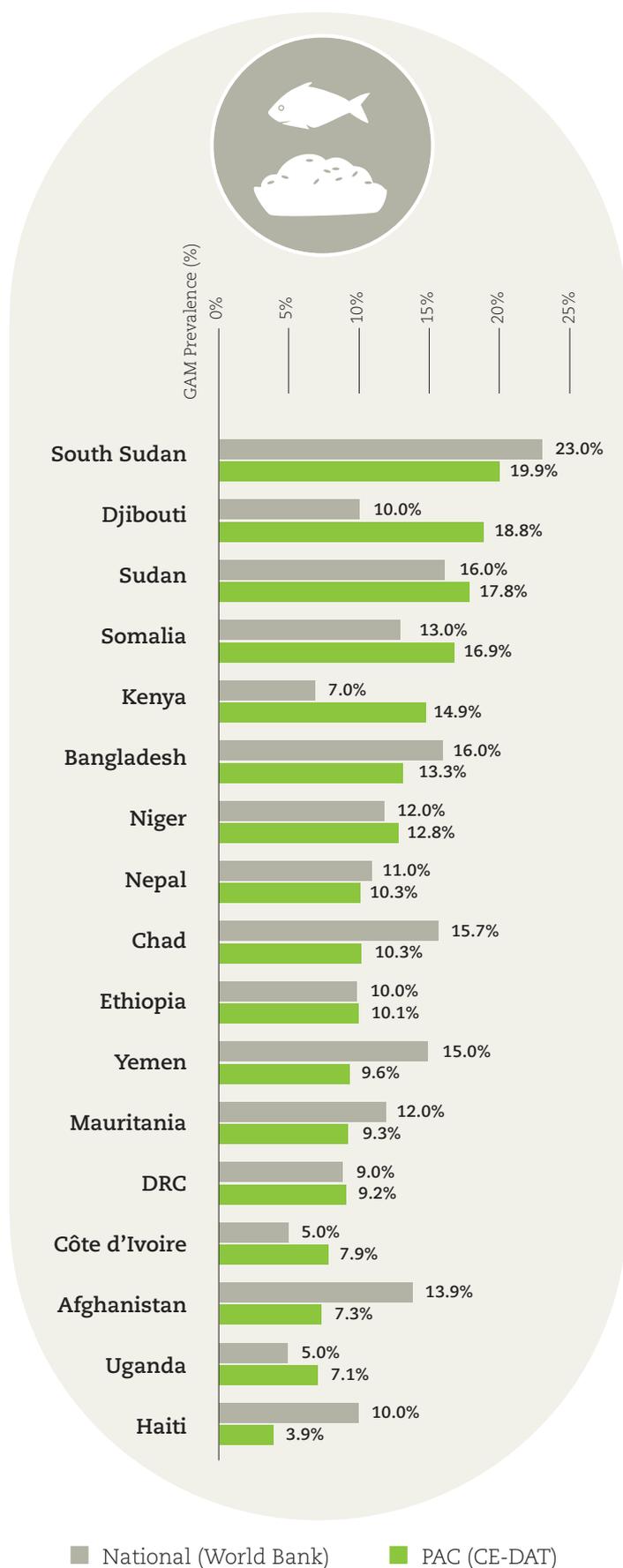


(Source: Somalia: CE-DAT ;
Other countries: World Bank)

Malnourished children: national vs PAC

Fig. 2.5

Proportion of malnourished children (2007-2012): national vs PAC estimates



Country ranking based on national malnutrition

1. South Sudan
2. Sudan
3. Bangladesh
4. Chad
5. Yemen
6. Afghanistan
7. Somalia
8. Niger
9. Mauritania
10. Nepal
11. Djibouti
12. Ethiopia
13. Haiti
14. DRC
15. Kenya
16. Cote d'Ivoire
17. Uganda

Country ranking based on PAC malnutrition

1. South Sudan
2. Djibouti
3. Sudan
4. Somalia
5. Kenya
6. Bangladesh
7. Niger
8. Nepal
9. Chad
10. Ethiopia
11. Yemen
12. Mauritania
13. DRC
14. Cote d'Ivoire
15. Afghanistan
16. Uganda
17. Haiti

Health trends in conflict-affected populations

In this chapter we explore the health impacts of conflict over time by studying a selected group of countries where humanitarian operations have continued so long that CE-DAT has built up a picture of decade-long trends.

By and large, our research found encouraging news in terms of lower death rates, indicating that periods of stabilisation and humanitarian efforts have succeeded in saving lives. But we also identify worryingly high and rising trends in acute malnutrition.

Fig. 3.1 Surveys reporting critical situations in conflict settings

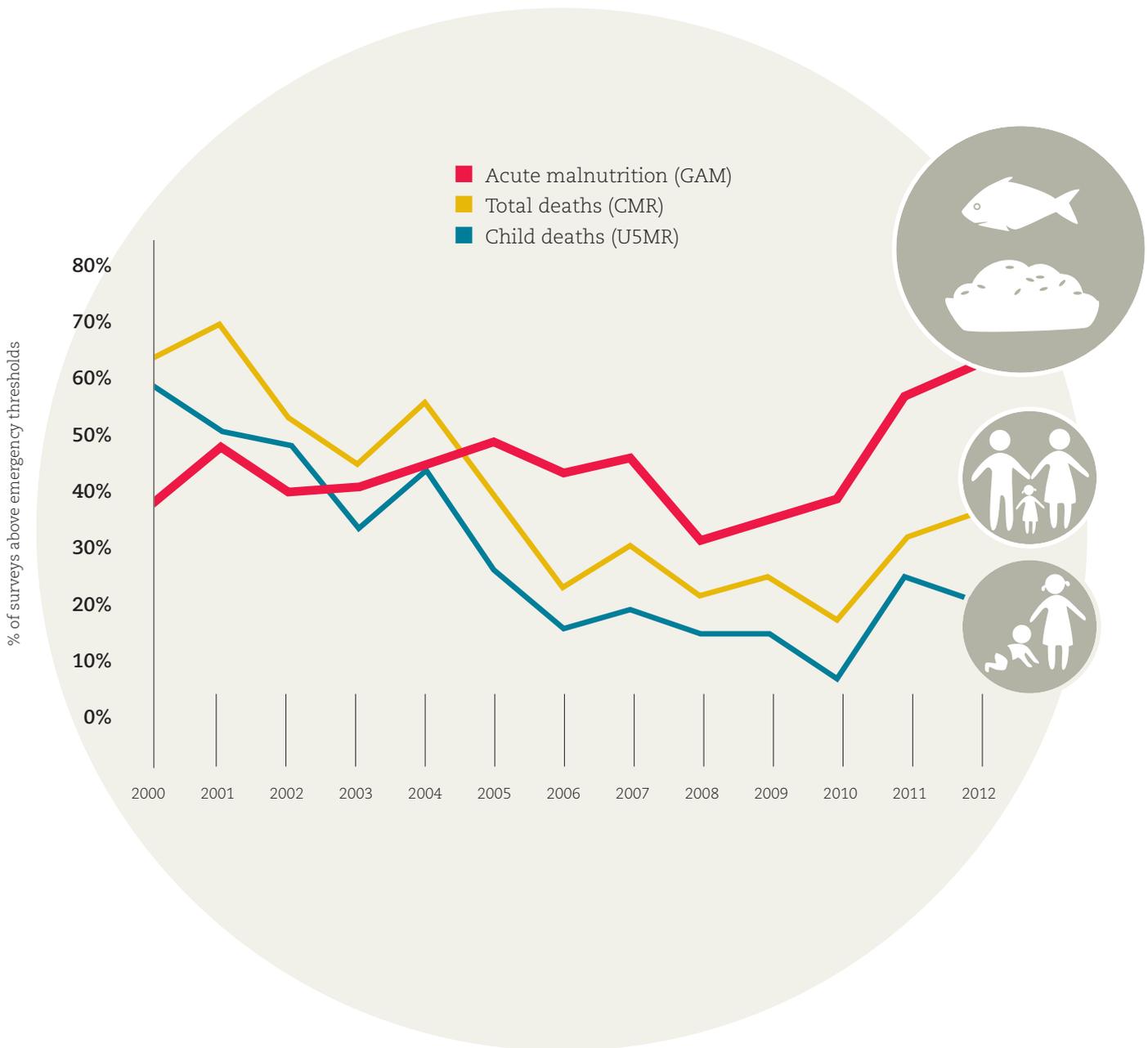


Figure 3.1 illustrates the proportion of field surveys from all 51 countries in the CE-DAT database that reported critical rates of mortality and malnutrition year by year.

Reports of critical death rates generally declined until 2010, but reports identifying critical levels of malnutrition have risen overall since 2000. In 2012, 60% of surveys received by CE-DAT were reporting critical levels of malnutrition. **While we cannot say why this is happening without further data and analysis, we can say that rising malnutrition could well result in higher death rates within the next two to three years unless action is taken to prevent it.**

Of course, we recognize that these small-scale surveys are only approximations of reality. Indisputably, large-scale surveys with detailed sampling of conflict-affected populations would provide a much clearer and detailed picture of the situation. However, such surveys are both expensive and time-consuming. Furthermore, analysing these large datasets would take even more time, and the situation on the ground would very likely have changed before the results were known. **Analysing quicker, small-scale surveys is thus probably the best available way of monitoring the health of people affected by conflict.**

Health trends by country

The rest of this chapter focuses on PAC in nine sub-Saharan countries plus Haiti, a chronically fragile state. This selection reflects those countries where we have compiled the most comprehensive data from field surveys that have been sent to us voluntarily by non-governmental and UN organisations.

Undertaking health and nutrition surveys, and reporting on them, is extremely difficult in the field. These surveys are prepared, cleared and sent to us in the midst of heavy operational responsibilities. We wish to acknowledge and thank our partners for their efforts. The CE-DAT team constantly endeavours to maintain links with our partners in the field, and to validate and collect missing information. The findings presented here are therefore the sum of a huge and sustained effort from a great many hard-working people.

BOX 3.1

SPHERE emergency thresholds for death rates in adults and young children

The international Sphere Project defines two levels which are used by humanitarian agencies to monitor the health of people affected by conflict and other emergencies. The baseline death rate is the level at which people in each region die prematurely under normal circumstances. The emergency threshold is the level at which the humanitarian community agrees the situation has become critical. When death rates and malnutrition prevalence reach these critical thresholds, a humanitarian emergency is declared.

Baselines and thresholds vary around the world because health-related factors such as poverty, access to medical care and poor diet also vary, resulting in different rates of premature deaths under normal circumstances: the higher the baseline, the higher the emergency threshold.

The highest thresholds for childhood deaths (U5MR) and deaths among the affected population (CMR) are both in sub-Saharan Africa. Deaths are expressed as a theoretical number of people dying per day for every 10,000 individuals. Roughly speaking, death rates are considered critical when people are dying at double the baseline rate. The Sphere Project baselines and emergency thresholds for major world regions are shown in the table.

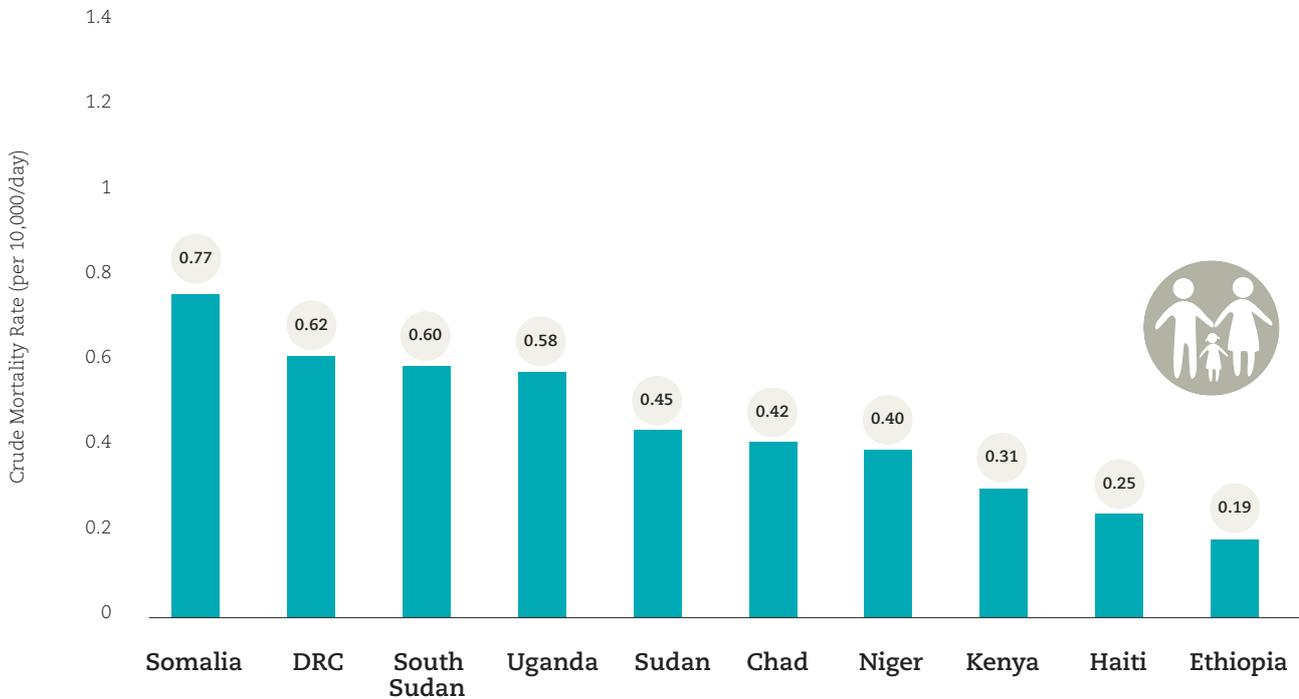
	CMR Baseline	CMR Emergency Threshold	U5MR Baseline	U5MR Emergency Threshold
Sub-Saharan Africa	0.41	0.8	1.07	2.1
Middle East & North Africa	0.16	0.3	0.27	0.5
South Asia	0.22	0.4	0.46	0.9
East Asia & Pacific	0.19	0.4	0.15	0.3
Latin America & Caribbean	0.16	0.3	0.15	0.3

Source: Sphere handbook, 2011

Trends in total mortality among PAC

Fig. 3.2

Total mortality among PAC in 2007-2012 (CE-DAT)



Evolution compared to previous period (2000-2006)

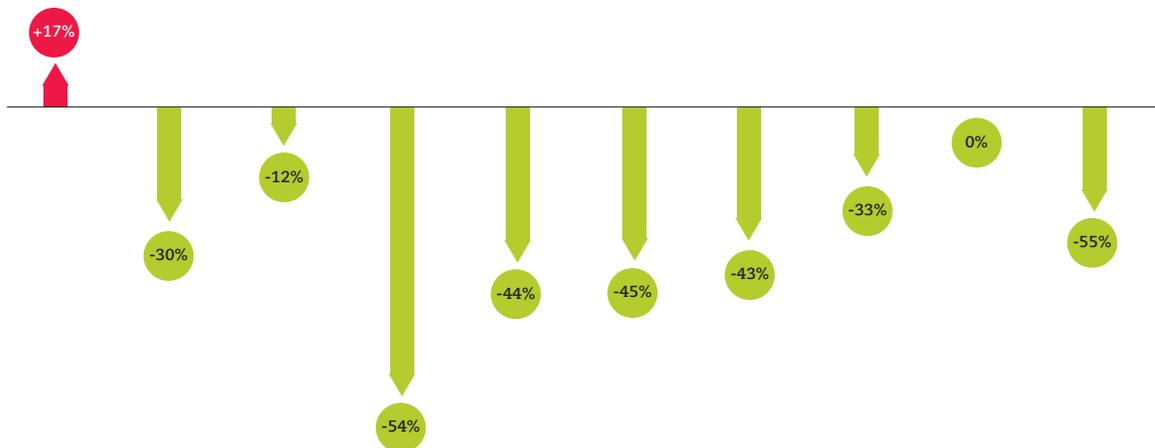


Figure 3.2 shows that between 2000 and 2012 overall death rates among PAC declined in each of these countries except Somalia. Some countries achieved remarkable success. Ethiopia, for example, has made great strides in halving its mortality in the last decade.

Uganda achieved a spectacular drop from very high death rates at the beginning of the decade to levels that are not only below the emergency threshold but also close to the regional baseline. This largely reflects improved health among IDPs in Northern Uganda. Open military conflict is now over in this region: the Lord's Resistance Army (LRA) has been driven

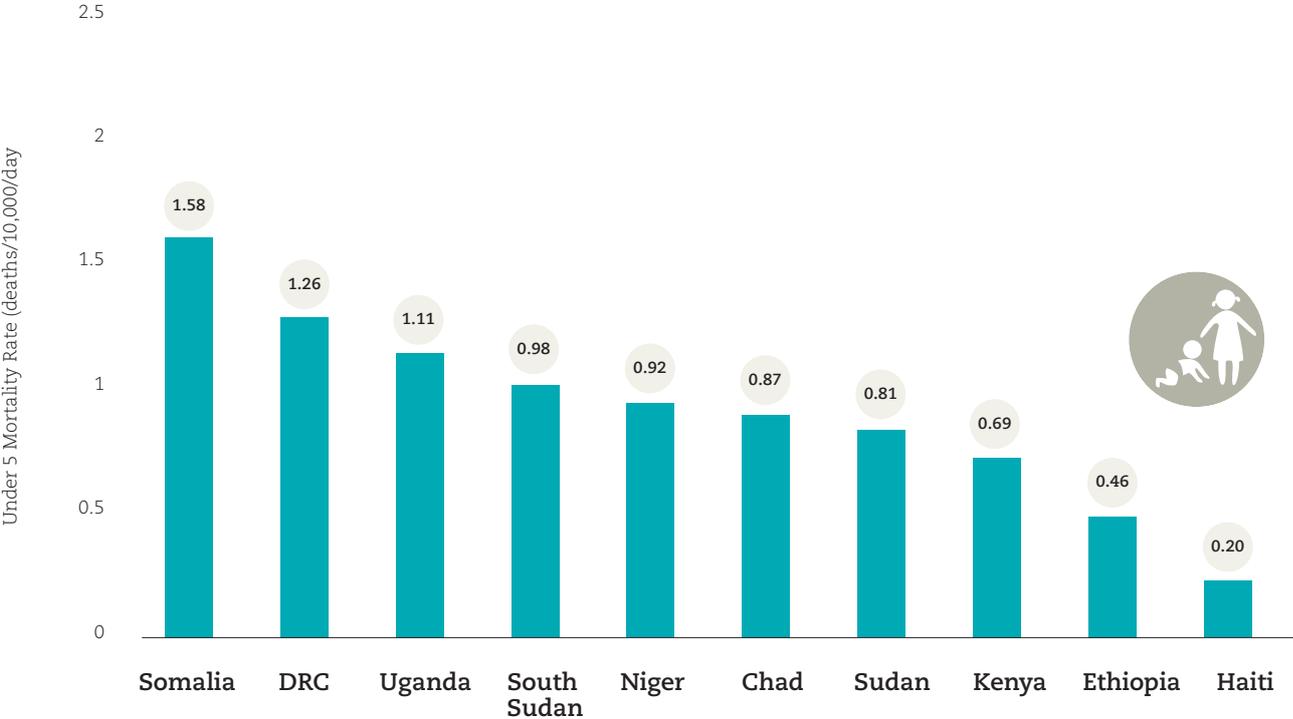
out of the country and many displaced people have returned to their villages and livelihoods. Uganda's achievement shows that rapid progress is possible when conflict is removed from the health equation.

Elsewhere, Sudan, Chad and Niger have brought down mortality rates from emergency thresholds to average levels for sub-Saharan Africa.

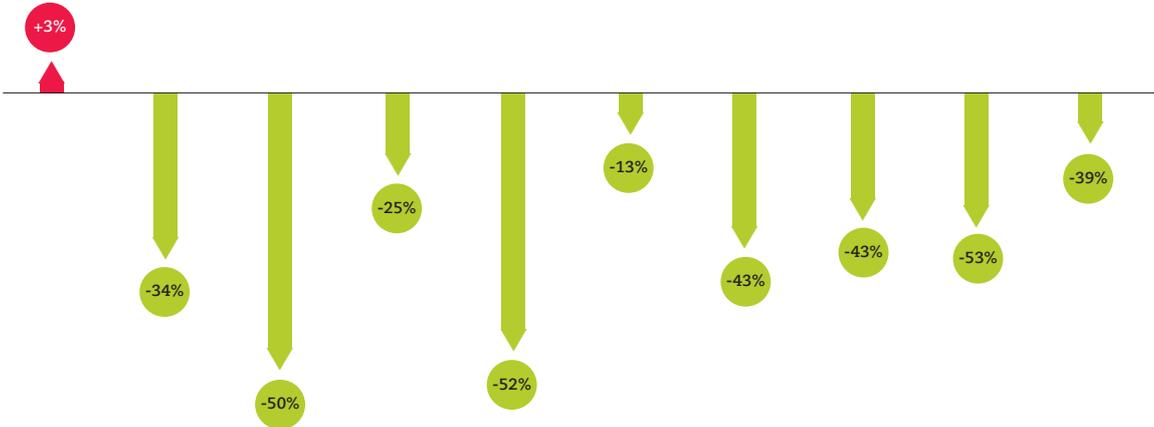
Reports from Somalia, however, show a rising trend toward the emergency threshold.

Trends in child mortality among PAC

Fig. 3.3
Child mortality among PAC in 2007-2012 (CE-DAT)



Evolution compared to previous period (2000-2006)



The pattern of mortality among young children reflects the overall death rate (Figure 3.3). That is because in impoverished, conflict-affected regions the main driver of mortality is usually deaths among children under five.

Most of these deaths occur in the first year of life, the rest before the children reach five. Once these two critical barriers have been passed, childhood deaths decline significantly.

Again, our data show that Somalia is the only country where the overall level of childhood deaths increased between the early part of the decade and the later period. High levels of violence and political instability in that country have led to persistent nutritional deprivation and a lack of access to

essential health services that is eventually the cause of these appalling numbers.

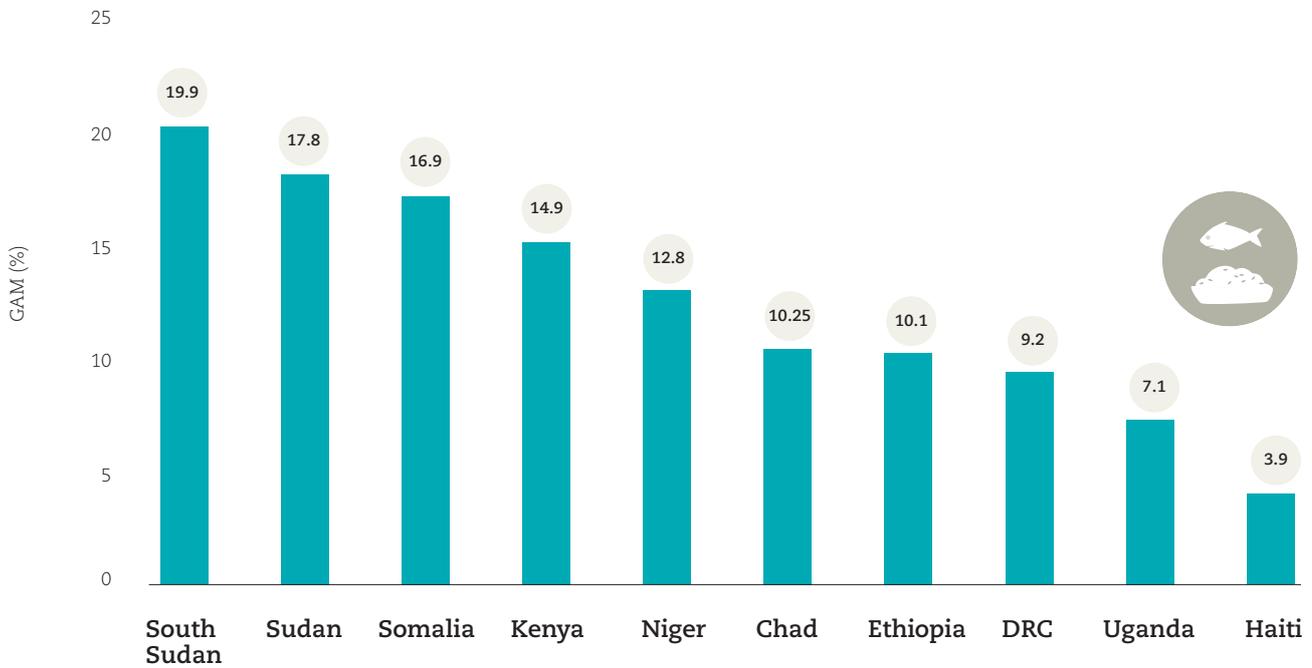
PAC child deaths declined in both Uganda and Niger almost to the regional baseline. Deaths among children also fell in Ethiopia, most likely reflecting both humanitarian efforts and support from strong national policies and energetic implementation of health programmes.

However, it is important to note that conflict-affected populations in Ethiopia remain at high risk from severe droughts and regional political instability. It is therefore essential that we maintain an efficient famine alert system and an effective response mechanism to prevent another catastrophe.

Trends in child malnutrition among PAC

Fig. 3.4

Child malnutrition among PAC in 2007-2012 (CE-DAT)



Evolution compared to previous period (2000-2006)

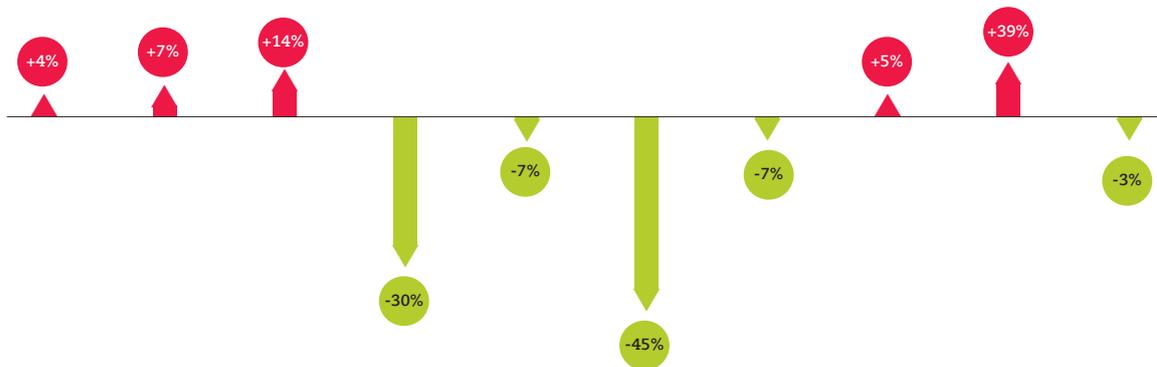


Figure 3.4 underlines the message from Figure 3.1 that acute malnutrition is a ticking clock. While some countries made progress over the past decade, the overall picture is bleaker than for mortality.

Somalia, Sudan, South Sudan and DRC also have more undernourished children now than they had a decade ago, according CE-DAT surveys.

Kenya, Niger, Chad, Ethiopia and Haiti reported lower levels of childhood malnutrition in the recent past, but in Chad, for example, this reflect improved conditions for refugees from Darfur.

As we said before, the consequence of these levels of malnutrition is likely to be higher death rates in future. Waiting for that to happen will make the emergency worse because - as discussed above - food aid often arrives too late for many of the malnourished as well as the dead.



Violent vs non-violent deaths in Darfur

Between 2003 and 2005, the Darfur region of Sudan witnessed enormous loss of life, widespread sexual violence against girls and women, and acts of torture. Estimates of the death toll varied hugely due to the difficulty of getting reliable information out of this vast and dangerous region.

By using every reliable data source available, together with other contextual information, we arrived at the soundest possible approximation of the number and causes of deaths during this conflict.

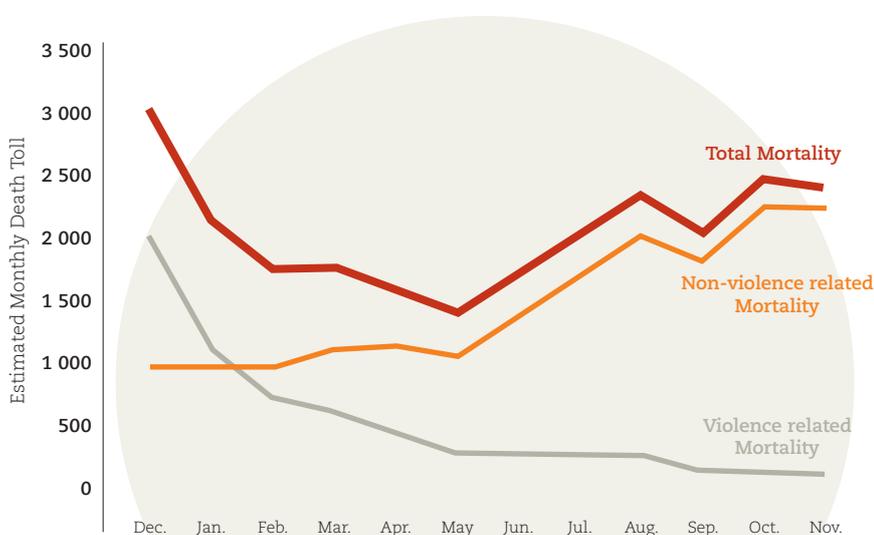
In total, we calculate that 134,000 people died between September 2003 and January 2005, with 35,000 violent deaths concentrated in localised areas and over short periods of time. The majority of deaths - about 99,000 - were due to disease and malnutrition.

The graph above traces the pattern of these deaths over a 12-month period. Violent deaths fell rapidly, but were overtaken by non-violent deaths during the early weeks of 2004.

Data like these help relief agencies to understand the pattern of the war and also provide guidance for emergency operations. For example, stemming violent deaths requires surgical interventions, blood transfusions and other trauma-related care. But after February 2004, the primary health needs were food, vaccinations, clean water and better sanitation to stop the spread of disease.

Our findings also demonstrate a pattern typical of complex emergencies today: the majority of deaths are not directly related to violence.

This phenomenon had been observed before. A survey in Somalia, for example, found that 4%-11% of deaths over ten months during 1992-93 were caused by war-related trauma. Another well-known study in the DRC estimated that only 200,000 out of 1.7 million deaths were attributable to acts of violence. The majority was due to the war-related collapse of the region's health system.



(Source: Guha-Sapir D, Degomme O, Phelan M. Darfur : Counting the Deaths, Mortality Estimates from Multiple Survey Data, CRED Working Paper, 2005)

What is the problem with these emergency thresholds?

The use of mortality and malnutrition thresholds to establish the severity of an emergency has serious implications for the number of lives saved because donors often only release humanitarian funds after these thresholds have been reached.

Mortality levels above the emergency threshold are quite rare and indicate truly catastrophic situations. For example, a CMR of 1/10,000/day in a camp the size of Dadaab in Kenya (500,000 people) means 50 people are dying each day. A U5MR of 2/10,000/day in the same setting means 20 babies and young children are dying each day.

So these emergency thresholds actually mean that people are already teetering on the very edge of survival, and that children are dying while moving from their villages to emergency feeding centres. However quickly food aid arrives, it is already going to be too late for a great many of them.

Thresholds are useful, even necessary, as triggers for response. Action should begin before complete destitution sets in. In order to get more aid to more people in time, we need a new composite indicator of impending catastrophe, one that is based on robust statistics and sound thinking.

What does CE-DAT mortality data tell us?

Overall, our data indicate that mortality is, to some extent, under control in many of these conflict-affected countries with the notable exception of Somalia, where violence and insecurity continue to affect the vast majority of the population.

While we cannot tell from our data why this has happened, it is likely due to the lower intensity of conflicts between 2007 and 2012.

Mortality rates are particularly sensitive to the intensity of humanitarian crises. Any let-up in the violence which allows individuals to access health care, food, shelter, vaccinations, water and sanitation quickly translates into lower death rates. Young children on the brink of starvation, for example, recover very rapidly when fed, even though they often become malnourished again if food supply decreases.

Political stabilisation and reduced fear of conflict also allow communities to recover and families to take better care of vulnerable members. Humanitarian agencies, both national and international, can operate more effectively when conflict subsides, thereby saving more lives.

It is important to note, however, that health surveys from all these countries continue to report high proportions of deaths from preventable causes such as diarrhea, measles, malnutrition, malaria and respiratory infections. These are conditions that are relatively cheap and easy to address. Much more can be done with sustained cooperation between the development and humanitarian sectors.

What does CE-DAT malnutrition data tell us?

CE-DAT nutrition surveys send a clear warning that malnutrition is a serious problem in conflict-affected countries, both those in open violence as well as those in a post-conflict phase. Although peace accords may be signed, incipient violence continues to affect food and health care systems.

While emergency food aid is clearly needed in critical situations, it can only contain acute crises temporarily. Sustainable improvement in nutritional status requires different strategies and different approaches.

With acute malnutrition such a persistent problem, PAC in these countries will remain highly vulnerable to any deterioration in the security situation. High malnutrition

prevalence will quickly turn into high mortality rates if the affected population is exposed to fresh outbreaks of hostilities, increases in displacement or natural disasters such as drought or floods. There is also a real danger that current high but sub-critical malnutrition will, after a time lag, tip over the emergency threshold and push up mortality rates again.

The emergency and development sectors should work much more closely together in order to tackle the fundamental weaknesses which drive malnutrition in these countries. We therefore applaud efforts currently being made to bridge the gap between emergency relief and development.

Measles vaccination in conflict- affected countries

Measles is a highly contagious viral disease which spreads rapidly in any susceptible (not immunised) population. It is particularly dangerous in humanitarian emergencies among deprived people, where outbreaks in the past have caused catastrophic death tolls.

It remains one of the leading causes of death among conflict-affected young children even though safe and cost-effective vaccines are available. The World Health Organization estimates that 158,000 people died of measles worldwide in 2011. That is about 430 deaths every day or 18 an hour.

Because of its virulence, vaccination against measles is a UN priority action in humanitarian emergencies. The UNHCR Handbook for Emergencies says coverage should reach at least 90% of children between the ages of six and 14 months.

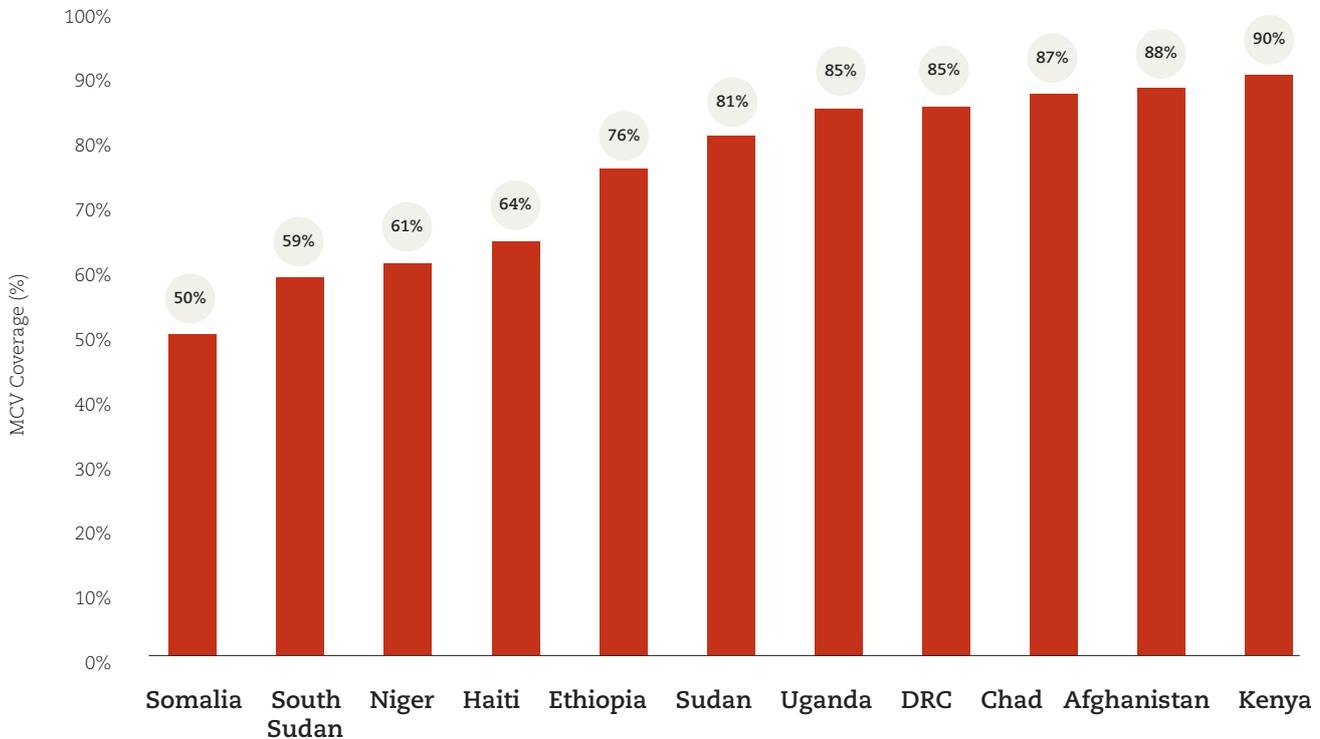
Given the contagious nature of measles, the susceptibility of malnourished children and over-crowded conditions of camps, vaccination campaigns should aim for 100% coverage in these settings.

Trends in MCV coverage among PAC

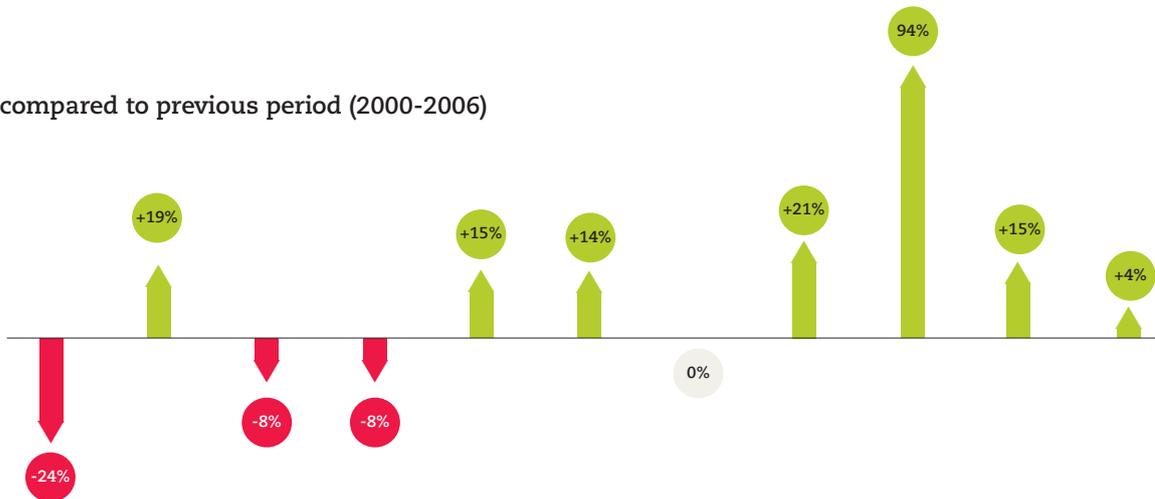


Fig. 4.1

MCV coverage among PAC in 2007-2012 (CE-DAT)



Evolution compared to previous period (2000-2006)



Most countries surveyed increased their measles vaccination coverage over the past decade, but only Kenya reached the UN target of 90% immunisation among its conflicted-affected population (Figure 4.1).

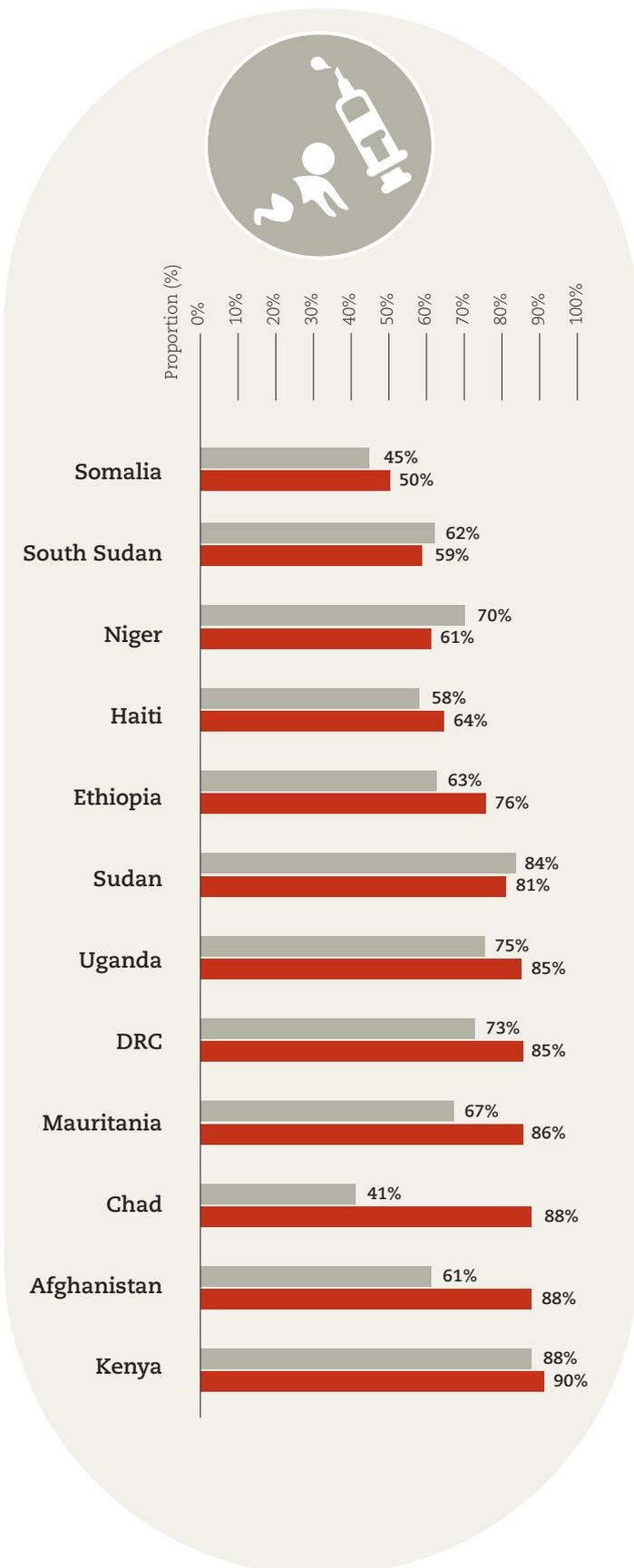
The substantial rise in measles coverage in Chad, where most of the PAC are refugees, is likely to be due to better availability of supplies and services in camps.

In contrast, coverage declined over the past decade in Somalia, Niger and Haiti. The decline in measles coverage in Haiti warrants closer examination since aid has been generous in the last few years, amounting to nearly US\$4.0 billion dollars in 2010, according to the GHA Report 2012, following the earthquake that year. GHA said this amounted to US\$1 022 per person for the entire population in the country. In comparison, it costs less than US\$1.00 to immunise a child against measles (WHO Fact Sheet n°286).

MCV vaccination coverage: nationals vs PAC

Fig. 4.2

MCV vaccination coverage (2007-2012)



CE-DAT surveys suggest that MCV coverage among PAC is now higher than national rates in all surveyed countries except Niger, Sudan and South Sudan (Figure 4.2)

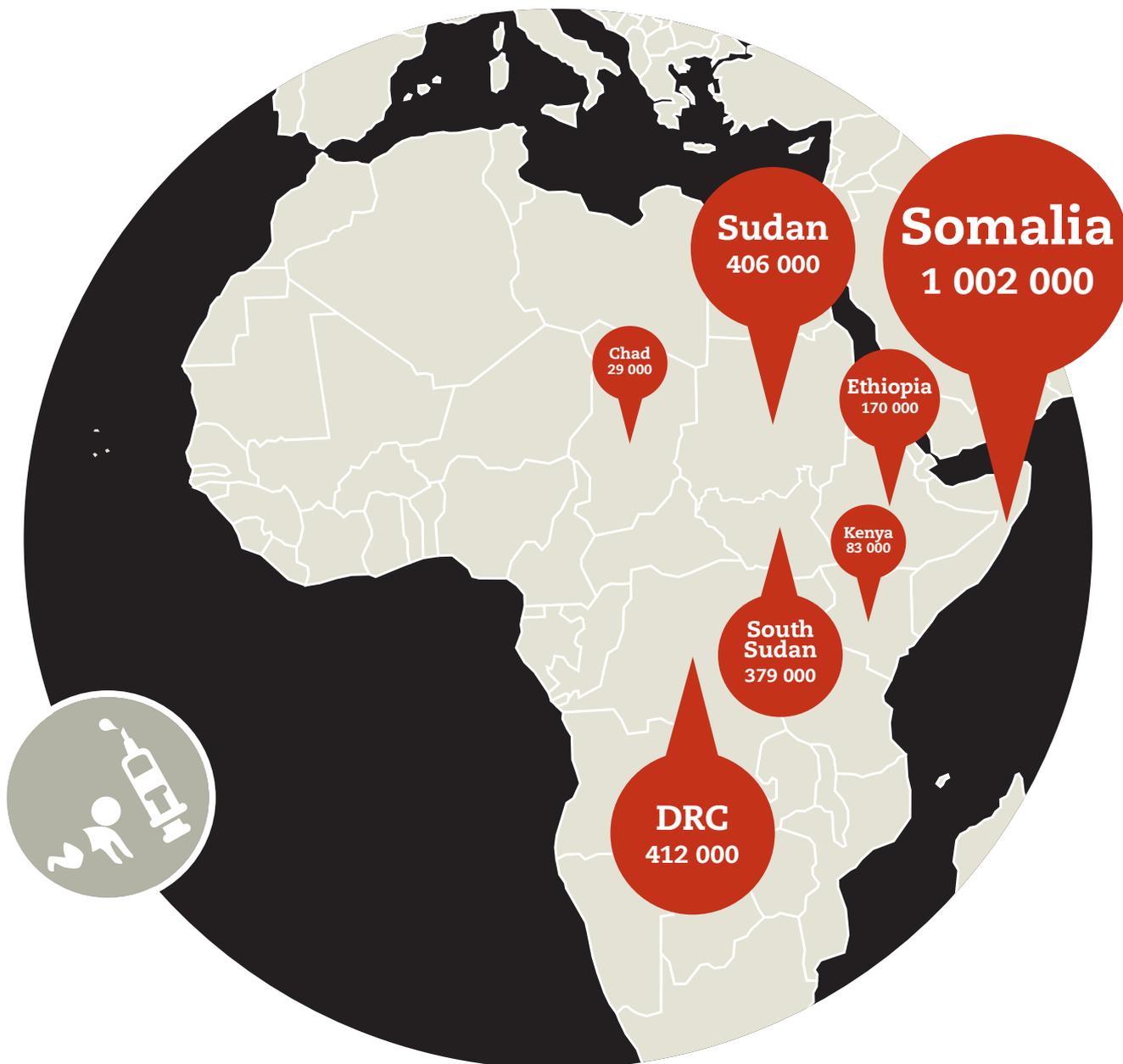
Despite this, coverage remains too low across-the-board in such settings where the target for measles vaccination should be 100%

It is also worth noting that low MCV coverage is frequently associated to low levels of coverage for other vaccines, notably polio and BCG.

■ National (World Bank)
 ■ PAC (CE-DAT)

Fig. 4.3

**Vaccination of children in conflict:
unmet needs (CE-DAT, 2012)**



From CE-DAT surveys, we calculate that about 2.5 million conflict-affected children still needed vaccination against measles in these seven countries alone in 2012. At about one dollar per course, that would in theory cost the international community just US\$2.5 million per year to immunise these children.

We fully appreciate that in complex situations such as these effective implementation of most services, including vaccinating children, is not simply a question of funding. Other factors such as security concerns, remoteness of communities, road conditions etc can all constitute major barriers.

Under these circumstances, policies or options to further strengthen the involvement of local communities should be actively explored.

Child deaths and malnutrition in numbers

In this chapter we look at child mortality and childhood malnutrition in terms of absolute numbers, rather than prevalence rates or percentages.

We do this in order to highlight the scale of the health impacts of conflict on children both in countries where outbreaks of violence are frequent and others where the effects of earlier conflicts - including displacement, the destruction of health infrastructure and the fear of renewed violence - are still being felt.

The politics of death tolls

Estimating the number of deaths due to conflict is notoriously difficult. Violence is sporadic, disease and hunger claim more lives in some areas than others, while monitoring systems are basic in difficult and dangerous conditions. Inevitably, then, any headline figure about the death toll from the latest country in crisis is controversial and open to challenge. So why bother counting?

Because that is the only way we will know the severity of a crisis, and without knowing that the humanitarian community cannot prioritise their responses and get aid to where it is needed most.

The trouble with most estimated death tolls, however, is that they are too narrowly focused. They take little notice of changing patterns of mortality over time; they often overlook the effects of displacement or fail to differentiate between causes of death. Some even ignore high local death rates before hostilities broke out which significantly inflates the total number of dead they attribute to conflict.

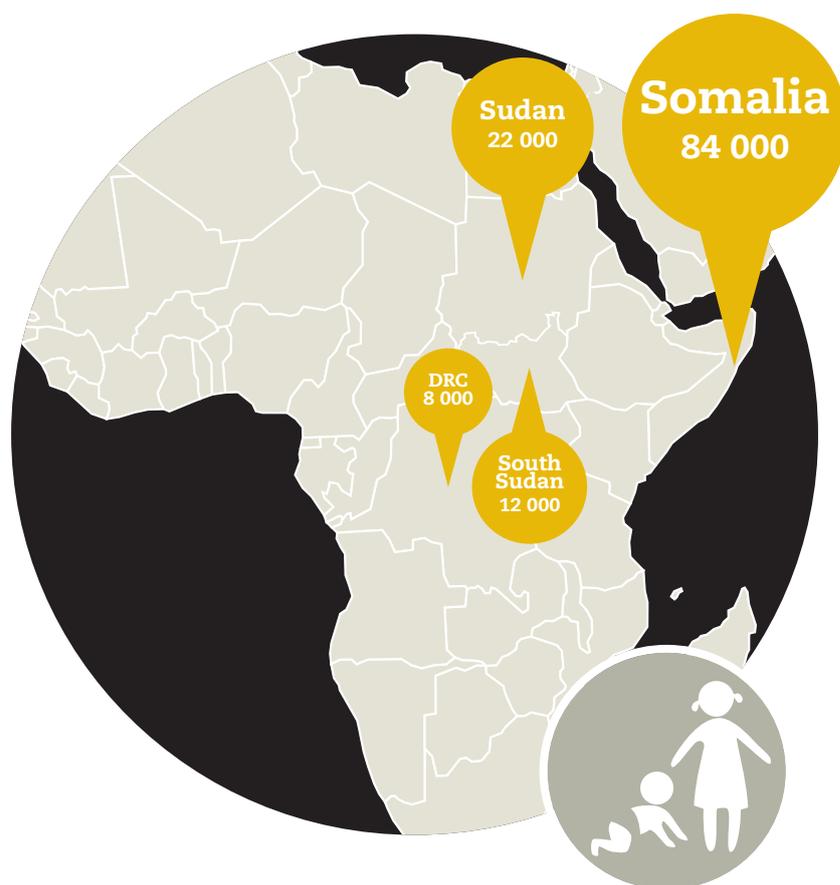
CE-DAT allows us to identify this sort of field data and analyse it in ways that help needs-based decision-making. Take the example of Darfur discussed in Chapter 3. Our analysis of multiple surveys from three different states found that diarrhea rapidly overtook violence as the main killer in 2004, a trend which continued - albeit at a lower level - until 2008. We also found that disease-related deaths were significantly higher for displaced people than residents.

Results like these are more valuable for health planning purposes than simple death tolls. If it were possible to get more detailed data from the field - separating women, the elderly or children between 5-15 years old, for example - we could identify more patterns like these, helping aid agencies to target their relief efforts more effectively at the most vulnerable groups.

Child deaths due to conflict

Fig. 5.1

Child deaths due to conflict
(CE-DAT, 2012)



We estimate that 126 000 young children died in these four African countries alone due to the health impacts of conflict last year. A large majority of these deaths were in Somalia.

Significant numbers of children continued to die as a consequence of conflict in Sudan, South Sudan and the Democratic Republic of Congo.

CE-DAT surveys show that the causes of death in young children are overwhelmingly from preventable causes, including measles, diarrhea, malaria, respiratory and other infectious diseases, plus malnutrition. This means that, in conflict-affected populations, approximately 230 children died every day from preventable causes in Somalia, 60 died every day in Sudan, 35 in South Sudan and 20 in the DRC. Access to clean water and key health services could almost certainly have saved them.

Acutely malnourished children due to conflict



South Sudan

Fig. 5.2

Numbers of acutely malnourished children living in conflict zones (CE-DAT, 2012)



Combining CE-DAT surveys with other data also allows us to estimate the number of conflict-affected children facing acute malnutrition. Figure 5.2 shows that in these eight countries alone this amounted to around two million children.

Nearly three quarters of them are in Sudan, Somalia and the DRG. Afghanistan and South Sudan also have large numbers of undernourished children.

As we have argued in earlier chapters, CE-DAT malnutrition data are a wake-up call to the international community. In the Horn of Africa, we think emergency responses need to be quicker and more effective. We also think seasonal food shortages and structural weakness in food supply chains cannot be tackled by humanitarian approaches alone.

Livelihood strategies to help families escape from cycles of chronic malnutrition are development, rather than humanitarian issues. We therefore think development agencies should take a closer interest in conflict-affected populations even if they are technically still under the humanitarian umbrella, and that humanitarian agencies should include development specialists when planning health and nutrition policies.

Decades of civil war left South Sudan with an appalling health legacy at independence in 2011. Since then, CRED have sought to identify health priorities for this troubled country through analyses of the three principle indicators of human survival - mortality, malnutrition and measles vaccination.

Our latest analysis of small-scale health surveys found acute malnutrition above emergency thresholds in every state except Blue Nile and Central Equatoria, with pockets of extreme severity in Jonglei and Upper Nile.

Measles vaccination coverage remains below the WHO threshold of 80% in every state for which data is available, except Upper Nile. It is below the UNHCR emergency target of 90% everywhere.

Recent field surveys also show that child mortality - which has declined overall during the past decade - is increasing once again, especially in states close to the border with Sudan. Meanwhile, some surveys from Jonglei and Upper Nile report child deaths at more than twice the emergency threshold.

Since these deaths are undoubtedly linked to malnutrition and low vaccination coverage, vaccination - especially against measles - is a top priority for health policy in South Sudan. We recommend that immunisation programs target low coverage areas for maximum effect.

For health policy planning purposes, South Sudan would benefit from in-depth studies into the serious contradictions we have found between national health statistics and local field data.

In most cases local, small-scale CE-DAT surveys provide a picture closer to the realities on the ground than national statistics. They also demonstrate that certain states provide significantly better health services than others, particularly when it comes to delivering vaccines.

Research into these variations would be a major step towards better health policy-making. So would studies into the causes of child deaths, including risk factors such as maternal deaths and birth complications. At the moment, the lack of such data is a significant barrier to effective resource allocation.

In data-scarce countries like South Sudan, the potential for integrating small- and large-scale health surveys should not be overlooked, but in the meantime small-scale surveys provide a better guide for health policy-making.

As for nutrition policies, food insecurity is deep-rooted in South Sudan. Humanitarian aid tends to target extreme malnutrition, guaranteeing the temporary survival of affected children but not their long-term food security. South Sudan needs more innovative approaches than this, ones that combine humanitarian and development initiatives.

Technical Notes

Chapter | 1

Figures 1.1 to 1.3

- ▣ **Total population:** CIA World factbook figures were used.
- ▣ **Number of IDP:** only IDMC figures were used in exception of Bangladesh (government figure, 2000), Liberia (UNHCR, 2007), Ethiopia (IDMC, 2010) and Niger (IRIN, 2007). When IDMC indicated a range, we took the lowest value.
- ▣ **Number of refugees:** UNHCR official figures were used.
- ▣ **Number of CARs:** we estimated the number of non-refugees conflict-affected (IDPs + CARs) combining three spatial datasets:
 - WorldPop: Linard C, Gilbert M, Snow RW, Noor AM, Tatem AJ. Population distribution, settlement patterns and accessibility across Africa in 2010. PLoS One 2012; 7: e31743.
 - GADM2, a global dataset of (subnational) administrative boundaries: <http://www.gadm.org>
 - ACLED, a georeferenced dataset of conflict events: Raleigh, Clionadh, Andrew Linke, Håvard Hegre and Joakim Karlsen. 2010. Introducing ACLED-Armed Conflict Location and Event Data. Journal of Peace Research 47(5) 1-10.

We obtained 2012 population estimates by linear interpolation from population estimates for 2010 and 2015 which were provided by the WorldPop dataset. We aggregated population by secondary administrative units (called districts in most countries) or at the next higher level in case that the boundaries were not available in the GADM2 dataset. For each of these administrative units, we calculated the number of conflict events (as recorded in ACLED) per 100 000 people. In this report, populations in administrative units with one or more conflict events per 100 000 people were defined as affected by conflict”.

For some countries, we did not have data on hostilities:

- Afghan residents affected by conflict were estimated at 11.1 millions based on OCHA Disaster Need Analysis of 2012, adding conflict-affected residents and returnees.
- For Yemen, we considered 40% of the population as conflict-affected.
- For Pakistan, we considered 80% of the populations of provinces affected by violence (Balouchistan, KP, FATA) as conflict-affected.
- For Syria, we considered that about 70% of the population was conflict-affected by conflict.
- For Iraq, we considered that about 60% of the population was affected by conflict.

From these figures, we subtracted the number of IDPs in order to obtain the number of conflict-affected residents.

Chapter | 2

Figures 2.1 to 2.4

PAC estimate is the median of all CE-DAT surveys for a specific country or population category in the given period of time. National estimate is:

- ▣ **CMR:** the median of annual values for the given period of time as reported by the World Bank
- ▣ **U5MR:** the median of annual values for the given period of time as reported by the World Bank. We converted the data expressed in deaths/1 000 live births in deaths/10 000/day using the following algorithm: $\text{rate in } 10\,000 \text{ per day}(r) = -\ln(1-p/1\,000) \times 5.47$ (with p =rate expressed in deaths/1 000 live births).
- ▣ **GAM:** the most recent estimate reported by UNICEF.

Chapter | 3

Figure 3.1

The following emergency thresholds were used (Sphere):

	Sub-Saharan Africa	Latin America and Caribbean	Middle East and North Africa
CMR	0.8	0.3	0.3
U5MR	2.1	0.3	0.5
GAM	15%		

Figures 3.2 to 3.4

CE-DAT estimate is the median of all CE-DAT surveys for a specific country in the given period of time.

Chapter | 4

Figures 4.1 & 4.2

CE-DAT estimate is the median of all CE-DAT surveys for a specific country in the given period of time.
National estimate is the median of annual values for the given period of time as reported by WHO.

Figure 4.3

The absolute numbers were calculated using the following formula:

$$= (1 - \text{CE-DAT estimate of measles vaccination coverage}) \times \text{number of conflict-affected children}$$

CE-DAT estimate is the median of all CE-DAT surveys for a specific country between 2010 and 2012.
The number of conflict-affected children is calculated using the figures presented in chapter 1 and the share of U5s in the UNDP World Population Estimates database.

Chapter | 5

Figure 5.1

The absolute numbers were calculated using the following formula:

$$= (\text{CE-DAT U5MR estimate} - \text{National U5MR Estimate}) \times \text{number of conflict-affected children}$$

CE-DAT estimate is the median of all CE-DAT surveys for a specific country between 2010 and 2012.
National estimate is the median of annual values from 2010 to 2012 as reported by the World Bank. We converted the data expressed in deaths/1 000 live births into deaths/10 000/day using the following algorithm: rate in deaths/10 000 per day(r) = $-\ln(1-p/1\ 000) \times 5.47$ (with p=rate expressed in deaths/1 000 live births).

The number of conflict-affected children is calculated using the figures presented in chapter 1 and the share of U5s in the UNDP World Population Estimates database.

Figure 5.2

The absolute numbers were calculated using the following formula:

$$= \text{CE-DAT estimate of GAM prevalence} \times \text{number of conflict-affected children}$$

CE-DAT estimate is the median of all CE-DAT surveys for a specific country between 2010 and 2012.
The number of conflict-affected children is calculated using the figures presented in chapter 1 and the share of U5s in the UNDP World Population Estimates database

Statistical Tables

Chapter | 1

Figures 1.1 and 1.2

Country	IDP	Refugees	Residents (CAR)	% of total pop
Pakistan	758 000	1 638 456	25 712 000	15%
Nigeria	1 210 000	3 154	17 410 000	11%
Iraq	2 100 000	98 822	15 740 000	56%
Syria	4 250 000	476 506	11 920 000	74%
DR-Congo	2 600 000	65 109	11 930 000	19%
Sudan	2 500 000	152 194	9 950 000	36%
Afghanistan	493 000	16 187	10 607 000	36%
Yemen	299 087	237 182	9 860 913	41%
Somalia	1 133 000	2 309	7 987 000	89%
Zimbabwe	880 000	4 356	7 230 000	62%
Libya	50 000	7 065	5 490 000	92%
South Sudan	360 000	202 581	3 820 000	39%
Kenya	300 000	564 933	3 310 000	9%
Ethiopia	300 000	376 393	2 550 000	3%
Mali	353 400	13 928	976 600	8%
Uganda	30 000	197 877	990 000	4%
CAR	225 000	14 014	875 000	21%
Liberia	23 000	65 909	937 000	26%
Chad	90 000	393 695	60 000	2%
Côte d'Ivoire	40 000	3 980	860 000	8%
Niger	11 000	50 510	249 000	2%
Eritrea	10 000	3 600	260 000	4%
Republic of the Congo	7 800	98 455	72 200	4%
Burundi	78 800	41 813	31 200	1%

Figures 1.1 and 1.2

Population status	Total number	% of total
IDPs	18 100 000	11%
Refugees	4 700 000	3%
Residents (CARs)	148 800 000	87%
Total (PAC)	171 600 000	100%

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Figures 2.1 and 2.2

Population status	Crude Mortality Rate	Under-5 Mortality Rate	Global Acute Malnutrition	Children unvaccinated against measles
IDPs	0.70	1.37	16%	28%
Residents	0.54	1.10	13%	28%
Refugees	0.36	0.78	10%	12%

Figures 2.3 - 2.5

Country	National CMR 2007-2012 (World Bank)	PAC CMR 2007-2012 (CE-DAT)	National U5 MR 2007-2012 (Adapted from World Bank)	PAC U5 MR 2007-2012 (CE-DAT)	National GAM prevalence (UNICEF)	PAC GAM prevalence 2007-2012 (CE-DAT)
Somalia	0.42	0.77	1.09	1.58	13%	16.9%
DRC	0.46	0.62	1.03	1.26	9%	9.2%
South Sudan	0.58	0.60	0.74	0.98	23%	19.9%
Uganda	0.35	0.58	0.56	1.11	5%	7.1%
Sudan	0.25	0.45	0.51	0.81	16%	17.8%
Yemen	0.18	0.45	0.46	1.76	15%	9.6%
Chad	0.46	0.42	1.04	0.87	16%	10.3%
Niger	0.36	0.40	0.81	0.92	12%	12.8%
Kenya	0.30	0.31	0.45	0.69	7%	14.9%
Haiti	0.25	0.25	0.44	0.2	10%	3.9%
Mauritania	0.27	0.24	0.66	0.39	12%	9.3%
Ethiopia	0.27	0.19	0.49	0.46	10%	10%
Bangladesh	0.17	0.17	0.29	0.69	16%	13.3%

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Figure 3.1

	% of surveys above emergency thresholds												
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
CMR	63%	69%	53%	44%	55%	38%	22%	30%	21%	24%	17%	31%	35%
U5MR	58%	51%	48%	33%	44%	26%	15%	18%	15%	14%	6%	24%	20%
GAM	37%	48%	40%	40%	44%	48%	43%	46%	31%	35%	38%	56%	62%

Figure 3.2 - 3.5

Country	CRED CMR estimate 2000-2006	CRED CMR estimate 2007-2012	CRED U5MR estimate 2000-2006 World Bank)	CRED U5MR estimate 2007-2012	CRED estimate of GAM prevalence 2000-2006 (%)	CRED estimate of GAM prevalence 2007-2012 (%)
Somalia	0.66	0.77	1.53	1.58	14.8	16.9
DRC	0.89	0.62	1.92	1.26	8.8	9.2
South Sudan	0.68	0.60	1.30	0.98	19.2	19.9
Uganda	1.26	0.58	2.20	1.11	5.1	7.1
Sudan	0.80	0.45	1.41	0.81	16.7	17.8
Chad	0.77	0.42	1.00	0.87	18.5	10.2
Niger	0.70	0.40	1.93	0.92	13.7	12.8
Kenya	0.46	0.31	1.20	0.69	21.2	14.9
Haiti	0.25	0.25	0.33	0.20	4.0	3.9
Ethiopia	0.42	0.19	0.97	0.46	10.9	10.1

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Figure 4.1 - 4.3

Country	CRED MCV coverage estimate 2000-2006	CRED MCV coverage estimate 2007-2012	National MCV coverage 2007-2012	Number of unvaccinated conflict-affected children in 2012
Somalia	65.5%	50.1%	45%	1 002 000
South Sudan	49.2%	58.6%	62%	379 000
Niger	66.5%	61.1%	70%	NA
Haiti	69.7%	64.4%	58%	NA
Ethiopia	65.8%	75.8%	63%	170 000
Sudan	70.7%	80.8%	84%	406 000
Uganda	84.5%	84.9%	75%	NA
DRC	70.1%	85.2%	73%	412 000
Chad	45.2%	87.5%	41%	29 000
Afghanistan	76.6%	88.2%	61%	NA
Kenya	87.0%	90.1%	88%	83 000

Chapter | 5

Figures 5.1 and 5.2

Country	CRED estimate of conflict-related excess child deaths in 2012	Number of malnourished conflict-affected children
Sudan	22 000	505 000
Somalia	84 000	456 000
DRC	8 000	423 000
South Sudan	12 000	206 000
Afghanistan	NA	202 000
Kenya	NA	97 000
Ethiopia	NA	65 000
Niger	NA	14 000

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Rowena House worked with us to edit and shape the report. Layout and design was done by **Mardi**, Brussels.

- How many people are affected by conflicts?
- Who, among these, fare worst in conflict?
- Are health conditions improving or declining in conflict-affected communities?
- Are children living in insecurity adequately covered by vaccination?
- What are the numbers of children who die or are malnourished in conflict settings?

Would you like to

- ... have more detailed data?
- ... get information on our ongoing research?
- ... collaborate on field research?
- ... have us help you design or analyse surveys?

Contact



**Centre for Research on the
Epidemiology of Disasters
CREM**

A WHO Collaborating Centre

- **Mail:**
Chiara Altare: chiara.altare@uclouvain.be
Ghizlane Menebhi: ghizlane.menebhi@uclouvain.be
- **Phone:**
+32 2 764 3327
- **Postal Address:**
School of Public Health
Université catholique de Louvain
Clos Chapelle-aux-Champs, Bte B1.30.15
1200 Brussels, Belgium