How do you solve complex problems affecting the world’s children using data ?

datacollaboratives.org

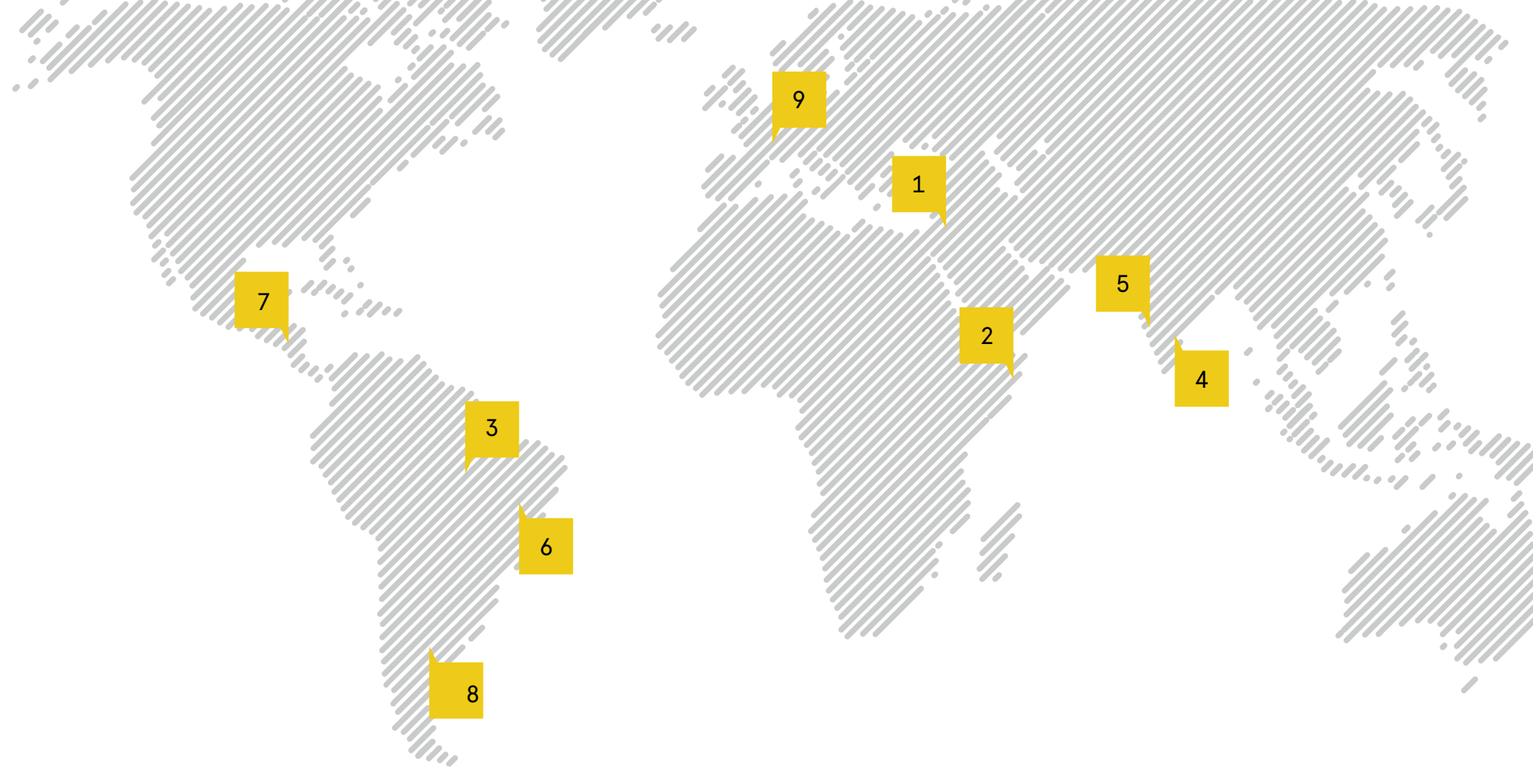
Development problems affecting children are complex.

No single institution or organization holds all the answers.

Data Collaboratives connects complex problems with data and expertise from different sectors – in particular companies and academia - to create public value for children.

unicef GOVLAB

Challenges



1.

Refugee children in Jordan.

2.

Children on the move in Somalia

3.

Violence against children in Brazil

4.

Youth suicide in India

5.

Child survival in slums in India

6.

The rise of C-sections in Brazil

7.

Child obesity in Latin America

8.

Urban mobility in megacities

9.

Emergency preparedness

1. Refugee children in Jordan

Of the approximately 1.3 million refugees living in Jordan, about 80,000 of them are stuck in the border with Syria. Humanitarian access to the border (or ‘berm’) is limited and conditions are precarious. Monitoring the distribution of aid in the border is important to meet the needs of those most at risk. By improving the ability to track the distribution of aid and monitor the livelihoods of refugees dispersed throughout the country, UNICEF hopes to better target services to refugee children and mothers living in Jordan.

How can we monitor the wellbeing of children in refugee camps between Jordan and Syria?

What’s needed

Data:

- Satellite imagery Data

Expertise on:

- Novel ideas for monitoring resource dissemination
- Insight into dynamics in refugee camps in Jordan and beyond

2. Children on the move in Somalia

As of December 2015, the UNHCR estimated that there were 1.1 million Internally Displaced People (IDP) in Somalia and 350,000 live as refugees in the Dadaab camp in Kenya. Climate change and environmental degradation, armed conflict, and political, economic and food crises have the potential to increase the numbers and movement of Somalia's IDPs generating more food shortages and other potential harms. The capacity to track IDP movement in Somalia in real time will improve UNICEF's capacity to predict population movement, and target its activities efficiently and effectively.

How can we predict how internally displaced children and women move in Somalia?

What's needed

Data:

- Satellite data
- Social media data
- Call Detail Records

Expertise on:

- Data science
- Satellite data learning algorithms
- Clan dynamics
- Somali political and institutional trends

3. Violence against children in Brazil

Brazil has one of the highest rates of child homicide in the world. In 2012, over 11,000 children and adolescents were victims of homicide – a number that has risen 110 percent since 1990. Effective public responses to this situation have been hampered by social toleration of and indifference to violence, racism, and discrimination. Improved visibility of public attitudes towards violence against children would enable UNICEF to better target public engagement actions.

How can we track public opinion on violence against children in Brazil?

What's needed

Data:

- Social media data
- Online news
- Search queries

Expertise on:

- Data science

4. Youth suicide in India

Suicide is the second leading cause of death among people aged 15-24 in India, accounting for about 60,000 deaths in 2013. Regional disparities exist. The suicide rate in the 15-19 group living around Vellore in Tamil Nadu, India, was 58 per 100,000 for men and almost three times more for women - the highest suicide rate in the world. Data is insufficient to understand the magnitude and drivers of the problem. The lack of comprehensive data on suicide and its causes makes it difficult to tackle the problem effectively through public engagement and advocacy campaigns.

How can we understand the drivers of suicide and improve the effectiveness of prevention in India?

What's needed

Data:

- Search queries
- Social media data
- Online news

Expertise on:

- Data science
- National suicide prevention/response
- Gender dynamics in mental health
- Data-driven suicide prevention efforts

5. Child survival in slums in India

By 2030, India is expected to become the world's most populous nation, with a predicted population of 1.5b people. If public health efforts fall short, it will remain one of the world's most disease-burdened countries. India's slums are home to some 65m people. Nearly 37m of India's 120m urban children are children under the age of six living in slums. Six out of ten children under the age of five living in slums are stunted. Slum children are also 1.3 times more likely to suffer from diarrhoea than non-slum children. Information about basic hygiene facilities such as toilets in slums is limited.

How can we understand the lives and behaviors of children living in slums in India?

What's needed

Data:

- Sensors
- Social media data

Expertise on:

- Data science
- Public health and waste management

6. The rise of C-sections in Brazil

Brazil has the 10th highest number of preterm births in the world. The country also ranks 2nd in number of Caesarean births worldwide. In the 1970s, C-sections accounted to only 15% of births. Today they reach 56%. In the private healthcare, rates can be as high as 90%. An early C-section can lead to premature babies' death in the first 24 hours and other serious health problems. Improved visibility of public attitudes towards the right of spontaneous labor and birth would enable UNICEF to better target public engagement actions.

How can we understand the drivers of the rise of C-section?

What's needed

Data:

- Social media data
- Online news
- Insurance records

Expertise on:

- Data science
- National public health and Obstetrics

7. Child obesity in Latin America

The obesity epidemic is on the rise in Latin America. According to a recent study, “by 2025, a total of 268 million children would be obese or overweight” in Latin America. Common risk factors include: soft drink consumption, sedentary environments, fast food advertisement, etc. The problem is a systemic one, with issues related to food distribution, marketing, urban planning, accessibility (e.g., ‘food deserts’) and public perception. Data on availability/accessibility of junk food/sugary drinks (as well as access to green spaces for exercising) can help UNICEF’s efforts to prevent childhood obesity through advocacy to curtail drivers of obesity.

How can we understand the systemic drivers of the rise in childhood obesity?

What’s needed

Data:

- Food accessibility (food deserts; healthy vs. junk food)
- Built environment (green spaces; biking lane)
- Eating habits (family dinners, school lunches)
- Consumption (groceries receipt)
- Food advertisement

Expertise on:

- Data science
- Nutrition and public health efforts/institutions in LAC

8. Urban mobility in megacities

As cities continue to expand, the poor have to travel greater distances to work, study, and live. This increases their need for not only safer and more efficient transport options, but also greener alternatives that help reduce the 70% carbon emission produced by cities worldwide. In Latin America, road accidents are the first cause of death for children (5-14 years) and the second for youth (15 -29 years). Data on the gendered/age-specific movement of people can help UNICEF advocate with transport authorities for regulations, policies and programs that increase the safety and security of children and women.

How can we support safe urban mobility for children and women in megacities?

What's needed

Data:

- Call Detail Records
- Navigational data

Expertise on:

- Data science

9. Emergency preparedness

In 2015, through its humanitarian action program, UNICEF assisted 76 million people in 63 countries, including 43 million children, at a total cost of US$2.8 billion. Successful humanitarian missions depend upon an accurate understanding of needs on the ground, for both program success and financial efficiency. Improved access to data through collaborative agreements would improve UNICEF's capacity to assess needs and deliver targeted services during and after emergencies.

How can we improve access to data needed to understand the scope and scale of emergencies?

What's needed

Data:

- Web crawlers
- Baseline taxonomy of emergency indicators
- Satellite imagery data
- Call Detail Records
- Social media data

Expertise on:

- Data science
- On-the-ground crisis response

Get involved

Share your data

If you're a data-rich organization, exchange your data to create public value by tackling concrete problems faced by children around the world. We'll work with you to devise the most appropriate data exchange mechanism, taking into account ethical concerns, risks and incentives.

Share your expertise

If you're an experienced Data Scientist, use your superpowers to conduct research to help improve the lives of children on a pro-bono basis. We'll work with you to help identify the best course of action and methodologies to decode these complex problems from a data science perspective.

Become a fellow!

If you're a Master's or Ph.D. Data Science student, please submit a proposal (1 page) of how to approach the problem in a novel way (methodology + results). Once accepted, fellows will explain how they will further define the problem, create their own data collaboratives, and identify the appropriate methodology and datasets to carry out the research. Fellows should be entrepreneurial and comfortable working on their own.

To find out more:

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datacollaboratives.org

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