



centre for humdata



OCHA

Connecting People and Data
to Improve Lives

Introduction to our Predictive Analytics work

OCHA Centre for Humanitarian Data

Leonardo Milano, 4 February 2020

centre for humdata



OCHA

The goal of the Centre is
to increase the use and impact of
data in humanitarian response.

NEW YORK
(USA)

THE HAGUE
(NETHERLANDS)

COPENHAGEN
(DENMARK)

GENEVA
(SWITZERLAND)

BUCHAREST
(ROMANIA)

NAIROBI
(KENYA)

DAKAR
(SENEGAL)

JAKARTA
(INDONESIA)



Our Locations

Focus Areas for the Centre



DATA
SERVICES



DATA
POLICY



DATA
LITERACY



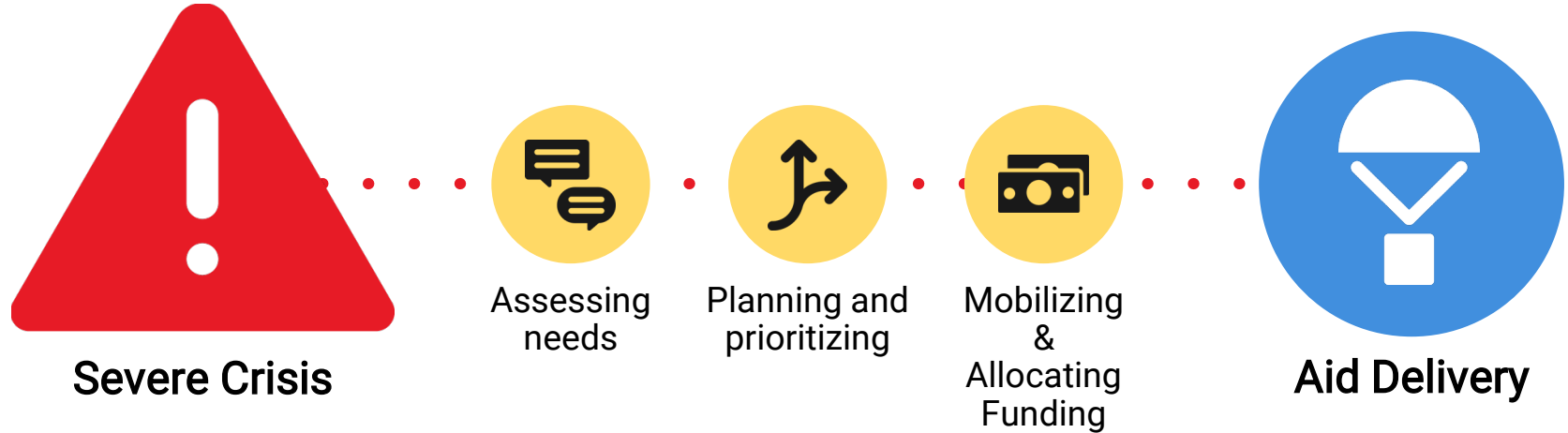
PREDICTIVE
ANALYTICS

Predictive Analytics

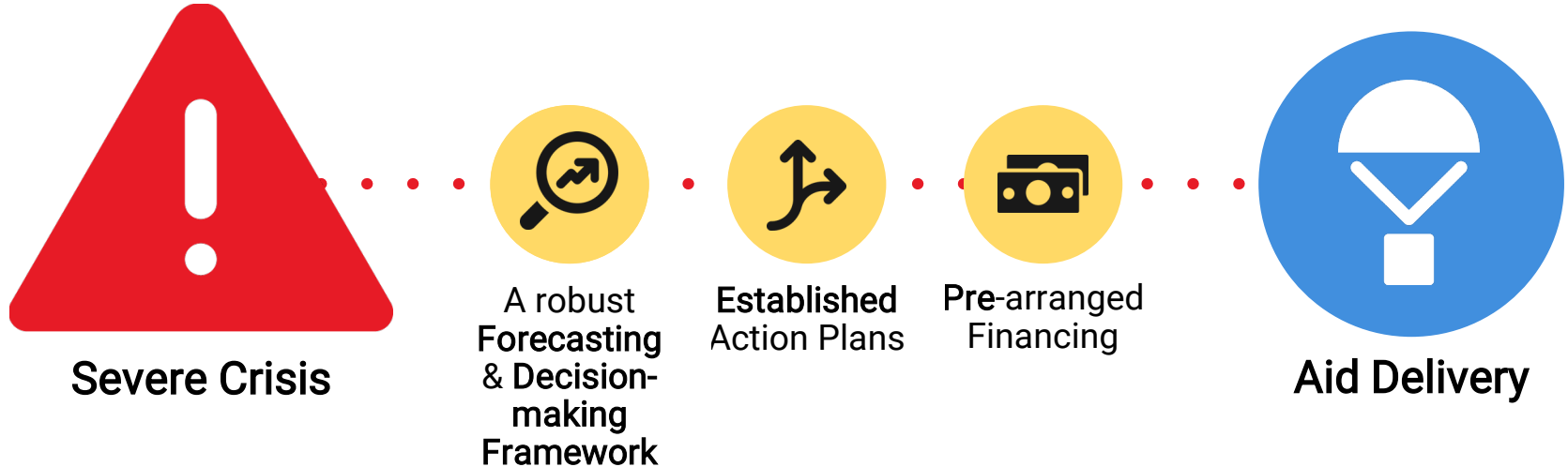
“One of the biggest opportunities we have is to try to use data, and especially the tools of predictive analytics to get ahead, to be more anticipatory, to predict what is about to happen and to trigger the response earlier.”

- Mark Lowcock, Under-Secretary-General for Humanitarian Affairs

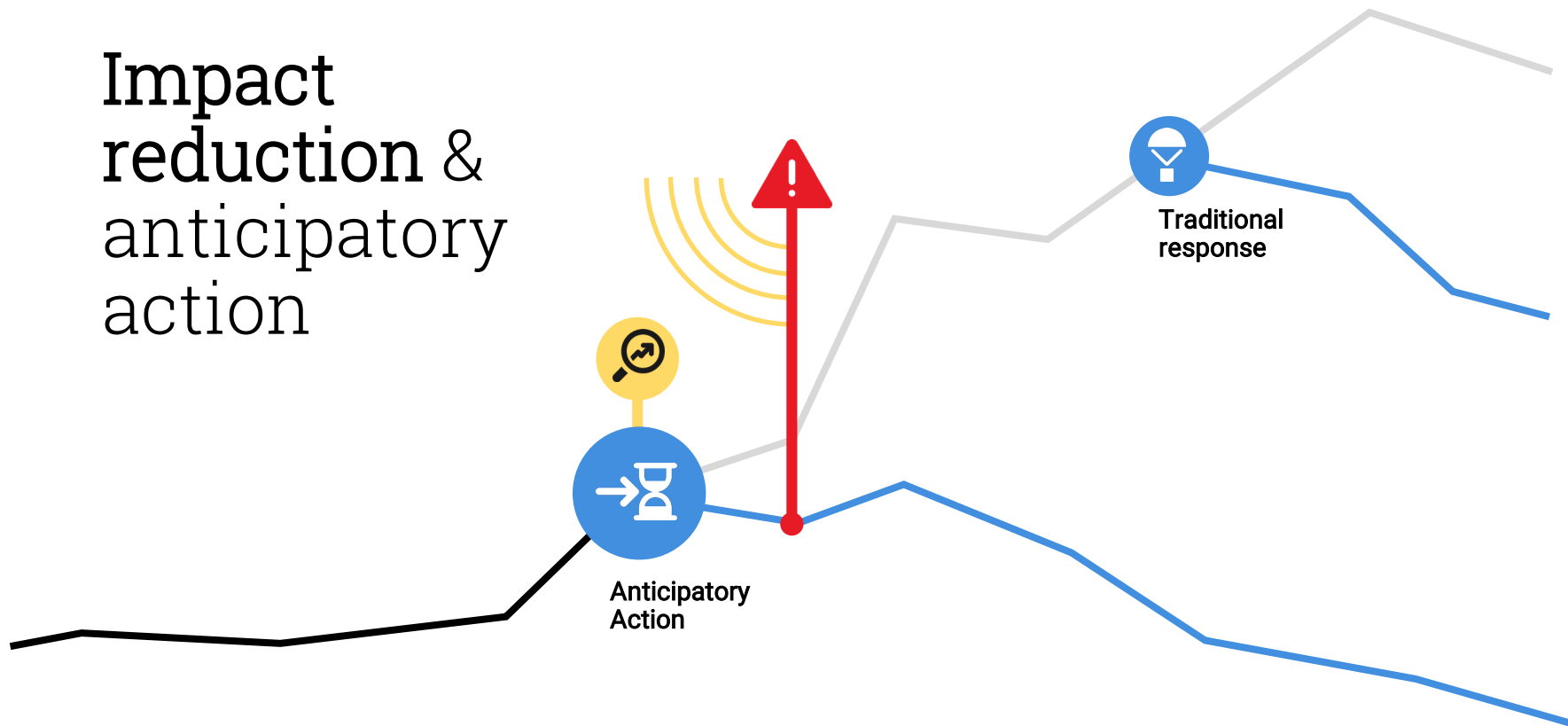
What does **traditional response** look like?



What does **anticipatory** **action** look like?



Impact reduction & anticipatory action



Predictive Analytics



Modelling



Developing new models and support existing partner models for use in humanitarian operations.

Quality assurance

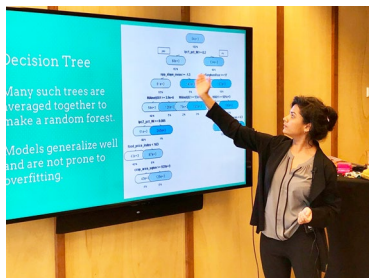


Offering a peer review process that brings together experts in the field to assess the ethical, technical, and humanitarian relevance of OCHA and partner models.

Community



Building capacity and community by convening events, developing case studies, and offering training on predictive analytics.

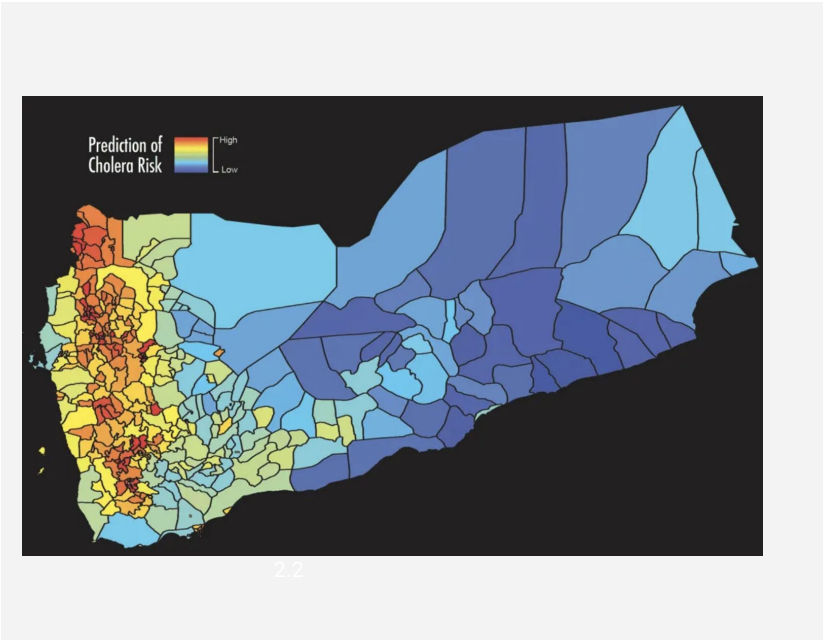


Left & Right: Predictive Workshop. Middle: Fellow Showcase.

MODELING

The **goal** of modeling for humanitarian operations is to analyze current and historical data to predict an event or some characteristic of an event.

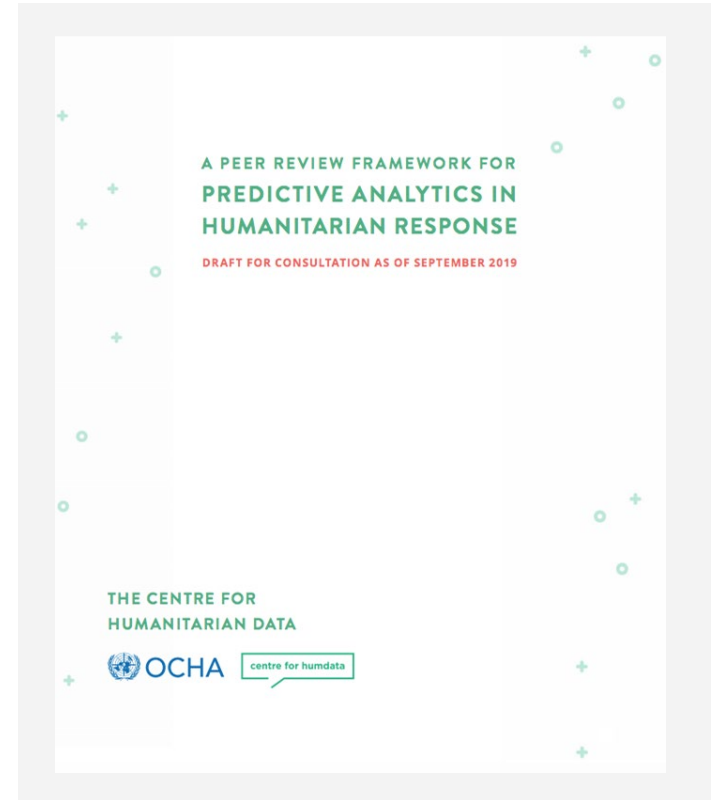
Predicting an event involves anticipating a new shock.



PEER REVIEW

The goal of the peer review process is to create standards around the use of predictive models against **three criteria** : technical, operational and ethical.

Through peer review, the Centre seeks to ensure models can be understood and trusted by all stakeholders including affected people.



COMMUNITY

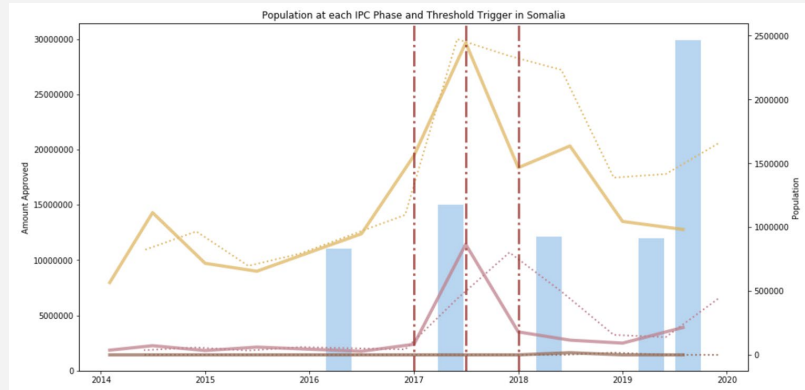


Building capacity and
community

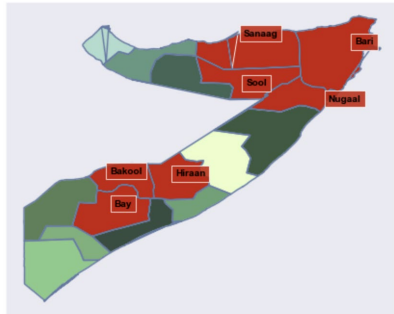
Convening events, developing case studies, and offering training on predictive modelling.

Ensuring that humanitarian understand what predictive analytics can provide, including the limitations and uncertainties.

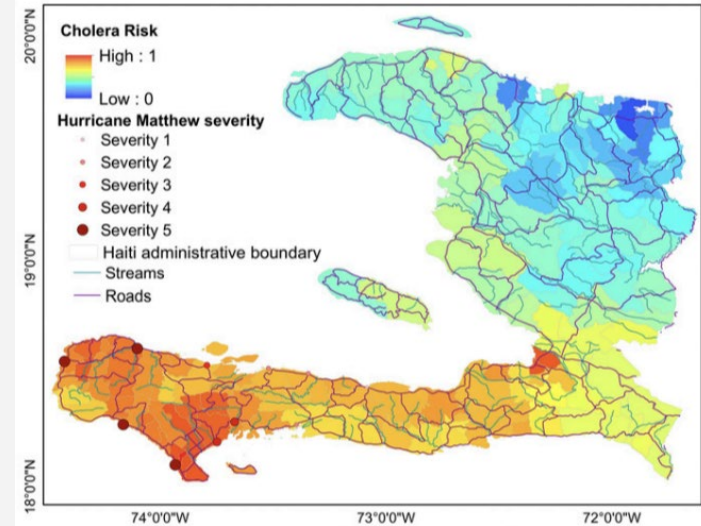
CERF ANTICIPATORY ACTION PILOTS



Somalia districts over threshold as of 2017-01-01



Somalia: simulating trigger strategy using past data



2.2

Supporting validation, development and communication of cholera risk model

We are developing **scenarios to project** humanitarian needs and evaluating existing risks to inform the Humanitarian Response Plan. Currently supporting **Somalia, Zimbabwe and Yemen**

**HUMANITARIAN
NEEDS OVERVIEW**
SOMALIA

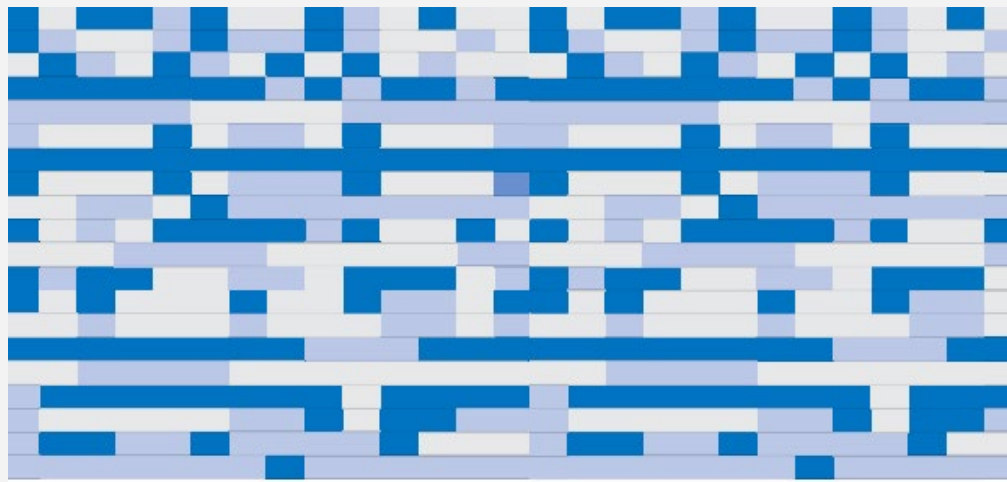
HUMANITARIAN
PROGRAMME CYCLE
2020
ISSUED DECEMBER 2019



PARTNERS	MODELS
World Food Programme Food and Agriculture Organization World Bank African Risk Capacity Famine Early Warning System Network	Analysis of food security indicators and projections for anticipatory humanitarian action
UN Country Teams	Projection of humanitarian needs for Humanitarian Response Plans
United Nations Children's Fund National Aeronautics and Space Administration Met Office University of Florida	Global Cholera Risk Model to forecast risk of cholera outbreaks
United Nations High Commissioner for Refugees	JETSON model for cross-border displacement in Somalia
International Organization for Migration	Prediction of arrival in camps in Nigeria
The Netherlands Red Cross, 510 Global	Typhoon impact model for forecast-based financing in the Philippines
Internal Displacement Monitoring Centre Potsdam Institute for Climate Research ETH Zurich	Climate change projections of disaster-induced displacement risk
Danish Refugee Council Save the Children International	Mixed migration and forced displacement models
European Commission Joint Research Centre and partners	INFORM risk index for humanitarian crises
World Food Programme Pacific Disaster Center	Sudden-onset hazard impact model for rapid assessments

Who's doing what where
with predictive models

Our initial aim is to make a catalogue with information on models under development or in use in the humanitarian sector. Once we have sufficient verified information, we will turn the catalogue into a searchable database.



THE STATE OF OPEN HUMANITARIAN DATA:

WHAT DATA IS AVAILABLE AND MISSING ACROSS
HUMANITARIAN CRISES



OCHA

centre for humdata



HDX

Data is a critical ingredient
to the analysis that informs
decision making.

The goal of this report is to increase awareness of the data available for humanitarian response activities and to highlight what is missing, as measured through OCHA's Humanitarian Data Exchange (HDX) platform.

centre.humdata.org/stateofdata2020

Thank you

centre.humdata.org

 humdata | centrehumdata@un.org

