Getting Predictive Analytics Right

Responsible analytics in a humanitarian context

OCHA Centre for Humanitarian Data

Tinka Valentijn, 1 June 2022

centre for humdata

OCHA

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

Focus Areas for the Centre



DATA
SERVICES



DATA
RESPONSIBILITY



DATA
LITERACY



PREDICTIVE
ANALYTICS

Know your data

Know your models

Know your results

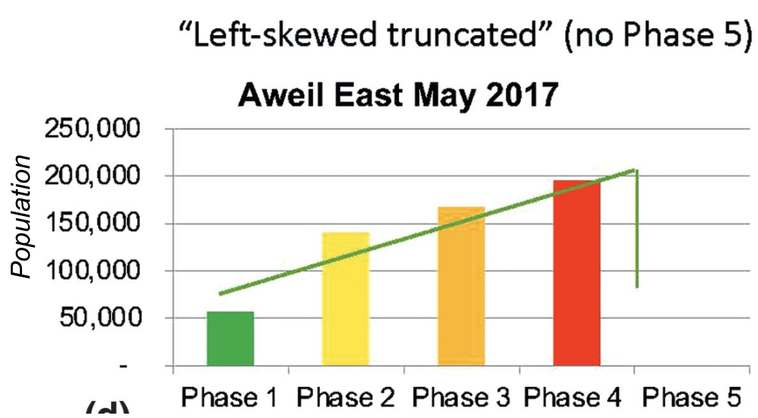
Know your data

What does your data represent?

Reported cases ≠ cases

Does your data represent what it states it represents?

Data creation can be influenced by many technical, cultural and political factors



Distribution of Integrated Food Security Phase Classification (IPC) numbers

Read more

Who does your data represent?

"We show how a survey of 250,000 respondents can produce an estimate of the population mean that is no more accurate than an estimate from a simple random sample of size 10."

Read more

Know your models

Understand the assumptions of your model

The output of the DICE model for climate change, altered as assumptions were updated based on new climate and social science evidence

Read more

Transferability to another context

Amodel that assesses damage to buildings trained on buildings in the United States will not work well in regions where buildings look different



United States



Nepal

Read more

Comparison to baseline

Is your model better than assuming the state of conflict will be the same as last month?

Read more

Know your results

What are the tradeoffs of using your output?

Two times acting in vain versus not acting once

Share your work, including limitations

Due to lack of impact data there is often little validation how meteorological models relate to actual humanitarian needs

Read more

Protection against unintended use cases

UNHCR shared data on Rohingya refugees without informed consent

Read more

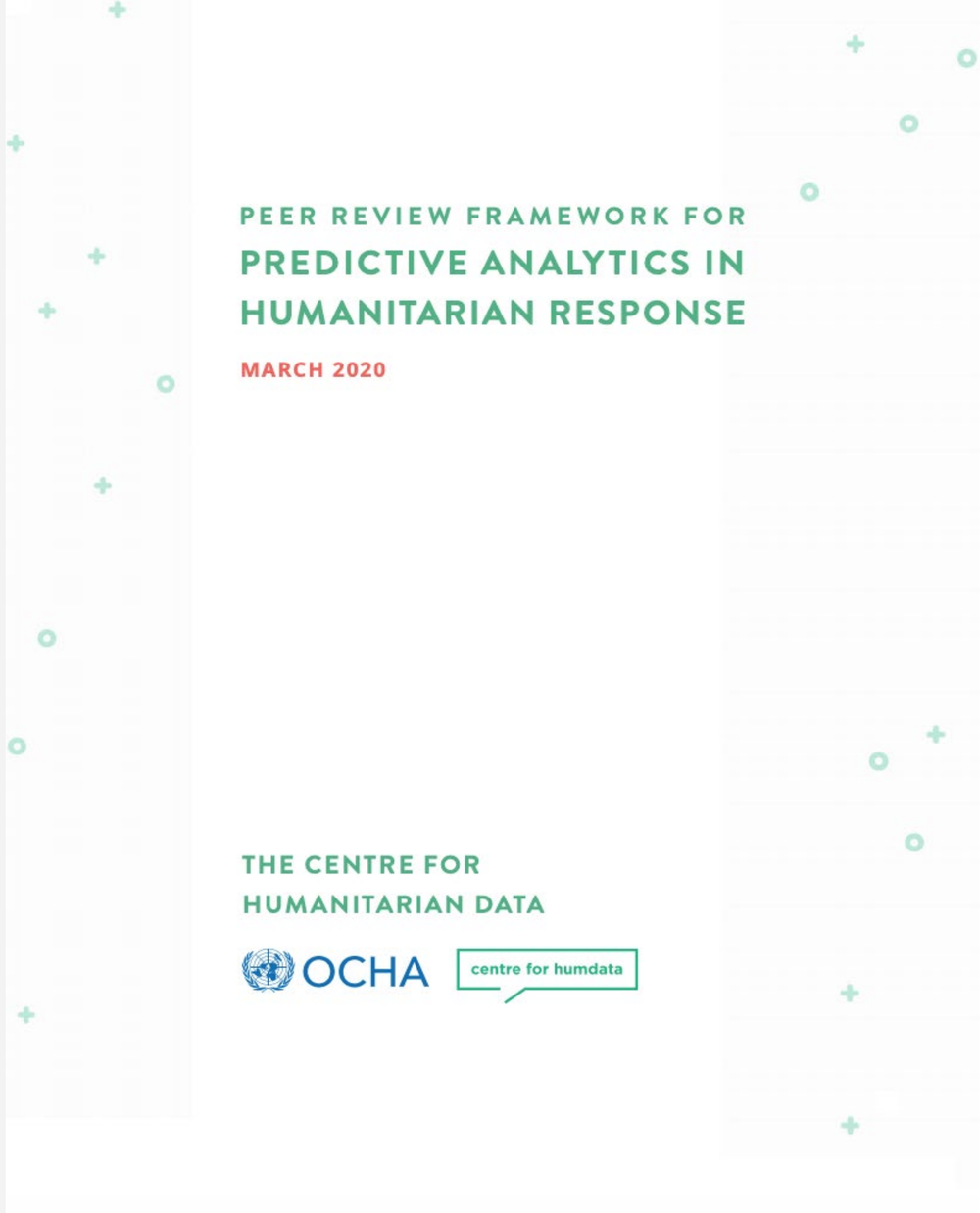
How to know your data, models, and output

Peer review and metadata	Analyses for your specific context	Representation of different voices
(non-technical) discussions on implications	Describe limitations	Share your work But share it responsibly

PEER REVIEW FRAMEWORK

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

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





If you are interested in becoming a Technical or Ethical Reviewer, please submit your application using our form (http://bit.ly/pa-reviewer).

Thank you

centre.humdata.org

humdata | tinka.valentijn@un.org

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