How are we using modelling to help countries select interventions on the pathway to Universal Health Coverage?

What is the idea?

- Use our collective experience with disease-specific optimisation models identify health service priorities on the pathway to Universal health coverage

- Build on the foundations laid by the World Bank, The World Health Organisation, iDSI, DCP, IHME, Tufts, NGOs and country stakeholders

- Work in close partnership

- **The HSP tool is an open-access, user-friendly, high-impact resource to assist with health service prioritisation at the country level**

Support countries to:

Make the **best possible investment decisions**

Support demand for and delivery
of services to the **best
feasible standards:**

for the right **people**

in the right **places**

at the right **time**

in the right **ways**

For the greatest **health impact**

Improve effectiveness with the same budget for TB

An optimal budget allocation:

- **Doubles the budget for testing programs**, with a marked shift towards active case finding and contact tracing while reducing mass screening

- Shifts funding from hospital-based to ambulatory treatment modalities

How does this work in practice?

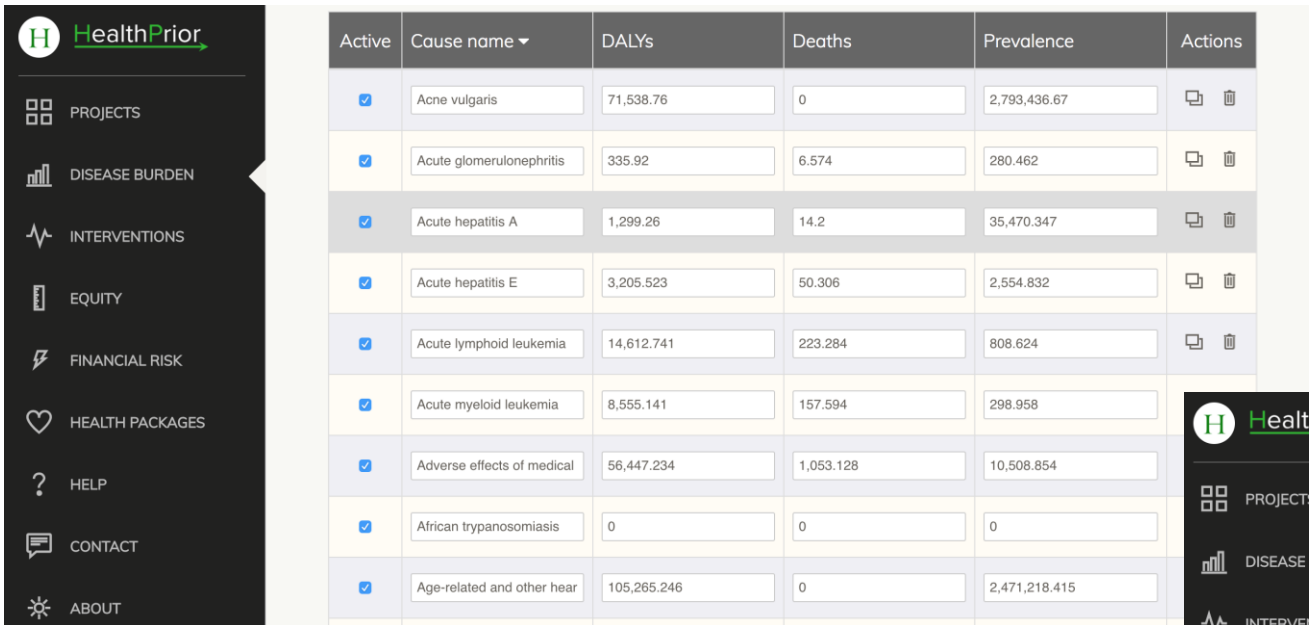# 5 Steps to Identifying Local Health Service Priorities using Global Evidence

1. Automatically upload a country's disease burden

2. Import best evidence for health program cost and effectiveness

3. Calculate the cost and impact of globally recommended packages in context

4. Compare current spending and impact against alternative allocation scenarios

5. Powerful graphical output in simple charts and diagrams to support a wide policy dialogue

What does HealthPrior look like?

1. Automatically load up a country's disease burden from IHME:
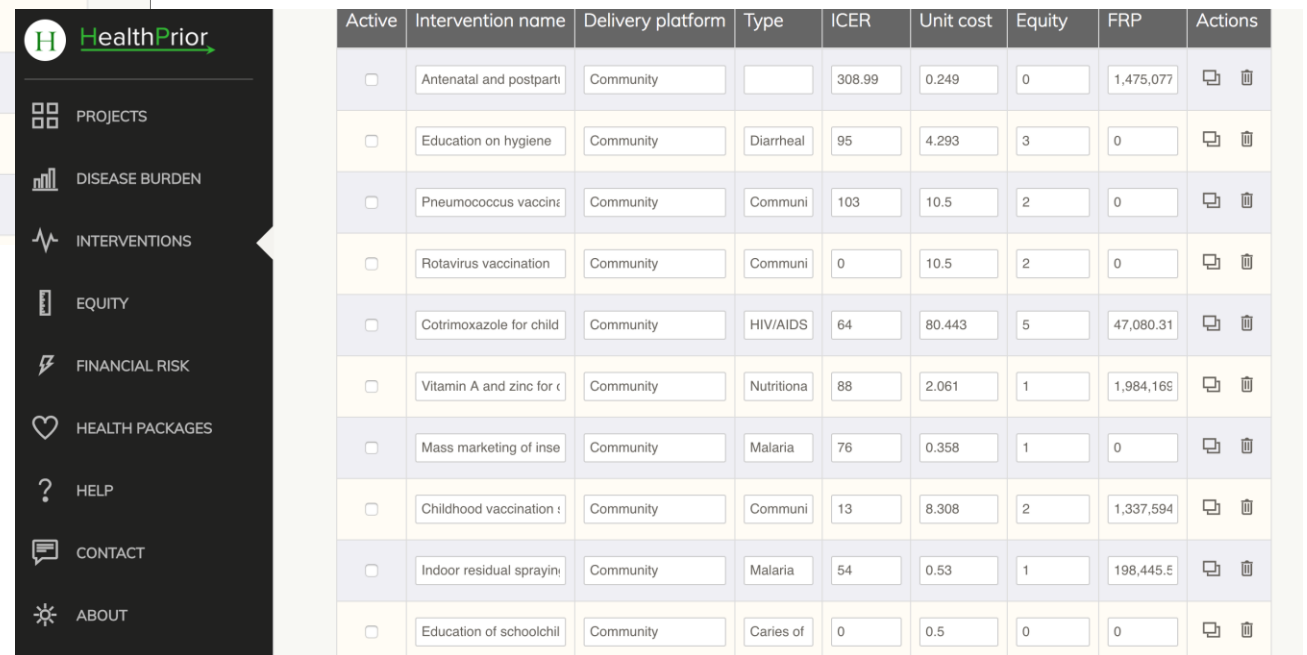

Users can update the burden of disease and intervention list/attributes using **local data**

2. Loads a list of recommended cost-effective interventions

How will this work in practice? 5 Steps:

1) Automatically upload a country's disease burden

The Burden of Disease for Afghanistan (2016)
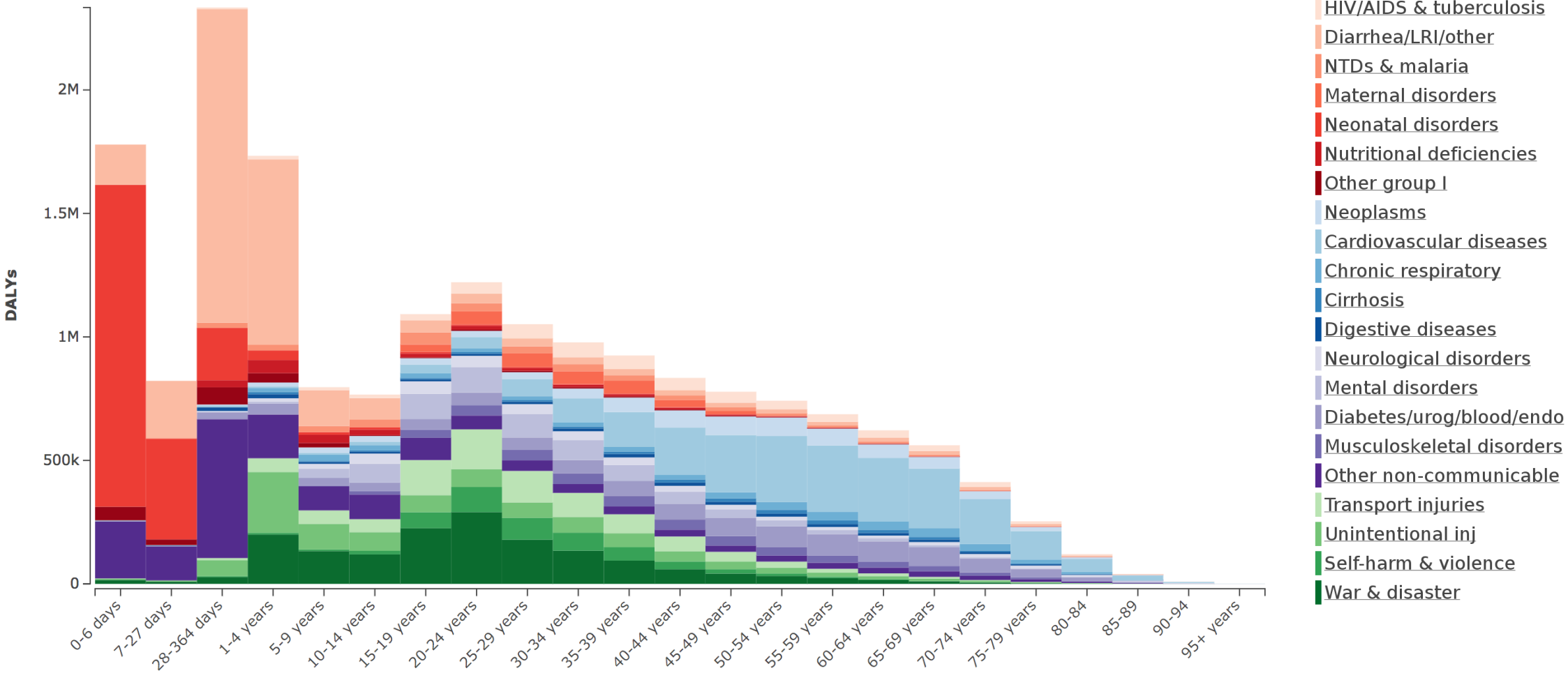
How will this work in practice? 5 Steps:

2) Import best evidence for health program cost and effectiveness

An example using the Basic Package of Health Services (BPHS) and National Health Accounts (NHA) for Afghanistan

An estimated USD $160M is spent on the Afghanistan BPHS:

- Maternal and child health currently accounts for 25% of BPHS spending
- Acute respiratory infections account for 15% of spending
- 25% is spent on other NCDs
- 25% is spent on other interventions/services not specified in the NHA

Estimated spending on the BPHS, by NHA spending categories

- Vaccine-preventable diseases 63,098 0.04%
- Governance, management, and administration 4,514,736 2.82%
- TB 1,749,481 1.09%
- SBA 5,988,363 3.74%
- Perinatal conditions 8,063,486 5.03%
- Other (fixed cost programme) 39,759,133 24.80%
- Other and unspecified diseases/conditions (n.e.c.) 39,759,133 24.80%
- Anemia 1,337,594 0.83%
- Maternal conditions 6,090,620 3.80%
- Acute Respiratory Infections 23,234,494 14.49%
- Malnutrition (nutritional deficiencies) 7,944,390 4.96%
- Malaria 1,389,119 0.87%
- Child immunization 4,911,111 3.06%
- HIV/AIDS 329,562 0.21%
- Contraceptive management (family planning) 7,239,955 4.52%
- Integrated Management of Childhood Illnesses 7,936,679 4.95%
- Health promotion lifesaving through RMNCH 3,917 0.00%

How will this work in practice? 5 Steps:

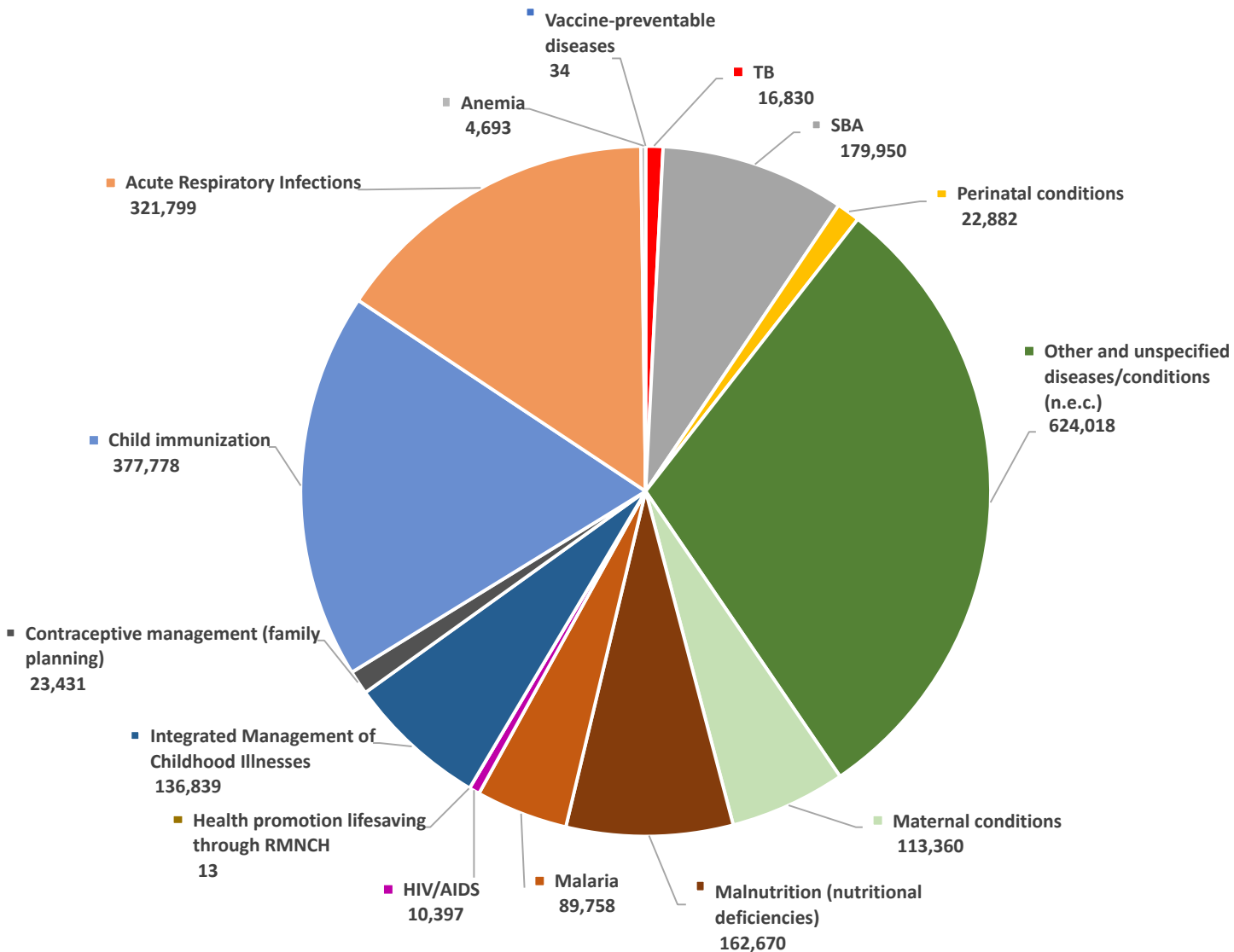## 3) Calculate the cost and impact of recommended packages in context

Afghanistan's BPHS averts an estimated 2M DALYs, around 10% of the IHME estimated total burden of disease (18M DALYs):
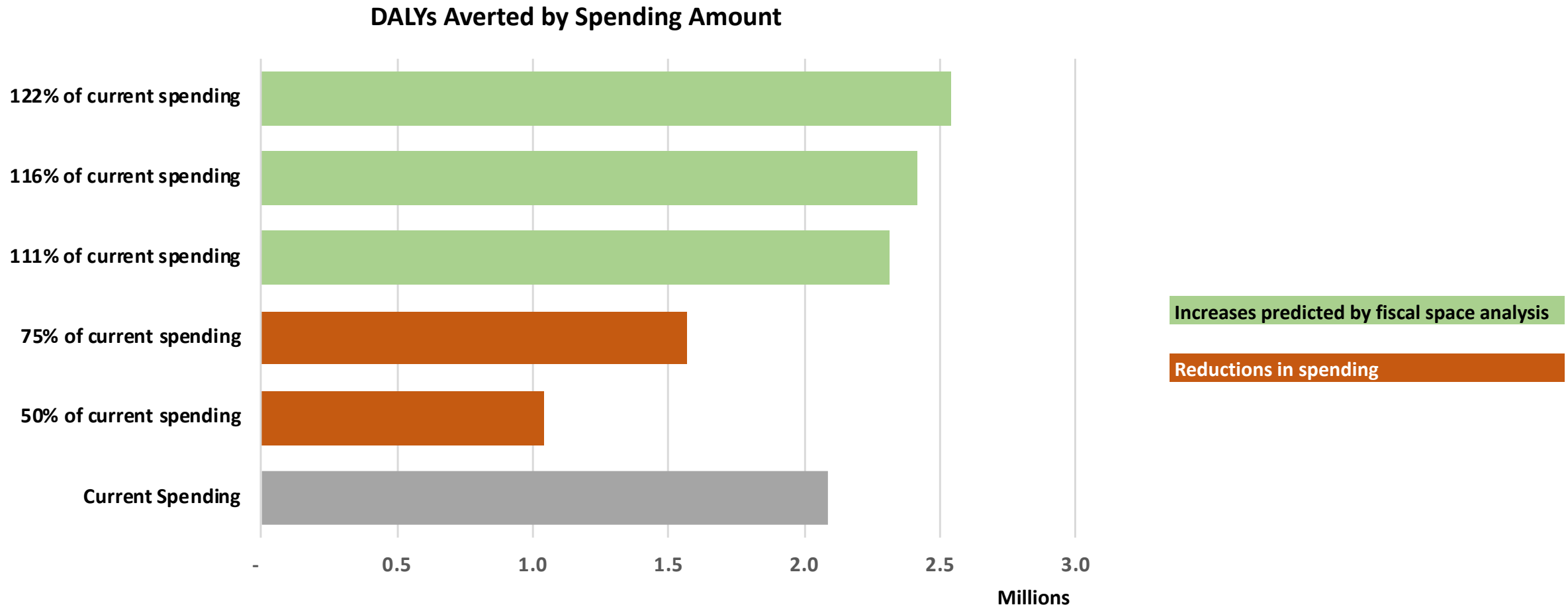
- Almost 50% (900M) of all DALYs averted by the BPHS are from maternal and child health
- Around 15% of all DALYs averted are from acute respiratory infections
- Other NCDs account for 30% of the DALYs averted by the BPHS

Estimated DALYs averted by the BPHS, by NHA spending categories

- Vaccine-preventable diseases 34
- TB 16,830
- Anemia 4,693
- SBA 179,950
- Perinatal conditions 22,882
- Acute Respiratory Infections 321,799
- Other and unspecified diseases/conditions (n.e.c.) 624,018
- Child immunization 377,778
- Maternal conditions 113,360
- Contraceptive management (family planning) 23,431
- Integrated Management of Childhood Illnesses 136,839
- Health promotion lifesaving through RMNCH 13
- HIV/AIDS 10,397
- Malaria 89,758
- Malnutrition (nutritional deficiencies) 162,670

4) Compare current spending and impact against alternative scenarios

DALYs Averted by Spending Amount

Increases predicted by fiscal space analysis

Reductions in spending

How will this work in practice? 5 Steps:

5) Powerful graphical output to support a wide policy dialogue

The optimized budget minimized new infections, active cases and TB-related deaths in Belarus

Modeled number of all active TB cases (15-64 PLHIV population)

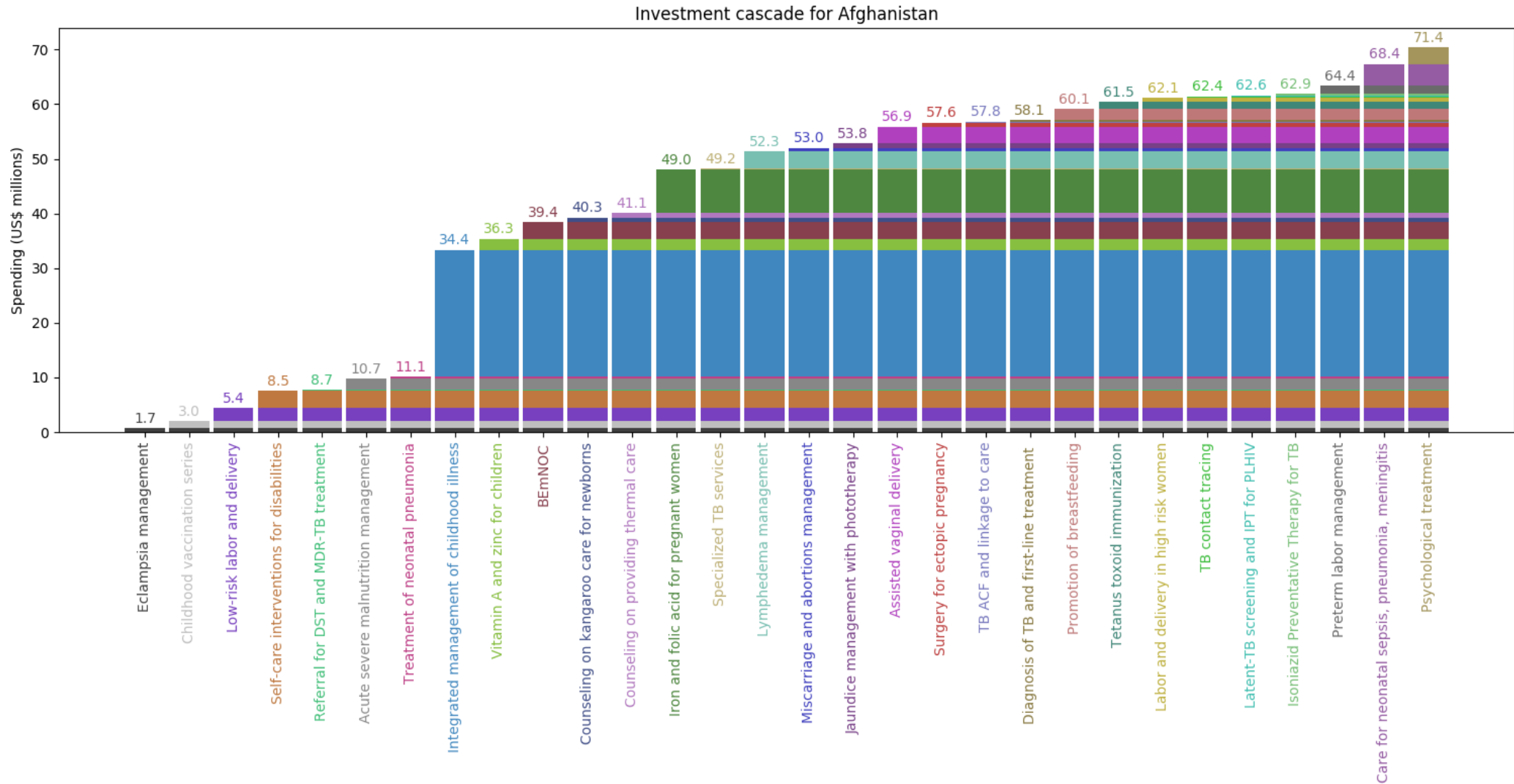Budget required to sustain current coverage with different regimens
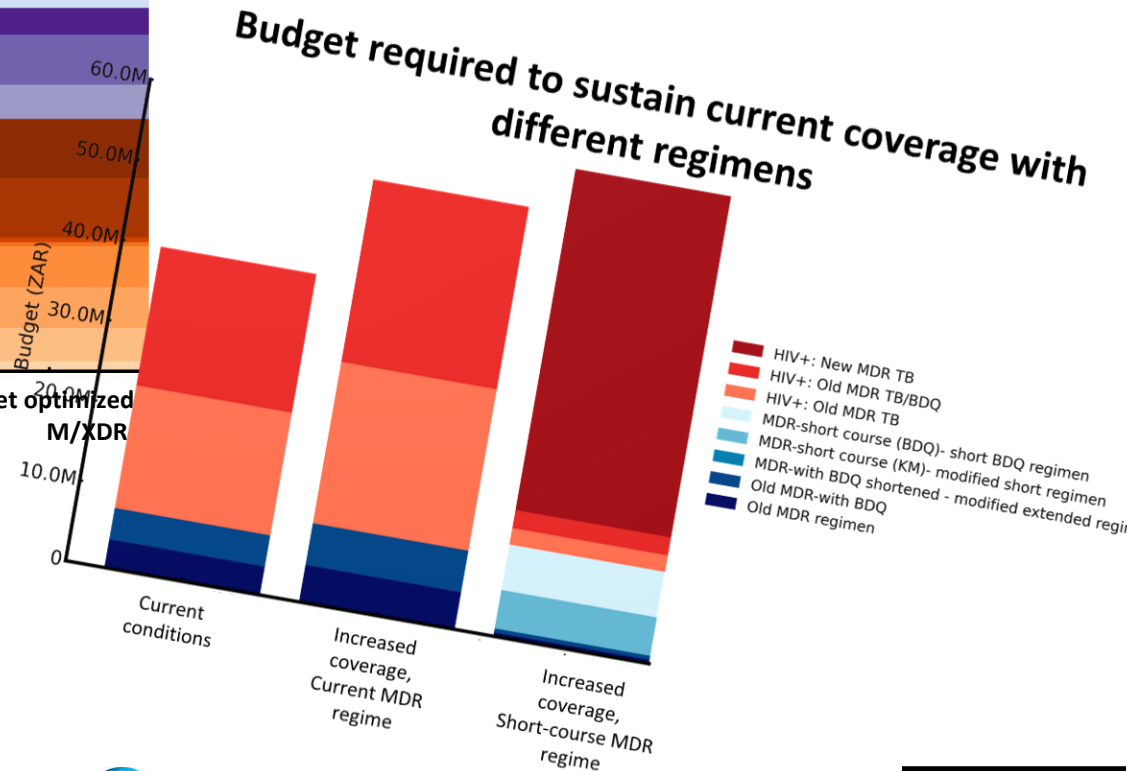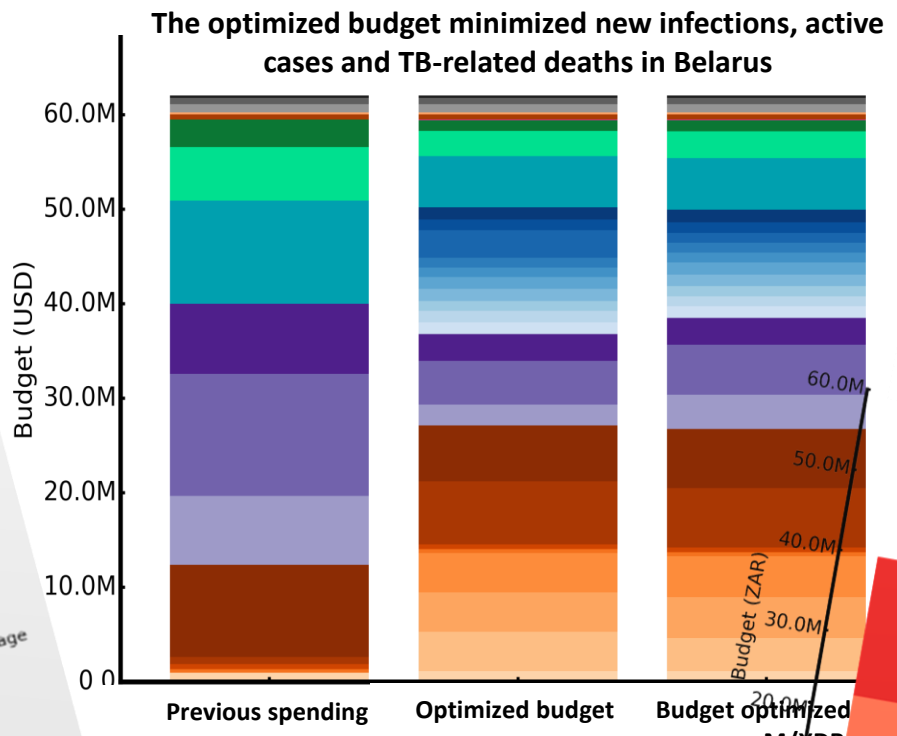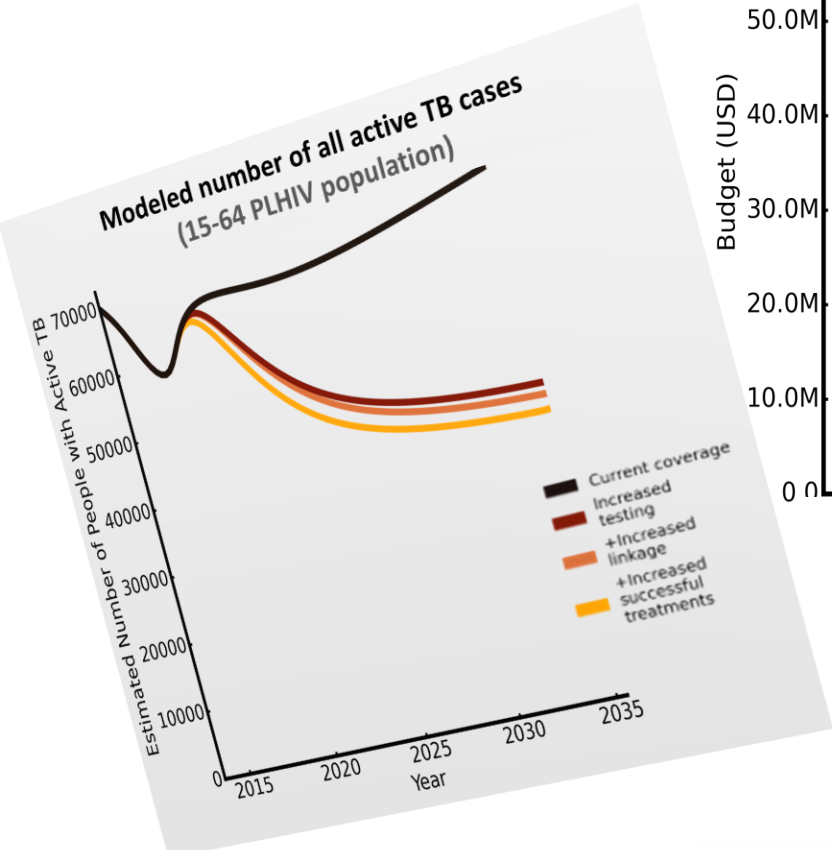
Insight into the interventions with greatest estimated impact...

- The following six interventions are estimated to have the highest impact in Afghanistan, and each averts more than 100K DALYs:

Intervention name	DALYs averted
Childhood vaccination series (diptheria, pertussis, tetanus, polio, BCG, measles, hepatitis	377,778
Early detection and treatment of neonatal pneumonia with oral antibiotics	319,682
Functional interventions for self-care for individuals with disabilities	181,464
Screening and management of diabetes among at-risk adults, including glycemic control, management of blood pressure and lipids, and consistent foot care	181,464
Management of labor and delivery in low risk women by skilled attendants, including basic neonatal resuscitation following delivery	157,241
Detection and treatment of childhood infections with danger signs (IMCI)	136,839

- All but two of the six interventions address maternal, neonatal and child health

…and how to allocate funding depending on available budget

Investment cascade for Afghanistan

Questions?