

Low-cost, equipment-free, low-volume, quantitative diagnostic blood tests

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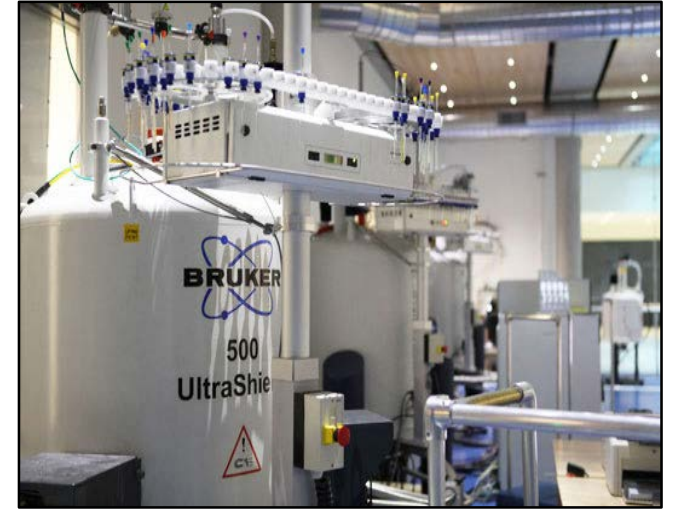
When you think of medical diagnostic tests, you may think of...



Big needles and
blood draws



Trained lab personnel



Expensive lab equipment



Waiting days for results

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High costs

We are developing diagnostic tests that instead entail...



Drops of blood



Ease of use



No analytical equipment



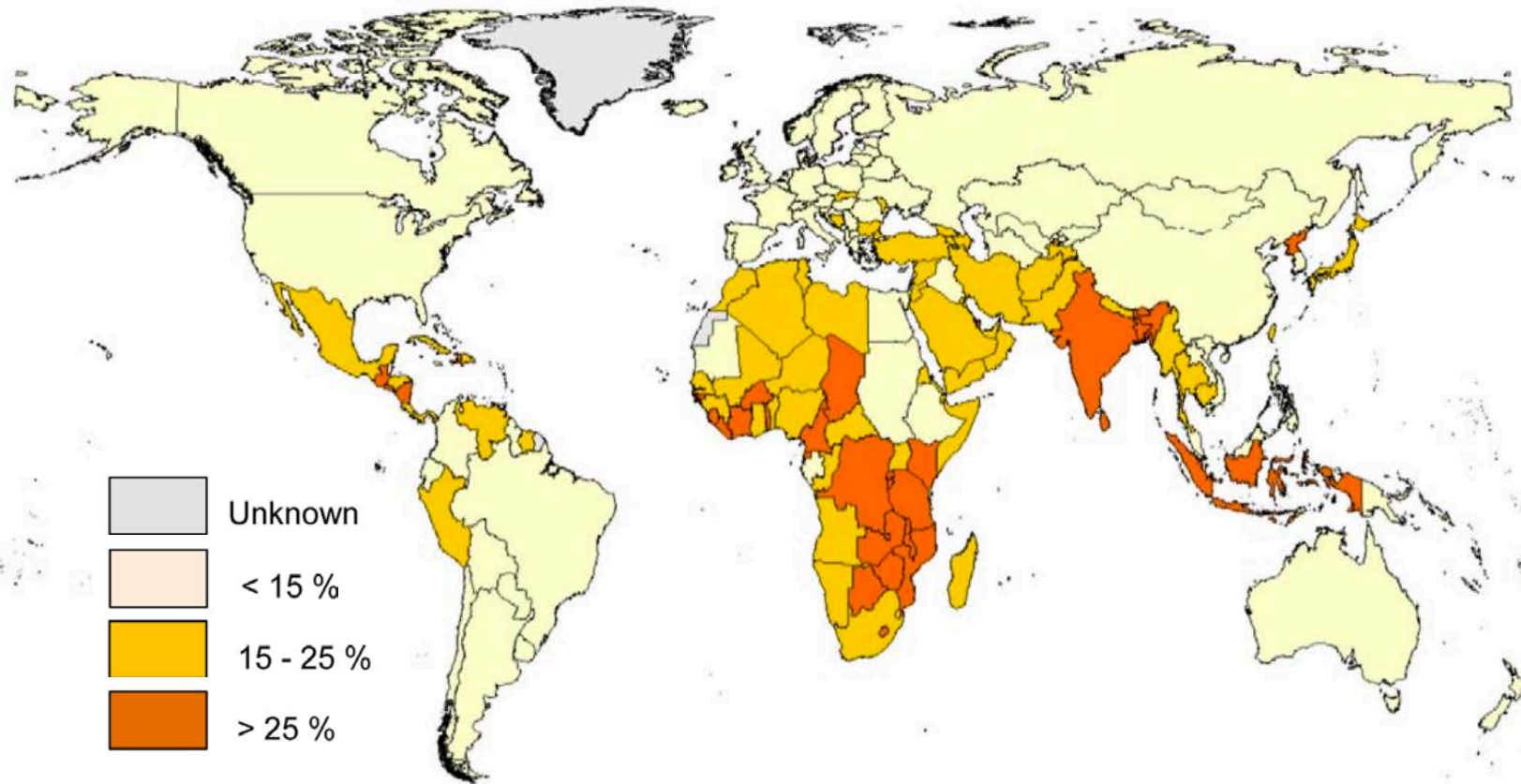
Visible readouts in an hour



Low costs

Our original motivator: vitamin & mineral deficiencies in the developing world

Estimated percentage of people with inadequate zinc intake

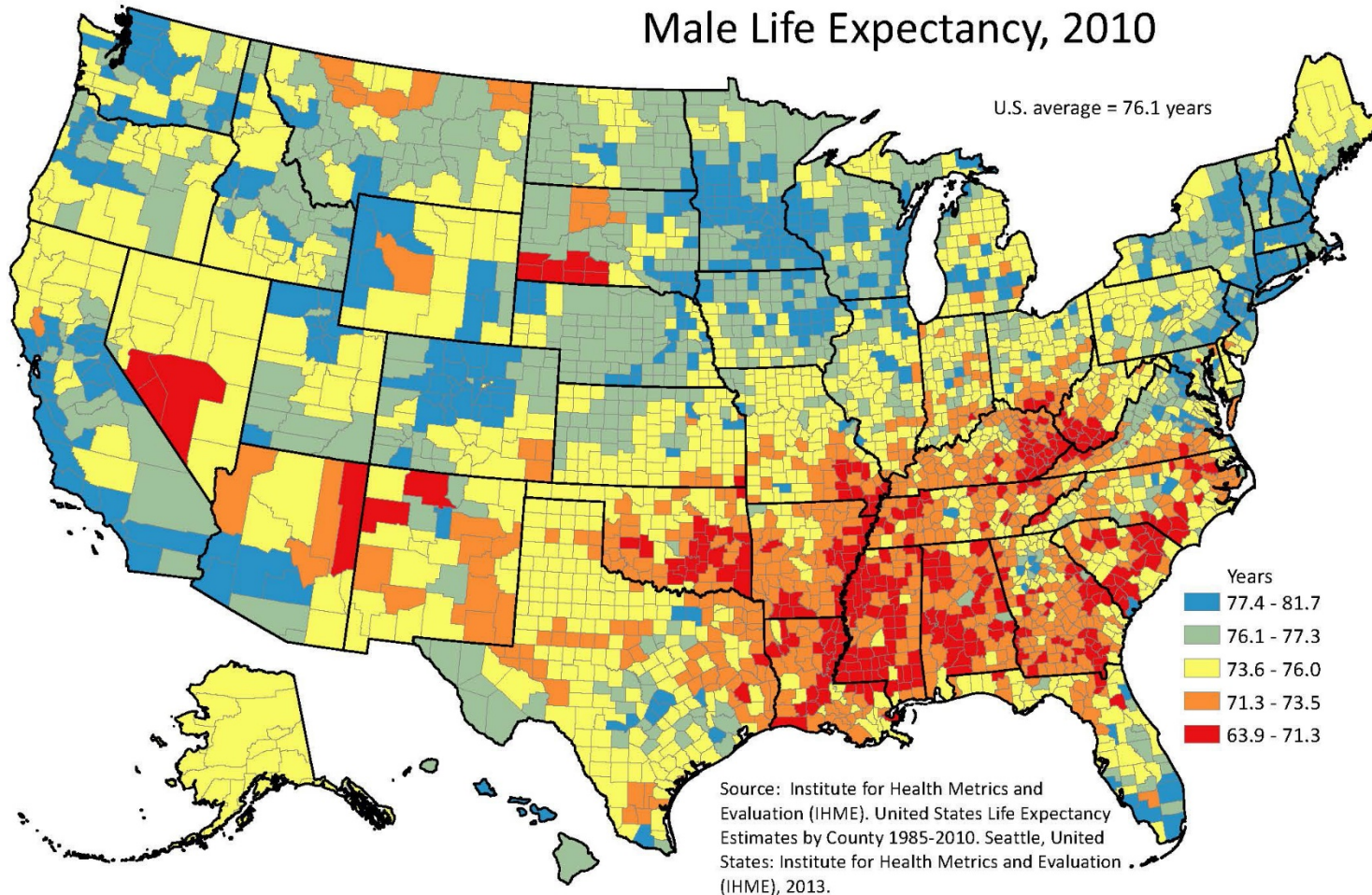


Directly responsible for over 100,000 deaths of children under 5 annually

Lack of data on specific areas affected limits efficient supplementation programs

Diagnostic tests are too expensive and logistically challenging for monitoring resource-poor areas

But health disparities exist at home, too...

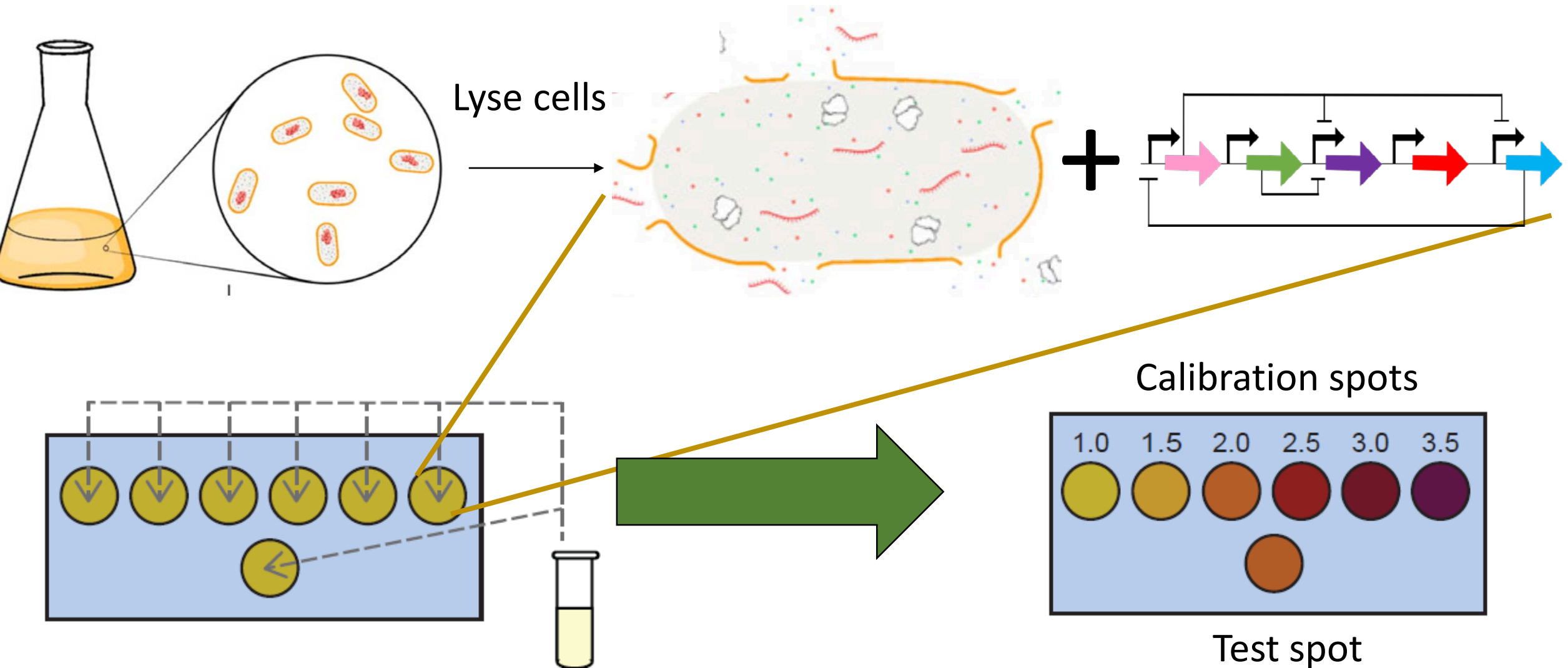


Unequal access to healthcare

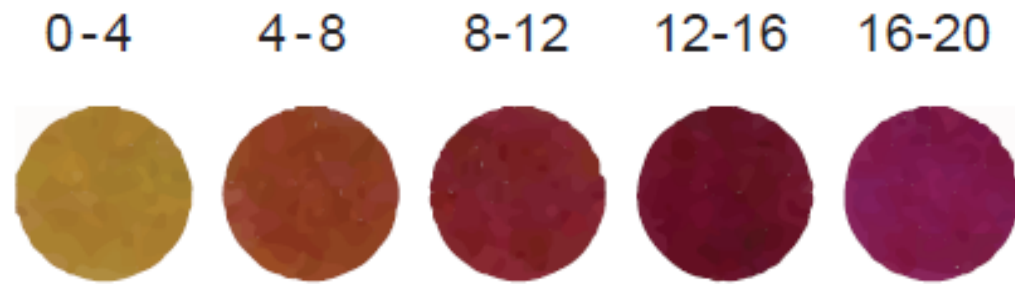
Uneven quality of healthcare when access is available?
(resource and cost limitations)

If we had more diagnostic data, could we do a better job in the at-risk areas?

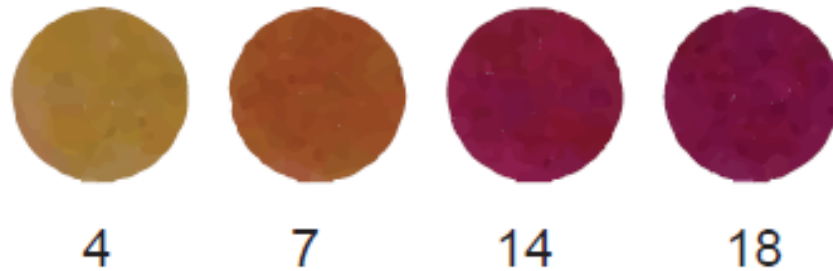
Our vision: cheap, easy, equipment-free biosensor tests



We have developed a completely equipment-free test for zinc, a key nutrient, using microliter volumes of blood...

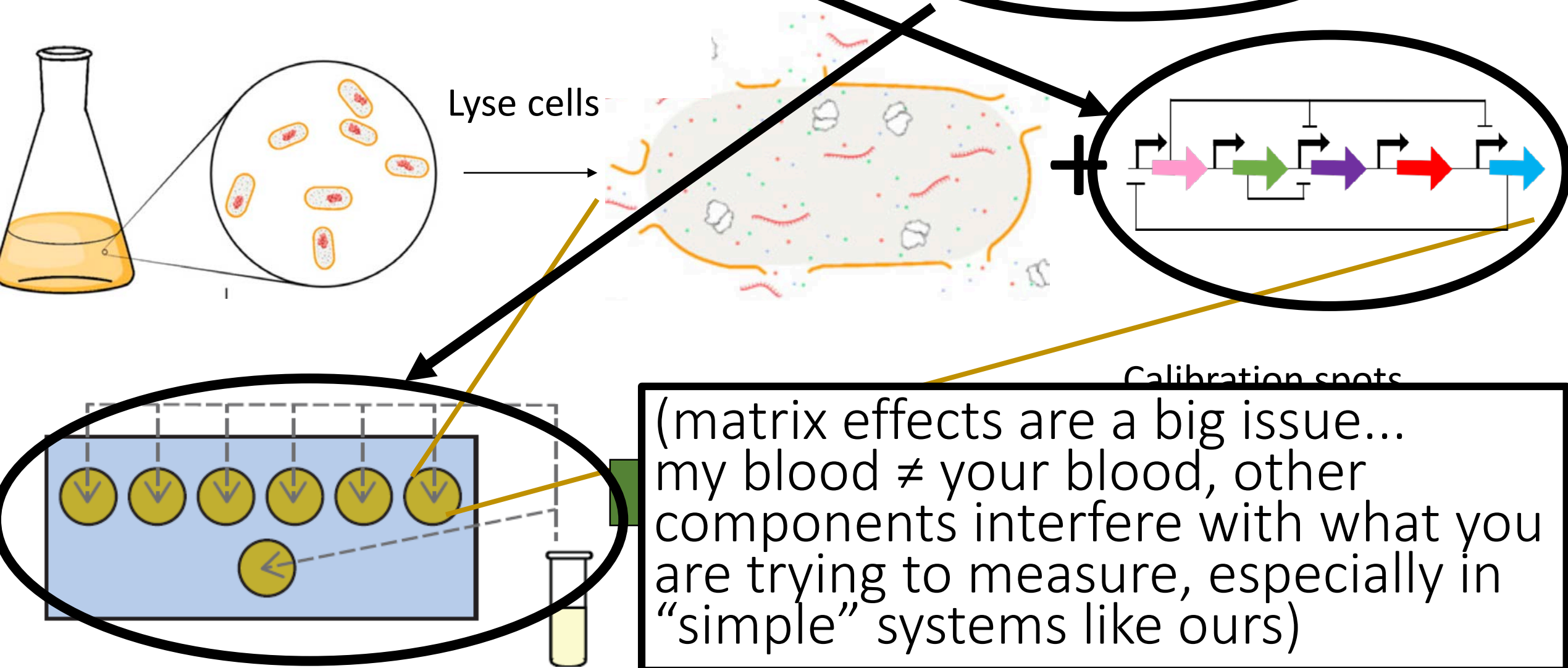


Calibration spots

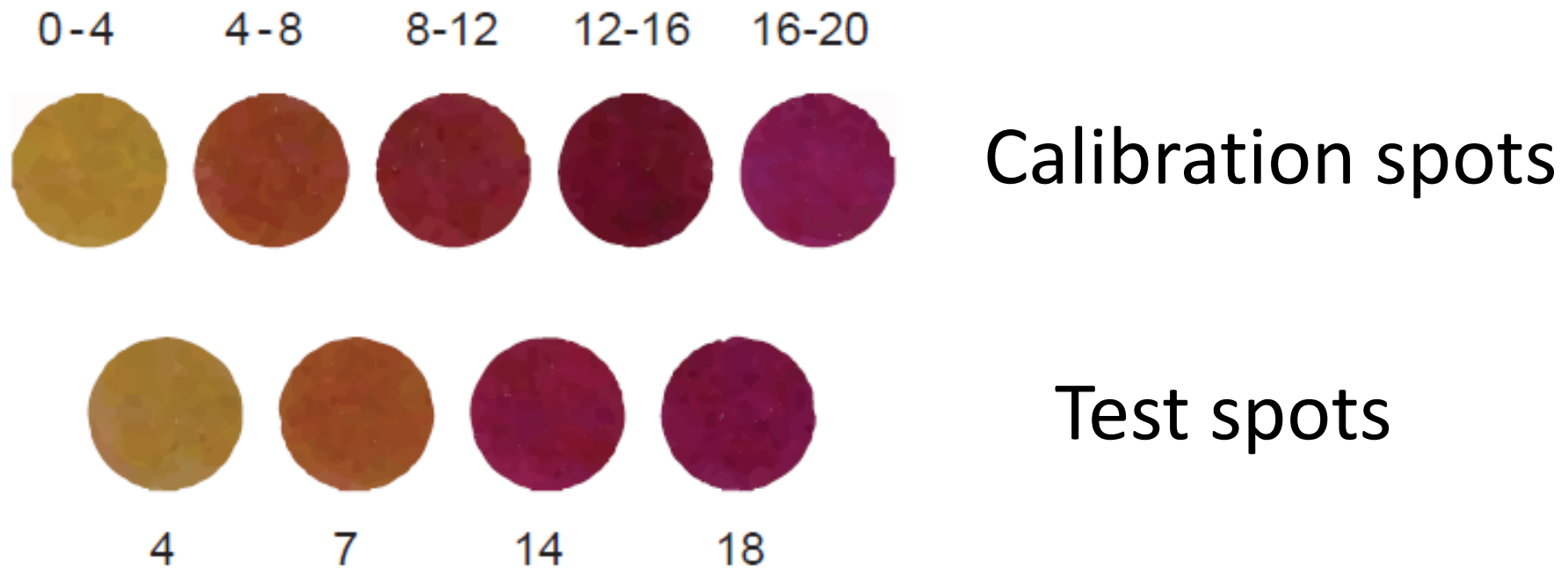


Test spots

... and a generalizable approach to equipment-free semi-quantitation that compensates for **matrix effects!**



This yields a platform for low-cost, equipment-free, low-volume, quantitative diagnostic blood tests



Thank you to the people who do all of the work!



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