HOLOGENOMIX

HOLOGENOMIX · DELFT

Look inside, from home.

Every cup of urine carries DNA from across the body. We keep 50× more of it than a blood draw holds.

Enough to watch what happens inside a person. **No needle, no scan, no clinic. As often as you like.**

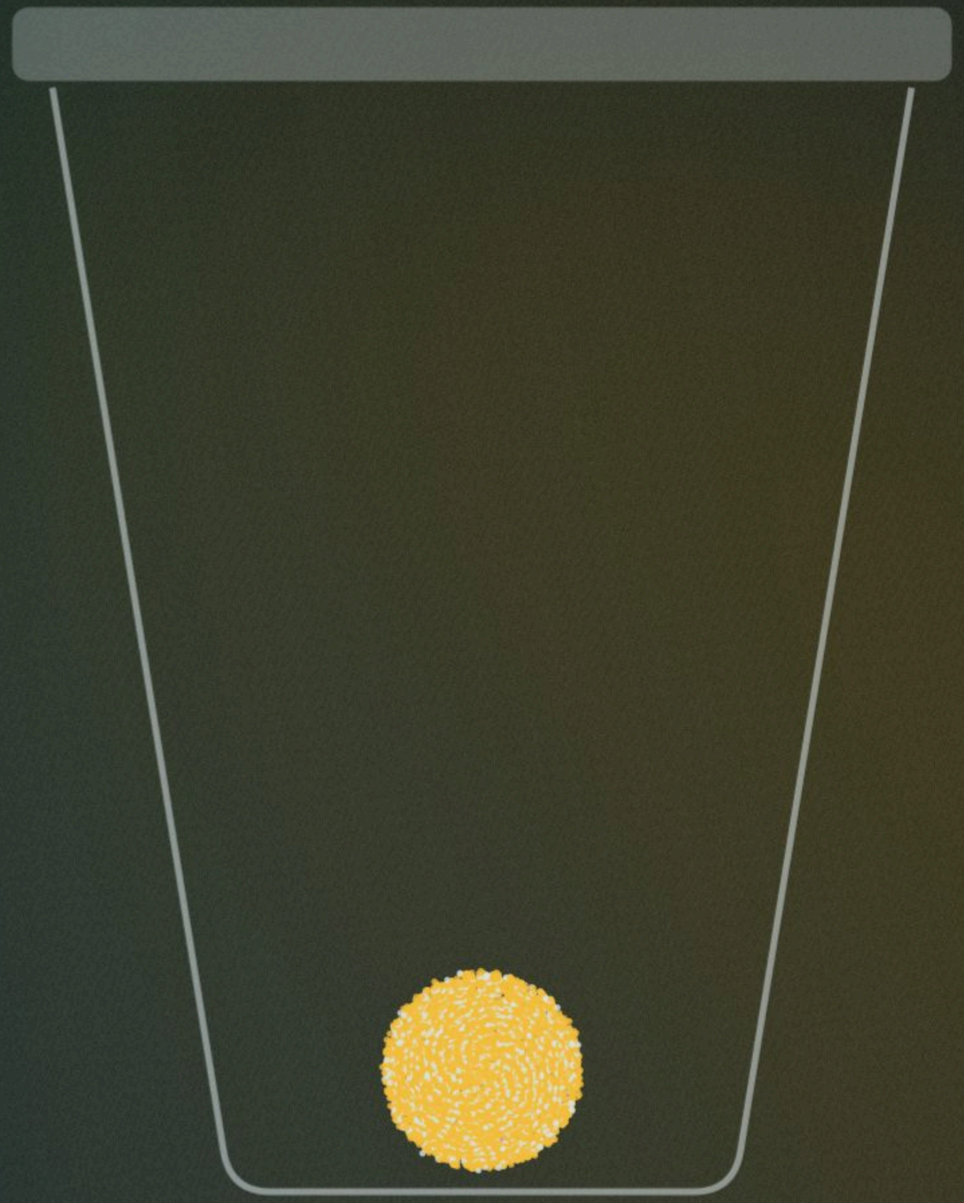
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HFX, OUR DEVICE

50× the DNA of a blood draw

A whole morning void goes in. One small pellet of DNA comes out, ready to be sequenced.

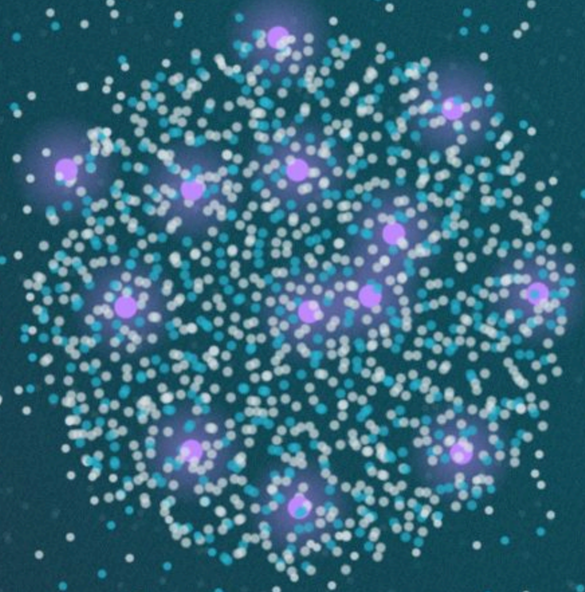
More molecules than any test has had to work with. So what do you do with them?



Your cells leave DNA behind

Cells die all the time. They leave short fragments of DNA in the blood.

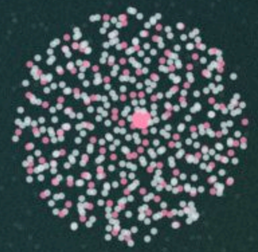
Those fragments come from everywhere: blood cells, the liver, blood vessels. And from a tumour, a transplanted organ or an infection, if there is one.



Each tissue signs its DNA







Every tissue marks its DNA in its own pattern (methylation). Read the pattern and you know where a fragment came from.

So one sample can show which tissues are dying, and how fast.

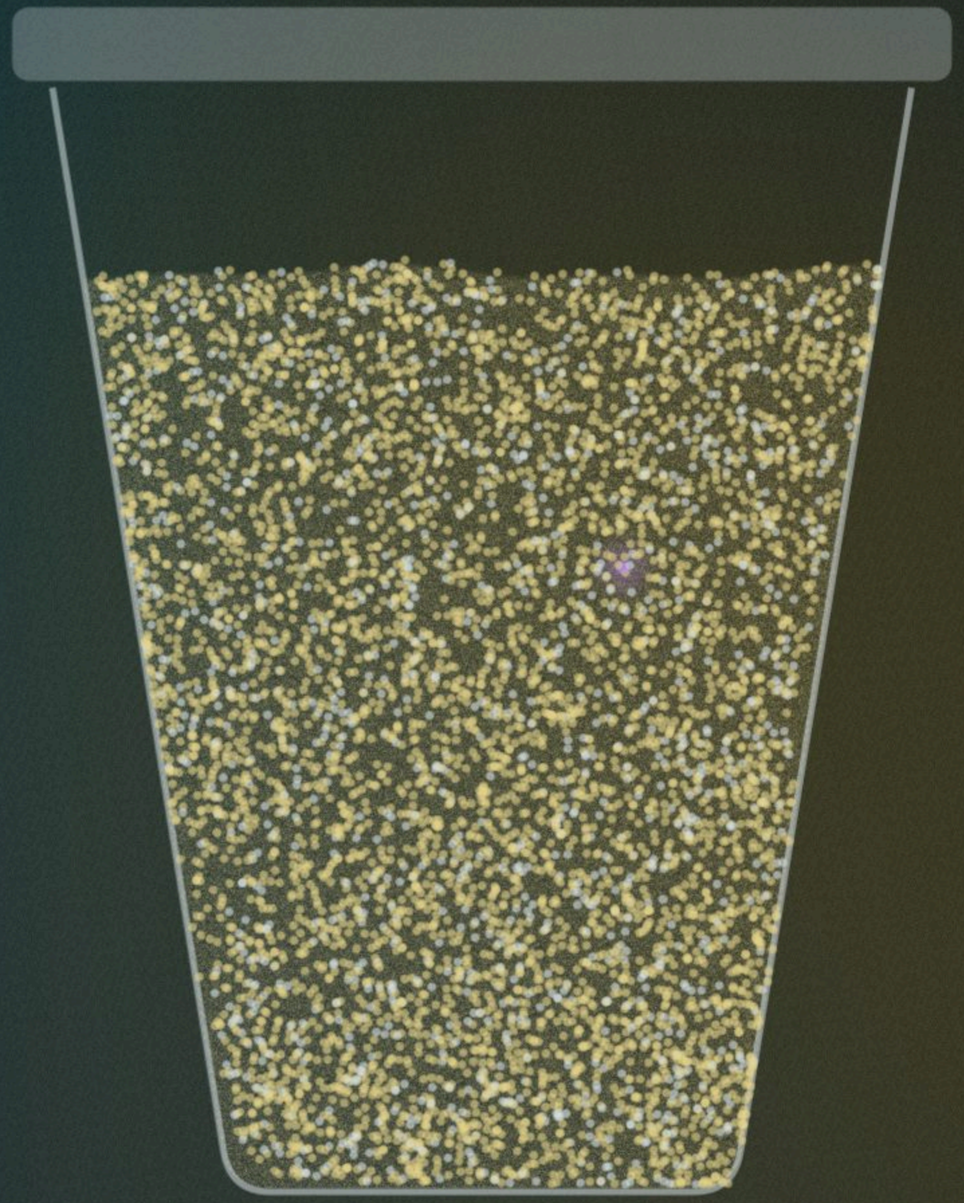
Methylation atlases of human cell types: Moss et al., Nat Commun 2018; Loyfer et al., Nature 2023.

The kidneys pass it on

Fragments from the blood cross into the urine. Urine adds DNA from the kidneys and bladder themselves.

A cup is a sample of the whole body, taken in a bathroom.

Botezatu et al., Clin Chem 2000 (DNA from the blood crosses the kidney barrier).



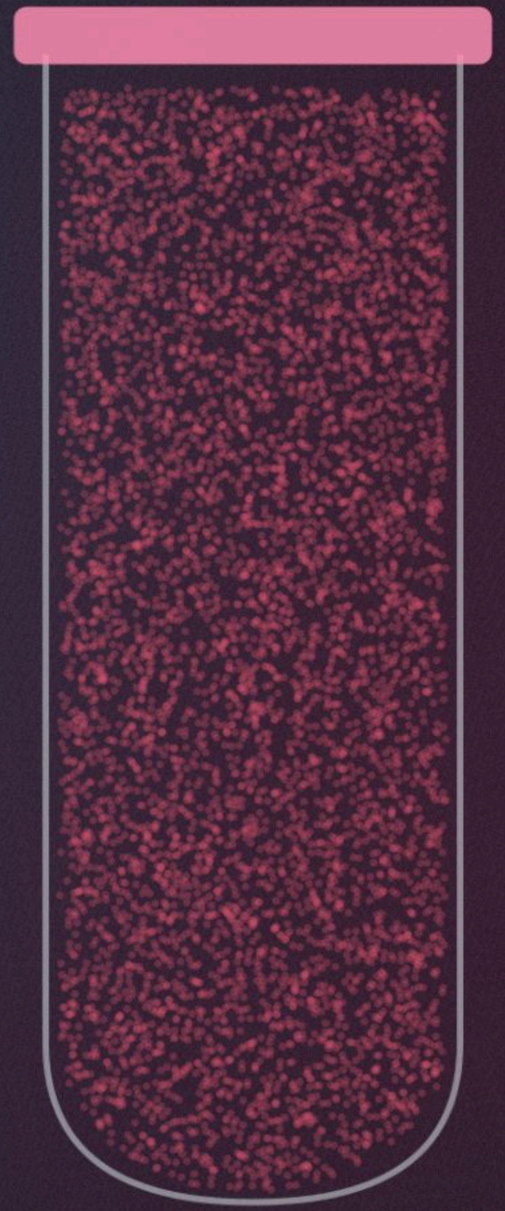
ONE BLOOD DRAW

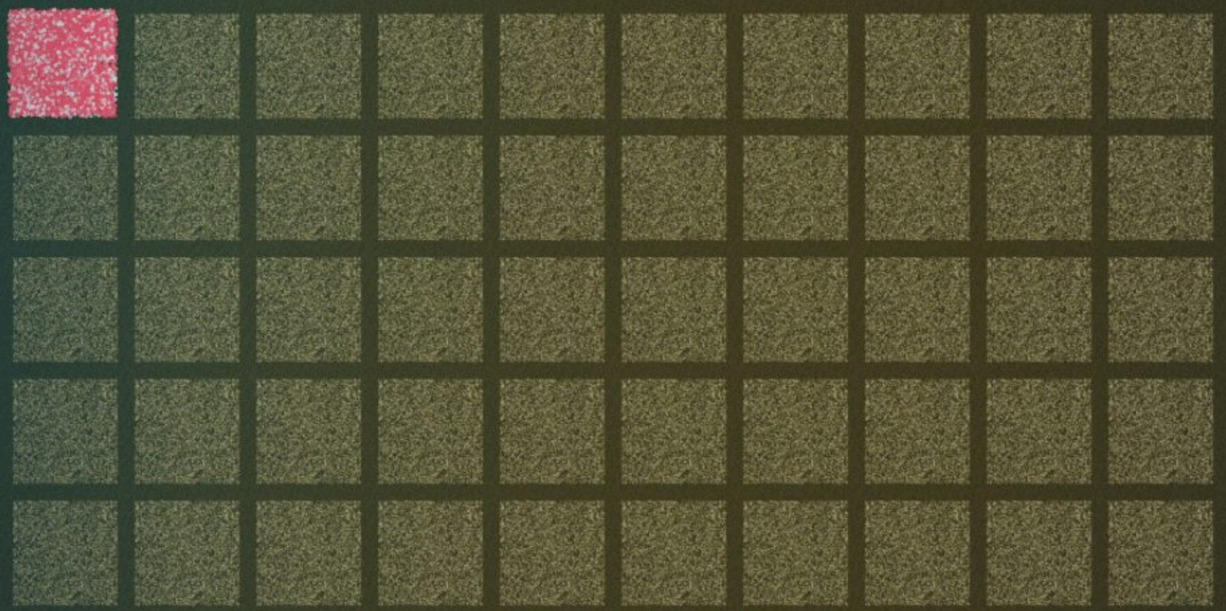
The signals that matter are faint

A blood draw holds about **6,000** copies of the genome. In healthy blood, about 1 in 100 comes from the liver.

A small organ, an early tumour, a transplant under stress: far less. At 1 in 10,000, a blood draw holds **0.6** copies. Usually none.

Plasma DNA: white blood cells 55%, red-cell precursors 30%, vessel lining 10%, liver 1% (Moss et al., Nat Commun 2018). Median 6,000 copies per blood sample (Zviran et al., Nat Med 2020).





ONE CUP THROUGH HFX

30

copies of a 1-in-10,000 signal, against 0.6 in a blood draw

Enough to measure how much, not just whether. Sixty liver copies in a blood draw vary by ±13% by chance alone. Three thousand in a cup vary by ±2%.

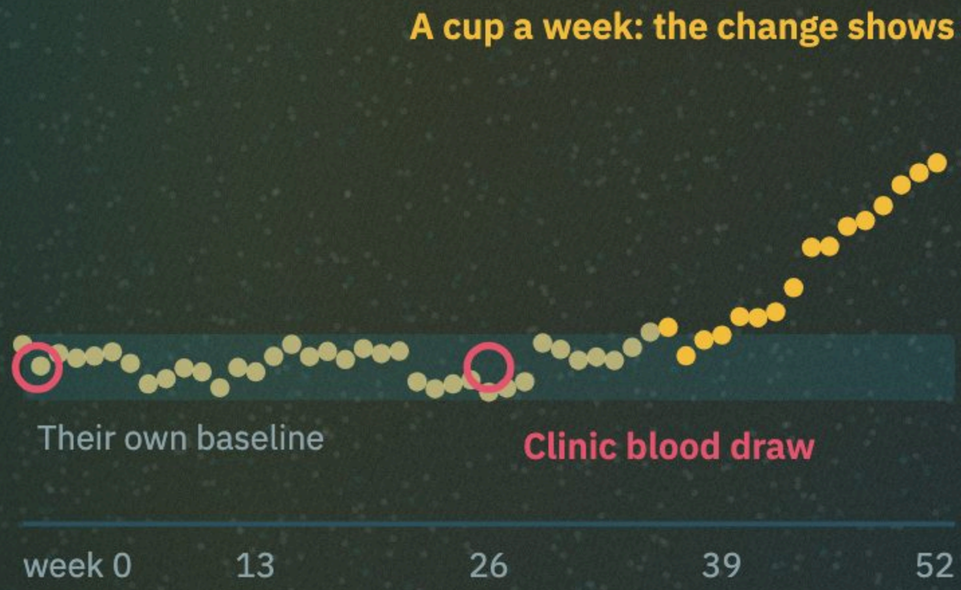
~300,000 copies per 300 mL void (250–1,000 ng per 100 mL in healthy donors, 3.3 pg per copy). Chance variation: counting noise, $1/\sqrt{n}$. Assumes urine carries the same share as blood; see below.

A snapshot becomes a film

A blood test is a photo, taken at a clinic a few times a year. A cup at home can come every week.

Then the signal is a change from your own baseline, not a cut-off set for everyone.

Illustration, not data.



THE DATA

A dataset nobody else can collect

More molecules per sample. More samples per person. More people.

Each person becomes their own control. Our studies collect whole voids with matched blood and the hospital's diagnosis.



Each dot: one cup. 100 people, three months.

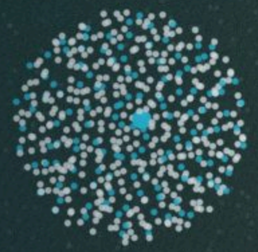
What you could watch

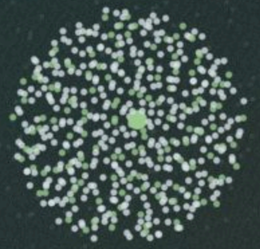
Cancer. Whether it is back after surgery, and whether the drug works.

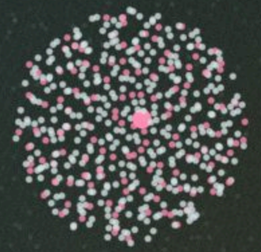
Transplants. When the new kidney is hurt, its DNA shows up in the urine.

Infections. Which bacteria and viruses, and which antibiotics they resist.

Organs. Which tissues are dying faster than they should.







Cancer: blood tests already in clinical use (Signatera, Guardant360). Transplants and infections: urine DNA from 82 kidney-transplant patients, 1 mL per sample (Burnham et al., Nat Commun 2018). Organs: shown in blood (Moss et al. 2018); not yet in urine.

Why now

The readers are ready. The sample isn't.

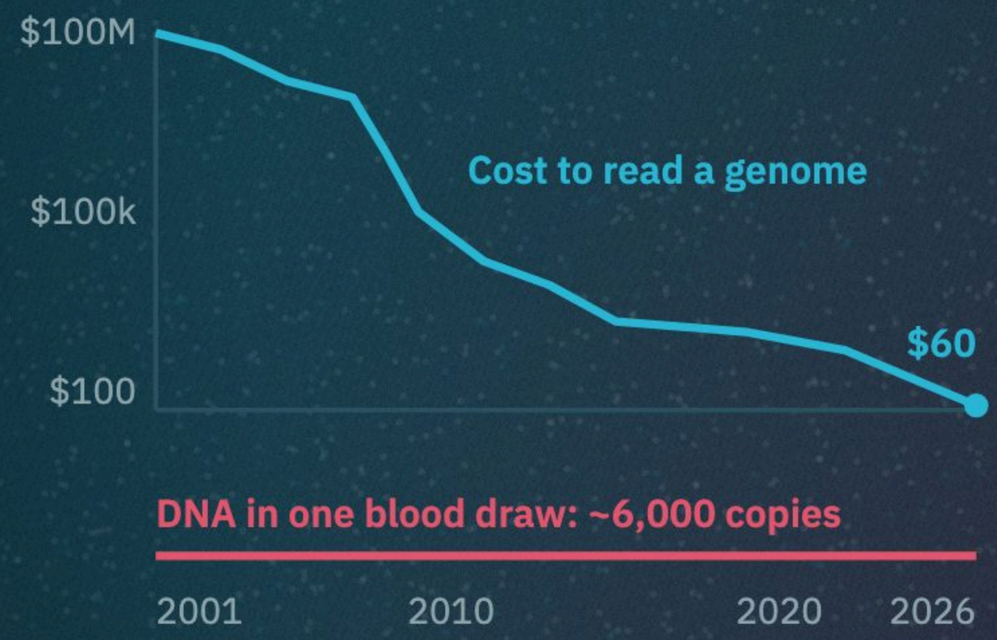
Reading DNA got a million times cheaper. The blood draw it reads from stayed the same.

Reading got cheap

A human genome cost about **$100 million** to read in 2001, and about **$60** today.

Blood tests that watch for relapse are already big business: **~600,000 tests** last quarter from four US companies, up 70% in a year. Medicare pays **$3,500+** per Signatera test.

NHGRI sequencing-cost data, approximate; $60 genome: Ultima Genomics, October 2026 (company figure). Tests: Q3 2026 vs Q3 2025, company reports (Natera, Guardant, GRAIL, Tempus). CMS ADLT rate.



Monitoring means repeating

A relapse test is run again and again after surgery. Every repeat needs a clinic, a needle and a nurse.

A cup needs a bathroom. No needle means you can sample every week. Each sample is 50× deeper.

Frequent and deep: that's new.



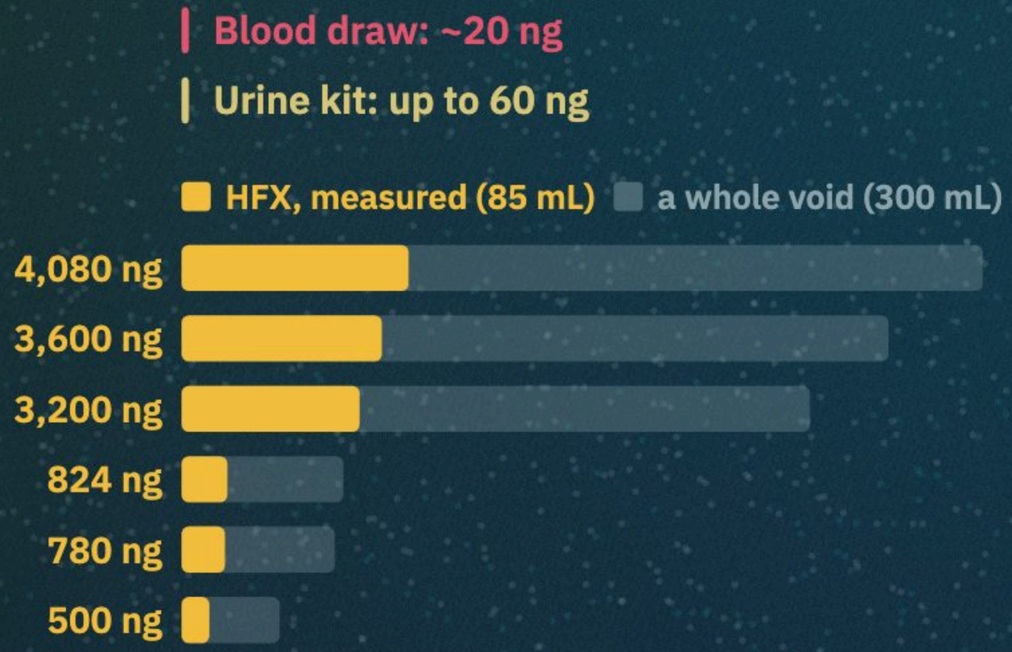
Each dot: one cup. 100 people, three months.

Why us

Measured on patient urine.

Every bladder-cancer sample gave more DNA than a blood draw, from 85 mL. Patent filed.

DNA recovered per sample. HFX: six urine samples (85 mL) from four bladder-cancer patients, our 2026 poster. Grey: a 300 mL void at the same yield per mL, not yet measured. Kit and blood: typical yields.



What we know, and what we don't

Shown by us. 250–1,000 ng of DNA per 100 mL of healthy urine, about 50× a blood draw per void. 500–4,080 ng from 85 mL of bladder-cancer urine.

Published by others. Urine DNA shows tumours, transplant injury and infections, from as little as 1 mL.

Not known yet. How much of each organ's signal reaches the urine. The kidneys and bladder add their own DNA, which dilutes the rest. That share is what we measure first.

HFX yields, internal data. Burnham et al., Nat Commun 2018; Terasawa et al., Cancer Biol Ther 2019 (pancreatic KRAS in urine).

WHERE WE START

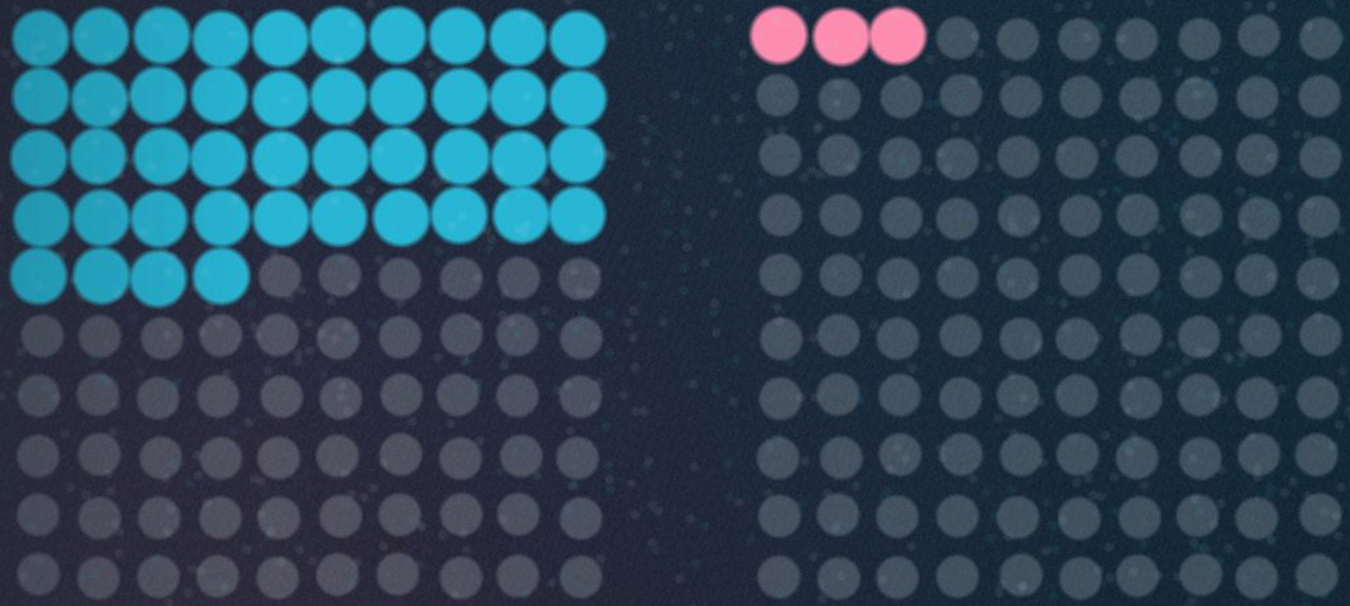
Pancreatic cancer

44

in 100 alive at five years, found early

3

in 100, found after it has spread



We start with people who are already being watched: families at high risk, and patients after surgery.

Cancer first. Then everything else the cup can show. First pancreatic data: Q2 2027.

Five-year survival localised 44%, distant 3% (SEER).

Team



Eric van der Toorn
Co-founder, CEO



David Calderón Franco
Co-founder, CTO



Thomas Abeel
Co-founder, CSO. Associate professor



Harshitha Hanji
Business development



Gonçalo Macedo
Research scientist

Advisors

Each has taken a life-science company to a sale.



Prof. Jack Schalken

Urology professor. Co-founded NovioGendix, sold to MDxHealth

Radboudumc



Joris Schuurmans

CEO SkylineDx. Sold Cergentis in 2022. Before: Biocartis, MyCartis

SkylineDx



Jan Groen, PhD

Chaired Vesica Health to its 2026 sale. Ex-CEO MDxHealth

Vesica Health

CellBx Health

mdxhealth

HOLOGENOMIX

We're raising. Let's talk.

Others build better readers. We give them more to read, as often as people like.

investors@hologenomix.nl

Eric van der Toorn, CEO · Hologenomix, Delft

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