

Now it's



HisTurn

Transforming the fertility industry by
diagnosing and treating male infertility
using a precision health approach





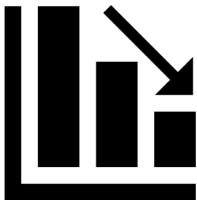
Problem 1: A Worldwide Fertility Crisis



1/6 couples are infertile



Semen analysis has not changed for >50 years and does not accurately diagnose infertility



Men have 50% less sperm than their fathers



In 50% of infertility cases male infertility is a factor

No method of semen analysis provides information to improve fertility, or guide IVF treatment

Problem 2: We are treating Women for Male Infertility

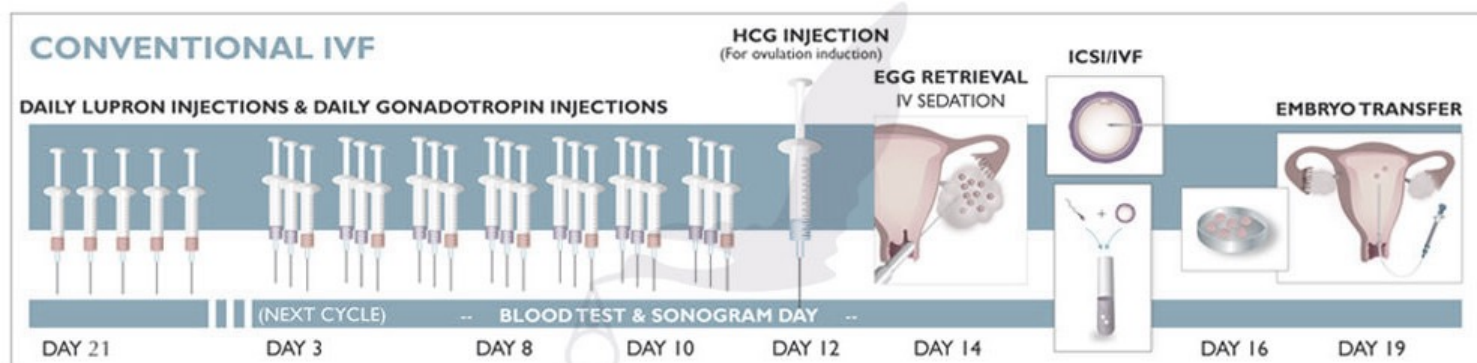


70%
of treatment
cycles fail

Can take
years of
treatment.

\$60k +
On average
spent per
couple

82 injections
12 blood tests
10 ultrasounds
3 surgical oocyte retrievals
3 invasive embryo transfers



84% of men feel that their reproductive health needs are not being met

Fertility in men can be improved to reduce treatment cycles and improve IVF success

Solution: HisTurn an AI and epigenome based precision medicine approach for diagnosing and treating male infertility

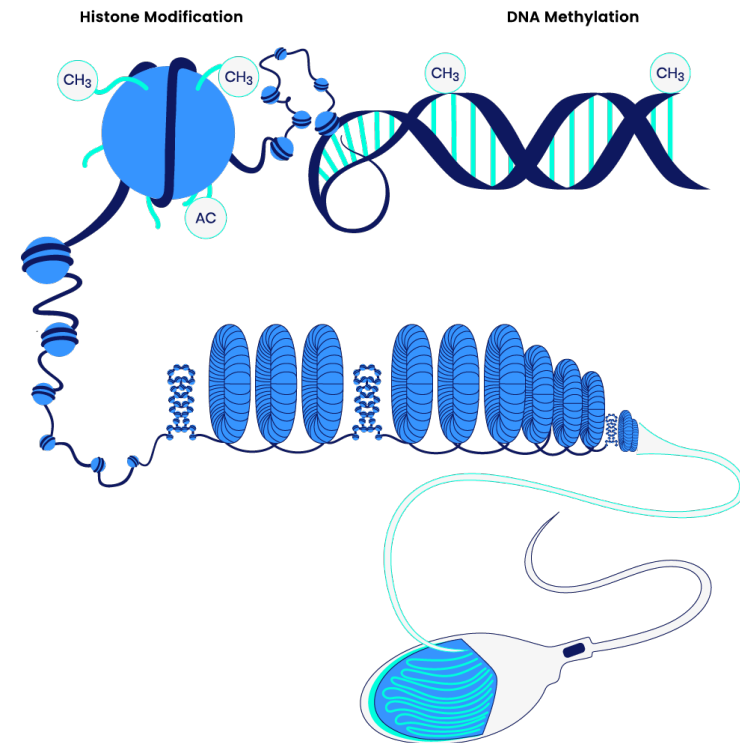


- Integrated genetic-epigenetic test for assessment of male fertility
- Reduces the cases of unknown male factor infertility
- Identifies causes of infertility
- Predicts sperm quality, function, and IVF success
- Assessment outcome is a personalized treatment plan to improve fertility and IVF success

The Sperm Epigenome is a Marker for Infertility, Health and Disease

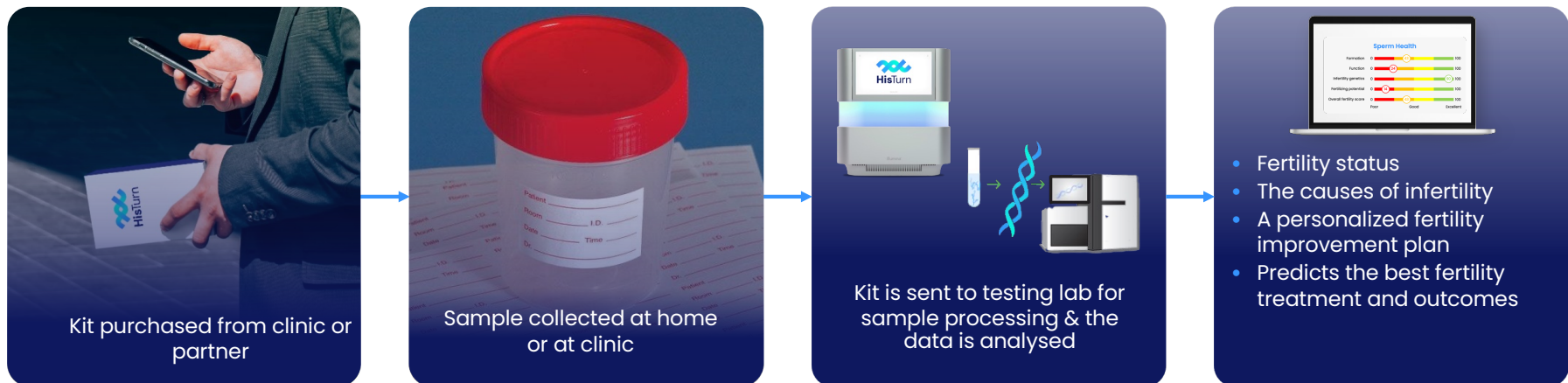


- The Sperm Epigenome controls genes for fertility and embryo development
- Our **epigenomic biomarker** is histone H3 methylation
- Abnormalities in histone H3 methylation in sperm are implicated in infertility, pregnancy loss, and birth defects
- **H3 epigenome abnormalities** are associated with neurodevelopmental disorders, poor diet, an overweight BMI, increased age and toxicant exposure





Solution: HisTurn a patented AI and epigenome based precision health approach for diagnosing and treating male infertility

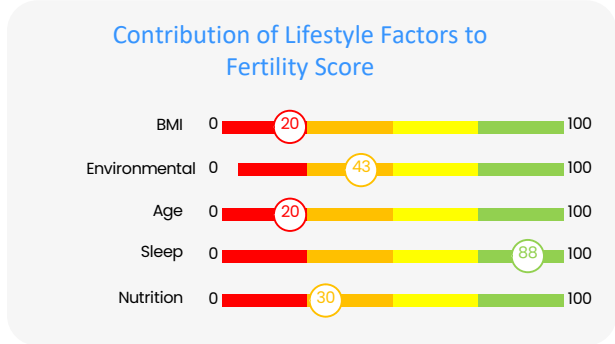
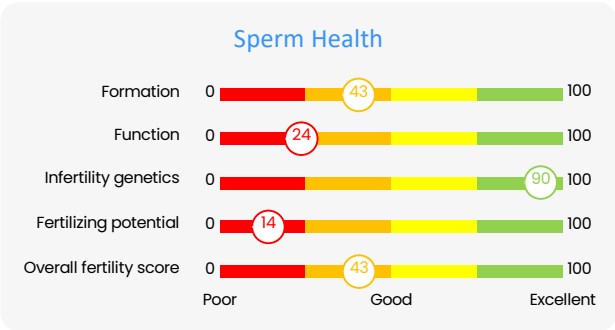


- Identifies causes of infertility
- Predicts sperm quality, function, and optimal treatment for success
- Assessment outcome is a personalized treatment plan to improve fertility and IVF success
- Streamlines treatment and increases success rates

HisTurn Fertility Report

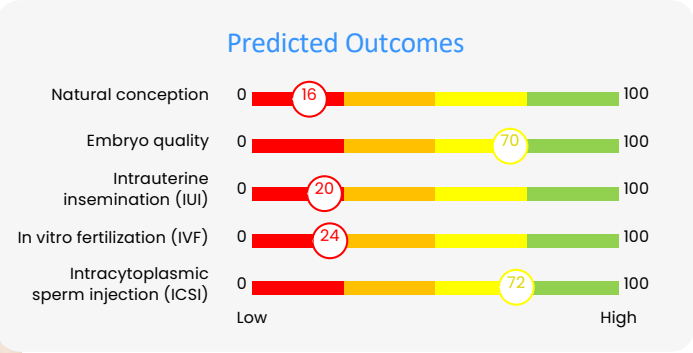


Empowering patients to make informed decisions



AI generated personalized treatment recommendations include:

- Fertility assessment
- Personalized fertility improvement plan with interventions
- Predicted treatment outcomes
- Guide for treatment



Business Model



Customers:

Fertility Treatment Clinics
Sperm donor banks

Partners:

Insurance providers covering fertility care
Hybrid Fertility Care clinics
Online Health Care Providers

1

Business-to-business (B2B)
through fertility clinics

- For those actively trying to conceive



2

B2B through partnerships with
sperm banks, insurance
providers, and fertility
coaching & support platforms

- For those trying to conceive
and/or those concerned
with the health and quality
of their sperm



58% of employers plan to enhance or add fertility support in the next year

70% of employers say the cost of fertility care for employees is increasing

93% of employers facing higher costs of fertility care are concerned

Our Competition



Market Opportunity



Market Trends & Drivers

- Use of IVF is increasing at 10% a year
- Clinics are oversubscribed and need to increase efficiency and success
- Market expansion with hybrid health care
- Increasing coverage of fertility care (>60% of large employers offer fertility benefits)

2023 Global Fertility Market

\$54 billion

\$90 billion by 2027

Growth at 14% CAGR

2022 Global Male Fertility Market

\$4 billion

Growth at 5.8% CAGR

HisTurn annual obtainable market



Target market includes Fertility clinics in: Canada, U.S. + Europe + Australia and New Zealand

Private equity consolidation of IVF clinics will
escalate market penetration



Largest international fertility clinic network with >300 clinics



Largest US fertility clinic network with >100 clinics



Hybrid care with 34 clinics in USA and Canada

Annual Obtainable Market
\$100 million

Worldwide treatment cycles/Yr

4 million

Target market treatment cycles/Yr

1.4 million

Total addressable market cycles/yr

466, 677

Service addressable market

\$933 million

USD, \$2000/test, 1 test per couple for 3 treatment cycles; 10% penetration



Traction and Next Steps



>\$1 M non-dilutive funding secured



Robust product and IP pipeline



Patented fertility diagnostic ready for clinic testing



GTM 2 years



Ongoing expansion of collaboration with US and European clinics



Strong interest from major market players

Seed round will support key hires in productization, sales, marketing and management, fund clinical trials and pave the road to commercialization with GTM in 2 years

Participating Clinics



Business & Technical

illumina



Our Product Pipeline



Our Biomarker discovery and disease customized diagnostic panel approach is the gateway to bigger preventative medicine healthcare solutions

Product 2

Commercial development of our AI and epigenomic disease biomarker discovery approach will offer solutions for early complex disease detection (**Patent 2**)

Product 3

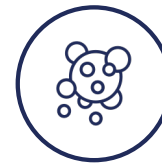
Enhanced Carrier Screen
Our sperm based enhanced carrier screen will reduce false negatives reducing the risk for inherited disease in children (**Patent 3**)



Diabetes



Cardiovascular Health



Cancer



Carrier Screen

The biomarker market will exceed \$288B USD by 2034 (CAGR of 13.6%)

Team



Dr. Sarah Kimmins, PhD
Founder & CEO

- World leader in epigenomics and male fertility
- Recipient of international reproduction and fertility awards
- Speaker at >140 fertility and epigenomics conferences
- Founder and leader of research networks (600 people +)
- Secured research funding for \$13 million as lead investigator and > \$25 million as co-investigator

20 Years of World-Leading Research

nature

Science

MOLECULAR
METABOLISM

Developmental Cell

nature communications

nature reviews urology

Cell Reports



Vanessa Dumeaux, PhD

Professor of Anatomy and Cell Biology Western University. Expertise in AI and genomic analysis, genetic diagnostic development.



Dr. Clifford Librach

Director and founder of CREAtE Fertility Centers, Professor in Obstetrics and Gynecology at University of Toronto, Past president of the Canadian Fertility and Andrology Society.



Dr. Michael Eisenberg, MD

Professor of Urology, Obstetrics and Gynecology Stanford Medicine. Urologist, male fertility specialist, .



Bryan Martin, PhD

Patent Strategist, intellectual property director multiple companies. Serial inventor with over 20 patents in machine learning, computer-human interaction, green materials, e-products and ecommerce.



Mahmoud Aarabi, MD, PhD

Medical Director of UPMC Cytogenetics Laboratories. Expertise in male fertility, clinical diagnostics, Certified American Board of Medical Genetics and Genomics.

Technology Development

Romain Lambrot (PhD)

Edgar Martinez (MSc, MD)

Dalwinder Singh (PhD)

Experienced Business Advisors



HisTurn

Helping in the creation of families by the inclusion of men in the treatment process. Our vision is to become the leading global male fertility diagnostic company, known for our personalized health approach.

Now, it's HisTurn

✉ sarah.kimmins@histurnfertility.com

🌐 www.histurnfertility.com



Use of Funds and Go to Market Timeline



\$ 1.3 Million

\$ 2.8 Million

\$ 15.4 million

Seed Investment

Series A

Revenue

Milestones

- MVP ready to test
- Hires product and software engineers
- Product conceptualization & design
- Launch clinical pilot

Milestones

- Prototyping and testing
- Launch clinical trial, 5 clinics, months
- Customer experience
- Data analysis

Milestones

- Hires: sales, marketing, accounting & management
- Patents new filing
- Publish clinical pilot

Market Ready

- License to testing sites
- LDT approval
- Clinic partnerships
- Start sales to clinics and partners

Revenue Generation

- \$2000/patient
- 36 clinic partners
- 200 patients/clinic
- Insurance provider partnerships
- Revenue \$14.2M

0 months

1 year

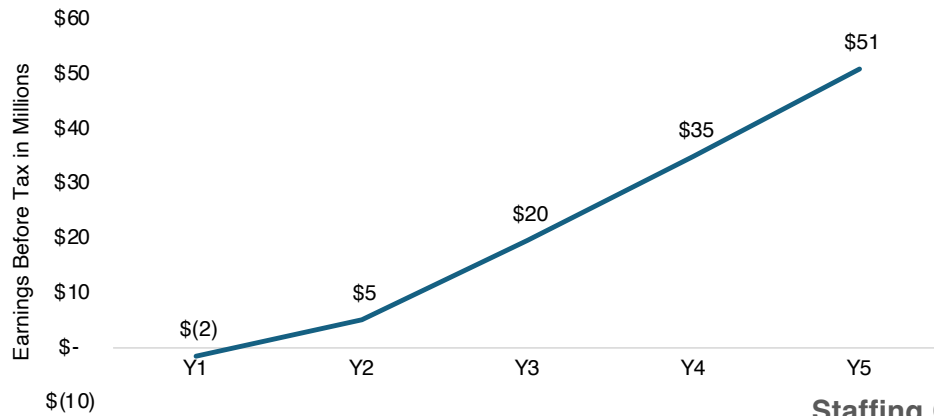
2 years

3 years

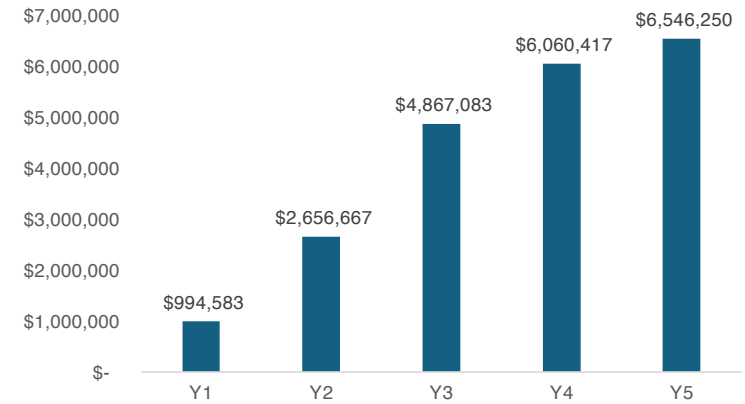
Financial Forecast & Company Growth



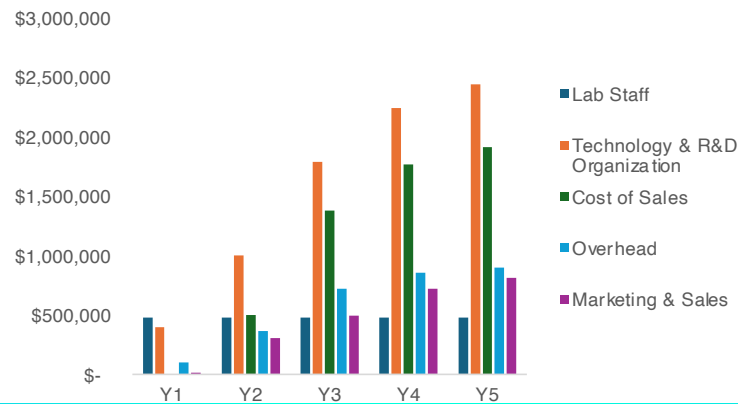
Earnings Before Tax



Staffing Cost



Staffing Cost by Department



Improving an infertile sperm epigenome to restore fertility and improve treatment outcomes

- Epigenome “repair” occurs in response to interventions
- Reversing damage done to the epigenome by lifestyle, exposures and aging
- 1 million sperm made every heartbeat = heavy epigenome programming load vulnerable to error in suboptimal conditions

Sperm epigenome rejuvenation:

Metabolic manipulation, caloric restriction, pharmaceuticals (e.g. Metformin, GLP-1 agonists), lower IGF-1, D-glucosamine (antagonist of glucose), stress reduction, sleep interventions, micronutrient supplementation (B12, B9, Vitamin D), inflammation reduction

W. Zhang et al., Belmonte 2020

