Innovation Equity Forum

Women's Health Discovery & Development Networks

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Authors: IEF Innovation Accelerator Working Group

The IEF, established through a collaboration between the Gates Foundation and the National Institutes of Health, brings together a global community of over 250 stakeholders committed to advancing women's health R&D. Our membership includes scientists, innovators, advocates, funders, implementers, and other women's health innovation ecosystem actors. Together, this diverse group is committed to advancing a more equitable, coordinated, and innovation-driven ecosystem for women's health.

From May to October 2025, IEF Working Groups worked across four action concepts—the Innovation Fund, Innovation Accelerator, Data Harmonization Pilot, and Knowledge Hub —to translate opportunities drawn from the Women's Health Innovation Opportunity Map into concrete initiatives. Each concept reflects deep ecosystem engagement, bringing together diverse stakeholders to co-design practical pathways that advance women's health innovation and equity globally.

The Problem

Biomedical research for women's health is inadequate. Traditional, fragmented discovery and translational science have resulted in limited diagnostics and therapeutics coming to market.

Gynecological health conditions and cardiometabolic conditions in women remain among the starkest inequities in global health R&D. Despite affecting hundreds of millions worldwide and imposing significant economic costs on health systems, these conditions receive disproportionately low R&D investment relative to their disease burden:

- **Gynecological conditions** such as endometriosis, adenomyosis, uterine fibroids, and PCOS affect hundreds of millions of women. Yet funding and assets in the pipeline relative to burden is low: endometriosis impacts 190 million women but received only $28M in global R&D funding in 2023, while uterine fibroids—which affect up to two-thirds of women—drew just $12M.[1] Lack of research on female gynecological conditions has led to poorly understood disease pathways and a lack of non-invasive biomarkers, resulting in diagnostic delays of over five years and leaving patients and providers less informed about effective management options. Research platforms, data, and biospecimens are fragmented, and translational models are inadequate, stalling progress at the earliest and most critical stages of the pipeline.
- **Cardiometabolic conditions**—including cardiovascular disease, stroke, diabetes, renal disease, and migraine—are the leading killers of women globally, responsible for over seven million deaths annually. Research and care pathways remain grounded in male physiology, and women are underrepresented in clinical trials; fewer than one in five produce sex-disaggregated results, creating evidence gaps that perpetuate inequities.[2] Lack of research on mechanisms of women's CVD (e.g., estrogen and progesterone pathways, neurovascular and coronary inflammation, vascular dysfunction, vascular anatomy—across life stages) continues to hinder diagnostic and therapeutic advancements.

Across both, systemic upstream gaps hinder innovation. Basic research in women's health faces critical knowledge gaps due to an incomplete understanding of underlying disease pathways, a lack of non-invasive biomarkers, and underexplored roles of sex-specific and hormonal risk factors. Diagnostic candidates are limited despite advances in other condition areas. Therapeutic innovation has been weak, with reliance on repurposed therapies and invasive procedures.

Traditional R&D structures further perpetuate limited innovation. Research platforms across academia, industry, and funders are fragmented and operate in silos, with limited coordination or shared standards for data and biospecimen. Industry has historically been unwilling to fund biomedical research to advance understanding of disease mechanisms in women, given the perceived lack of commercial appeal to therapeutic developers, despite the large potential market and importance to progress.

These structural barriers consistently stall progress at the earliest stages of the R&D pipeline, preventing promising discoveries from advancing into effective diagnostics and treatments for women worldwide.

[1,2] Sources: Closing the Women's Health Gap, World Economic Forum ; Gfinder R&D Funding Flows ; Impact Global Health Health Area Insights

The Opportunity

A precompetitive Discovery and Development Network model in women's health can close persistent early-stage R&D gaps by advancing promising science from discovery through early development—where innovation most often stalls.

Modeled on proven efforts such as the Tuberculosis Drug Accelerator (TBDA) and the Wyss Brain Targeting Program, this consortia-based approach will pool resources across philanthropy, industry, academia, and innovators to address upstream discovery bottlenecks.

Each network will be built on a **shared precompetitive, open-science model** that aligns funders, researchers, and industry around coordinated priorities, standardized data and biospecimen systems, and shared platforms for biomarker and diagnostic discovery. Each network will focus on specific discovery challenges in women's health, such as hormonal regulation, disease mechanisms and pathways, disease phenotyping, and sex-specific risk factors.

Each network will be anchored by one or more partners—such as a philanthropy, university, or LMIC-based consortium—with pooled funding and in-kind support from industry, academic, and philanthropic collaborators. Coordination may be led by the anchor institution or a designated regional or technical partner (e.g., a foundation, academic center, or consortium) to ensure operational efficiency and equitable participation.

Strategic oversight will be provided by an **advisory panel of subject-matter experts**, with representation from academia, industry, and global health institutions, responsible for setting scientific priorities, ensuring technical rigor, and maintaining transparency. Collaboration will be executed by **project-based working groups** consisting of researchers, innovators, and clinical or industry partners, supported by standardized protocols for data and biospecimen collection to ensure interoperability and comparability across sites.

Each network will prioritize **global and equitable participation**, with LMIC partners playing central roles in data collection, coordination, and governance to ensure representativeness, data sovereignty, and long-term sustainability.

Outcomes and impact

By focusing on shared data and high-burden, underinvested and under-researched conditions, these networks will generate **reusable insights and infrastructure** that accelerate discovery and development across women's health with the following outcomes:

- Create **shared clinical endpoints and trial-ready cohorts**, making women's health R&D more investable and efficient
- Build **collaborative networks of clinical sites and research organizations** that innovators can leverage to rapidly start new trials
- Enrich the literature on **female-specific biology** (e.g., menstrual cycles, menopause timing) **and physiology**
- Improve **diagnostics and therapeutics** for gynecological and cardiometabolic conditions
- Lay the foundation for:
    - *Gynecological*: A **women's health phenotyping platform**, beginning with four priority conditions (fibroids, endometriosis, adenomyosis, and PCOS) but expandable to

others—such as those linked to heavy bleeding, anemia, infertility, and gynecologic cancers

- *Cardiometabolic:* **Open science assets** that can inform future research across promising biological pathways and ensure global applicability of research in addition to attracting new partners into the women's cardiovascular innovation space

Together, these outcomes will deliver **patient-level breakthroughs** (e.g., earlier and more precise diagnosis, personalized treatments) and **system-level impact** (e.g., fewer unnecessary hysterectomies, reduced anemia burden, and lower overall costs)—turning today's fragmented research landscape into a coordinated, sustainable discovery ecosystem.

The Approach: Two Discovery & Development Networks

The Discovery & Development Network model can be applied to different areas of women's health. The IEF has identified two priority areas—gynecological conditions and cardiometabolic conditions—where such a network could accelerate innovation through a focused set of opportunities:

Gynecological Conditions Discovery & Development Network

A precompetitive Discovery and Development Network will establish a **globally representative** gynecological **biobank** focused on four priority conditions identified by the IEF: **endometriosis, adenomyosis**, **fibroids, and PCOS.** Many of these conditions present through vague pelvic pain, abnormal or heavy bleeding, or infertility, rather than named diagnoses—leading to delayed or missed detection, further exacerbated by lack of awareness and education among both patients and providers. These conditions were selected for their shared clinical presentations and overlapping biological mechanisms, which create an opportunity for shared data collection and analysis to illuminate common pathways and accelerate discovery across multiple gynecologic diseases. They also represent high-burden, low-investment areas of women's health, accounting for a significant share of YLD yet remain overlooked in pharmaceutical pipelines with few effective diagnostics or treatments currently available.

The network will enable development of **non-invasive diagnostic tools** and **non-hormonal therapies**, addressing long-standing gaps in early identification and treatment. It will:

- **Build multi-condition research platforms and integrated data systems** to enable biomarker discovery, advance underlying disease mechanisms, and support preclinical proof of concept models and studies
- **Deploy standardized collection protocols** (e.g. via FIGO and EPHect) to include phenotypic and genomic characterization
- Explore models such as OMOP (Observational Medical Outcomes Partnership) to **link clinical trials with electronic medical records,** enabling subpopulation differentiation

The network will **leverage existing infrastructure**—including established condition-specific, national, and regional biobanks—to avoid duplication and accelerate implementation. At the same time, it will intentionally **expand representation to underrepresented populations and regions**, addressing the limited diversity seen in prior initiatives. The network is designed to be **self-sustaining over time**, through mechanisms such as royalty or cost-sharing agreements for commercialized products developed using shared data and infrastructure.

Cardiometabolic Conditions Discovery & Development Network

A Discovery & Development Network will identify one or more **modifiable biomarkers** for women's cardiovascular disease—enabling earlier identification of individuals at risk and catalyzing the development of improved diagnostics and therapeutics.

This model responds to the persistent **disconnect between early-stage research and industry translation** by creating shared, standards-based assets that bridge mechanistic insight to applied innovation. It is designed to de-risk discovery through a sequenced, evidence-led approach that builds confidence and investment readiness at each stage of the research continuum.

Phase 1 will leverage existing datasets-biobanks, imaging repositories, and electronic medical records-to apply **machine learning and integrative data modeling** that can reveal previously unrecognized sex-specific mechanisms of disease. Phase 1 will **leverage existing infrastructure**—including established condition-specific, national, and regional biobanks—to avoid duplication and accelerate movement into Phase 2. **Vascular dysfunction** was identified as one of the most promising entry points, with **estrogen and progesterone biology**—and their variation across life stages—serving as key analytical lenses rather than the primary focus. This phase aims to identify the **most promising biological pathways** for further exploration, such as vascular dysfunction or neuro or coronary inflammatory mechanisms, providing the clarity and direction needed to focus global research efforts on the most impactful early research questions. The outputs from Phase 1—comprehensive mechanistic maps, data-driven hypotheses, and analytic tools—will also serve as **foundational public-goods assets** that can inform future research across additional pathways and attract new partners into the women's cardiovascular innovation space.

Phase 2 will build on these insights by establishing a **precompetitive, open-science accelerator** that creates shared data and biospecimen assets, harmonized protocols (e.g. standardized sampling timing), and collaborative research structures. The accelerator will initially be focused on supporting research that addresses the most promising biological pathway as identified in Phase 1. The goal will be to link biomarker discovery around the most promising biological pathway to **prevention strategies** that use modifiable biomarkers for both primary and secondary interventions, including therapeutic and lifestyle modifications.

The analyses conducted in Phase 1 will also highlight where current datasets and biobanks are limited in terms of their representation of a diverse population. The accelerator will intentionally **expand representation to underrepresented populations and regions**, addressing limited diversity in existing assets as observed. This phase transforms discovery into tangible progress-enabling the validation of **modifiable biomarkers** that can underpin new diagnostic tools, therapeutic development, and prevention strategies. The accelerator is designed to be **self-sustaining over time**, through mechanisms such as royalty or cost-sharing agreements for commercialized products developed using shared data and infrastructure.