Impact Global Health

Flying Blind

Polycystic Ovary Syndrome

PCOS is a multi-faceted endocrine (hormonal) disorder characterised by hormone imbalance and ovarian dysfunction. Clinical manifestations can include acne, excessive body hair, irregular periods and infertility, and metabolic issues, such as insulin resistance and metabolic syndrome, causing difficulties with weight management.

- PCOS presents a significant global health burden, affecting up to 20% of reproductive-aged women worldwide. However, this is likely an underestimation since studies propose that up to 75% of cases are undiagnosed.

2023 global funding for LMIC-applicable R&D for PCOS was US $10m

74% of funding goes to basic research, highlighting our limited understanding of the condition, and its causes and progression

PCOS diagnostics exist but are a compilation of independent measurements of symptoms rather than one test detecting the syndrome

There are 45 available medicines and 88 therapeutics in the pipeline but most focus on symptoms management rather than addressing the root cause

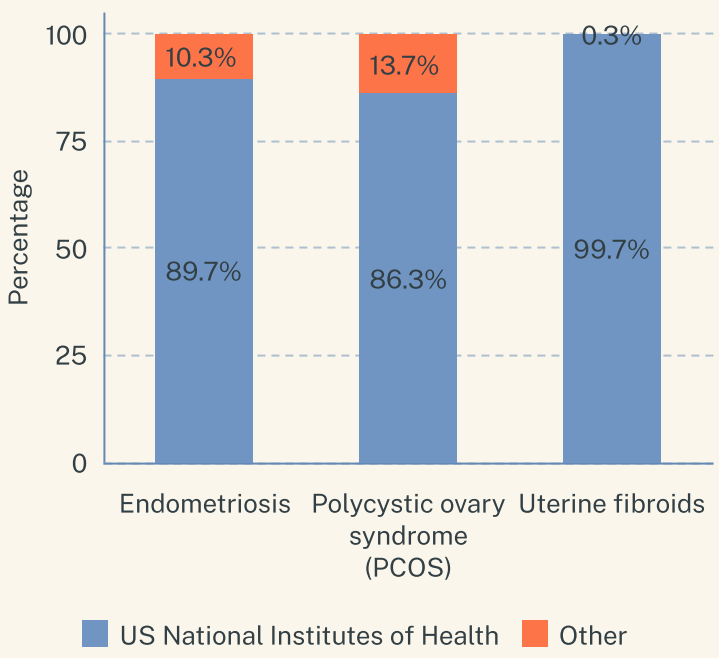
86%
of funding is provided by the US National Institutes of Health

88
therapeutic candidates in the pipeline

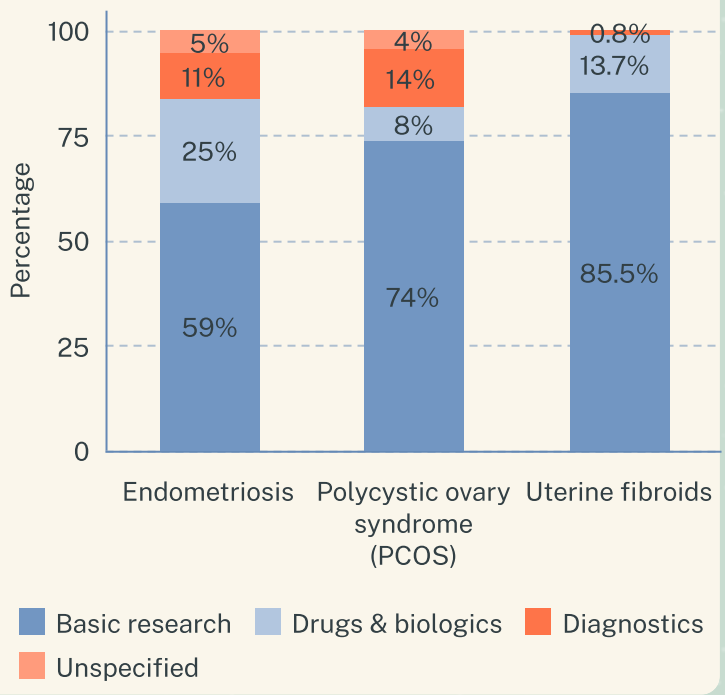
0
industry investment reported

	Drugs	Biologics	Devices	Diagnostics	**Total**
Available products	39	6	0	12	57
Pipeline candidates	81	5	2	60	148

Proportion of US NIH funding by condition (2023)



Proportion of R&D funding by research/product type and by condition (2023)



Key takeaways

- **Underfunded and neglected**: PCOS, like endometriosis and uterine fibroids, has suffered from decades of neglect and underinvestment in medical research, largely due to institutional and gender biases in healthcare. The current level of investment is unlikely to bring biomedical innovations to the women who suffer from the syndrome.
- **A fragmented landscape**: the number of marketed products and candidates in development points towards a fragmented, symptomatic-based approach characterised by a high number of repurposed products, many used off-label, to address this multi-faceted but poorly understood condition.
- **Potential for change**: the variety of biomarkers investigated (hormones, proteins, amino acids, lipid profile, immune-related biomarkers, and even fructose, mannose and vitamin D) highlights both the complexity and limited understanding of the condition. Biomarker research, while mostly still at the early stage, has the dual potential to uncover specific pathological pathways and improve the overall understanding of the condition.