



BiolmagingUK Meeting at mmc2023

Manchester 3rd of July 2023

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Wellcome is an independent charitable foundation

***We support science to solve the
urgent health challenges facing
everyone.***

Research Programmes at Wellcome



Discovery Research



Infectious Diseases



Mental Health



Climate & Health

Diversity and inclusion and research culture will be embedded into everything we do

Our ambitions for Discovery Research



Breakthrough research

Field-opening
Breadth of
disciplines



People and careers

Unlock potential
Time and Freedom
Teamwork and collaboration



Research environment

Break barriers
& bottlenecks
Research culture

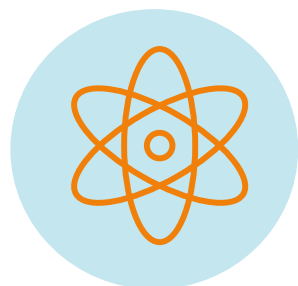
We support bold and creative ideas



Fundamental processes that underpin biology to understand more about how life works



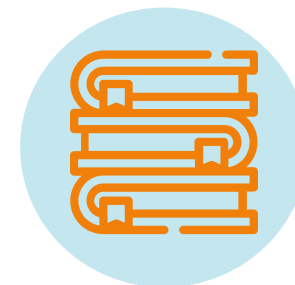
Complexities of human health and disease including **clinical** and **population-based** approaches



Development of **methodologies**, conceptual frameworks **technologies**, **tools** or **techniques** that could benefit health-related research

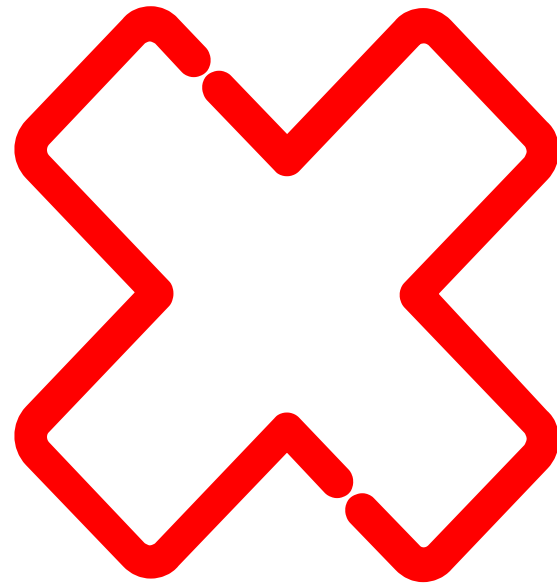


Needs, values and priorities of the **people** and communities affected by disease and health disparities



Social, cultural, political and historical contexts of human health and disease

Discovery Research remit – What is out?



It excludes activities that are not grounded in discovery research:

- **Purely translational research**, including clinical trials to test and develop interventions and treatments
- Proposals that are primarily **implementation science**
- Large-scale **population-level interventions** and trials
- Studies on **companion and exotic animals**, except as models for human disease



How we work



Discovery Research: How we work

Open-mode funding schemes

Designed to unlock researchers' potential and give them **freedom, time** and **resource** to take on big questions

Directed activities

Tackling big research challenges and unblocking barriers to progress

Underpinning activities

Engagement, partnerships, networks across the research community
Thought leadership in new areas of research
Promoting research equity

Discovery Research: open mode schemes

Early Career Awards (ECA)

For early-career researchers to **develop their research identity** and be **ready to lead an independent programme** by the end

Career Development Awards (CDA)

For mid-career researchers to **drive innovative programmes** and **become international research leaders**

Discovery Awards (DA)

For **established researchers and teams** to pursue bold and creative research ideas to deliver significant shifts in understanding

What are we looking to support?



- Bold and creative ideas that will change the way we understand life, health and wellbeing
- We don't know where the new ideas will come from, so our remit is deliberately broad
- Your research can be in any discipline – as long as it has the potential to improve life, health and wellbeing

Our current Early/Mid-career portfolio



Awarded

53 ECA

63 CDA

(~ £160M)



Levels of support

ECA ~ £ 200k -1.2M

CDA ~ £ 500k - 3.8M



Award Rate

ECA ~ 14%

CDA ~ 19%



Length of awards

ECA ~ 5 years

CDA up to 8 years

Our current portfolio of Discovery Awards



Awarded

53 Discovery Awards
(~ £180m)



Levels of support

£713k – £8.8m



Award Rate

22%



Length of awards

3 – 8 years

An example of Directed Activity

New opportunities to progress the field of
Bioimaging



Landscape review of barrier affecting progress in the field of bioimaging

Methodological approach

RESEARCH QUESTIONS

- ❖ What are the emerging technologies or methodologies?
- ❖ What are the barriers?
- ❖ Who are the key leaders?

SCOPE

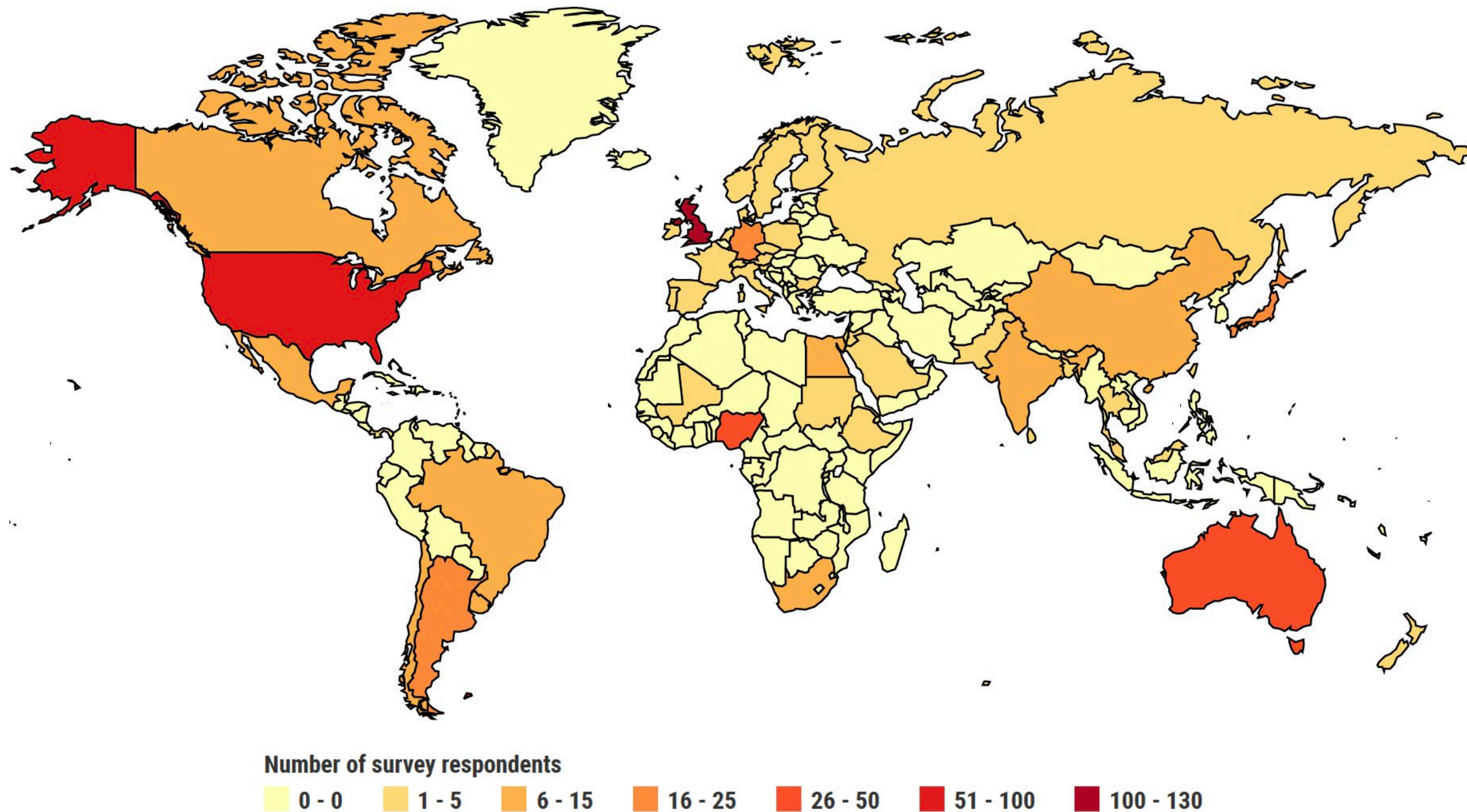
- ❖ Broad definition of bioimaging
- ❖ Discovery science perspective
- ❖ Methods, equipment, tools, technological development
- ❖ HICs and LMICs

CONSIDERATIONS

- ❖ Data needs
 - Global primary and secondary data
 - Facts and mechanisms (what and why)
- ❖ Time efficiency, inclusiveness and equity

Survey – Geographical distribution of responses

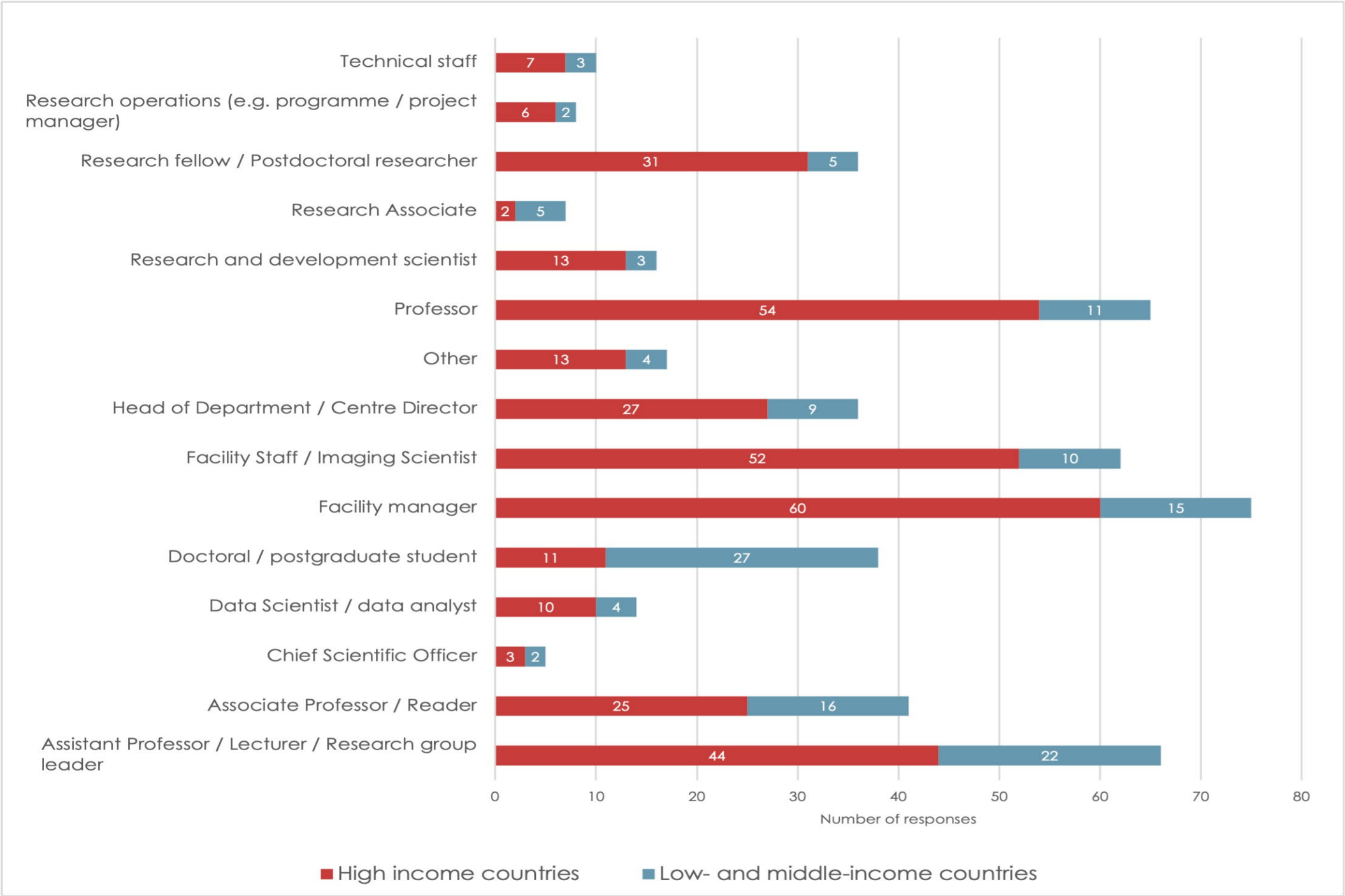
UK, US, Nigeria and Australia collectively account for 58% of the 496 responses



Survey – Job titles / roles of respondents

75% of respondents were based in a government-funded university / research institute

20% of LMIC respondents were doctoral / postgraduate students



Interviews – demographics

51 semi-structured interviews were conducted

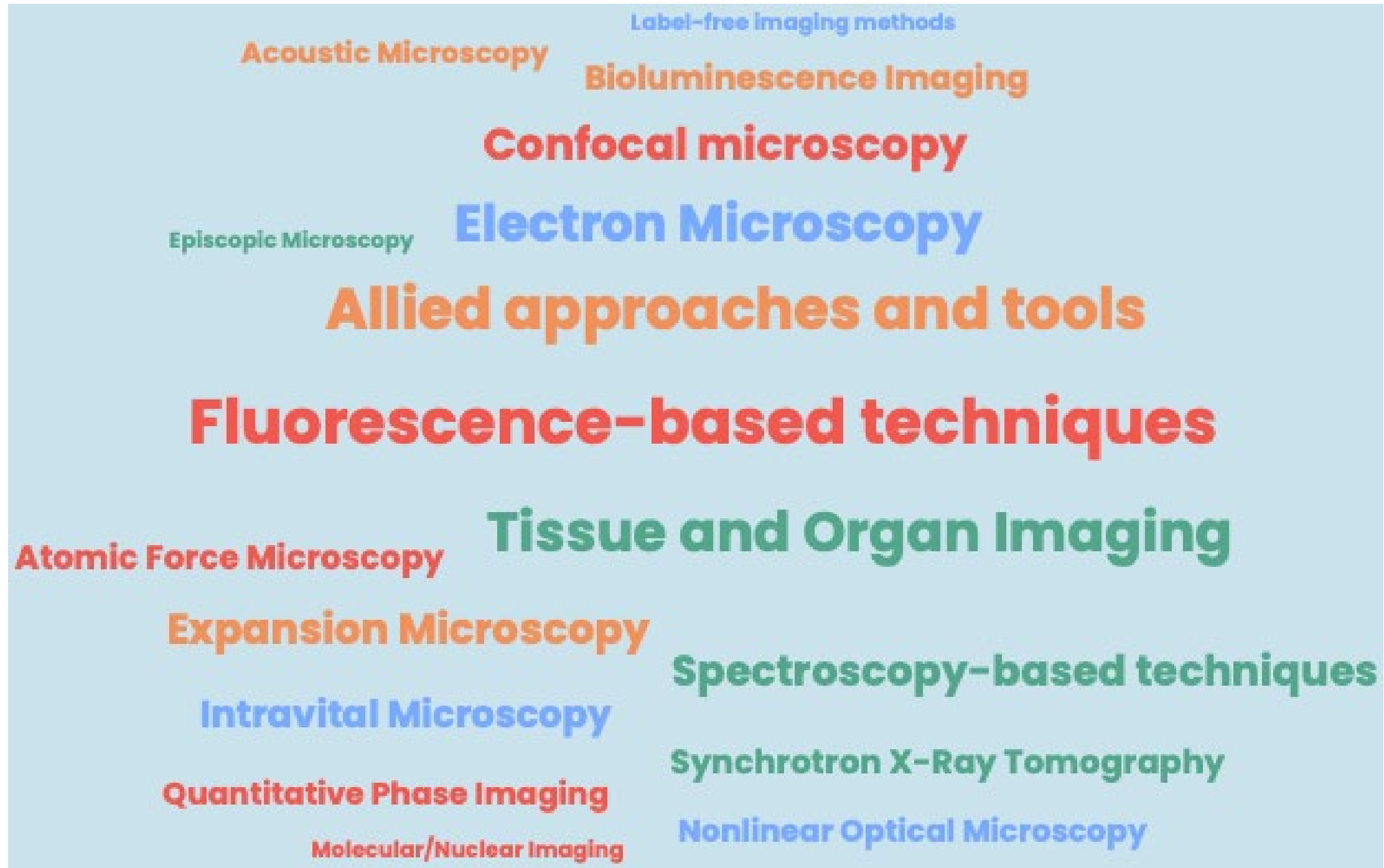
→ 45% women and 24% LMIC respondents

Country type / gender	Scoping interviews	Stakeholder interviews	Total interviews
High-income countries	10	29	39
Males	3	17	20
Females	7	12	19
Low- and middle-income countries	3	9	12
Males	1	7	8
Females	2	2	4
Total	13	38	51



**The most transformative bioimaging
technologies and methodologies**

Most transformative technologies/methods

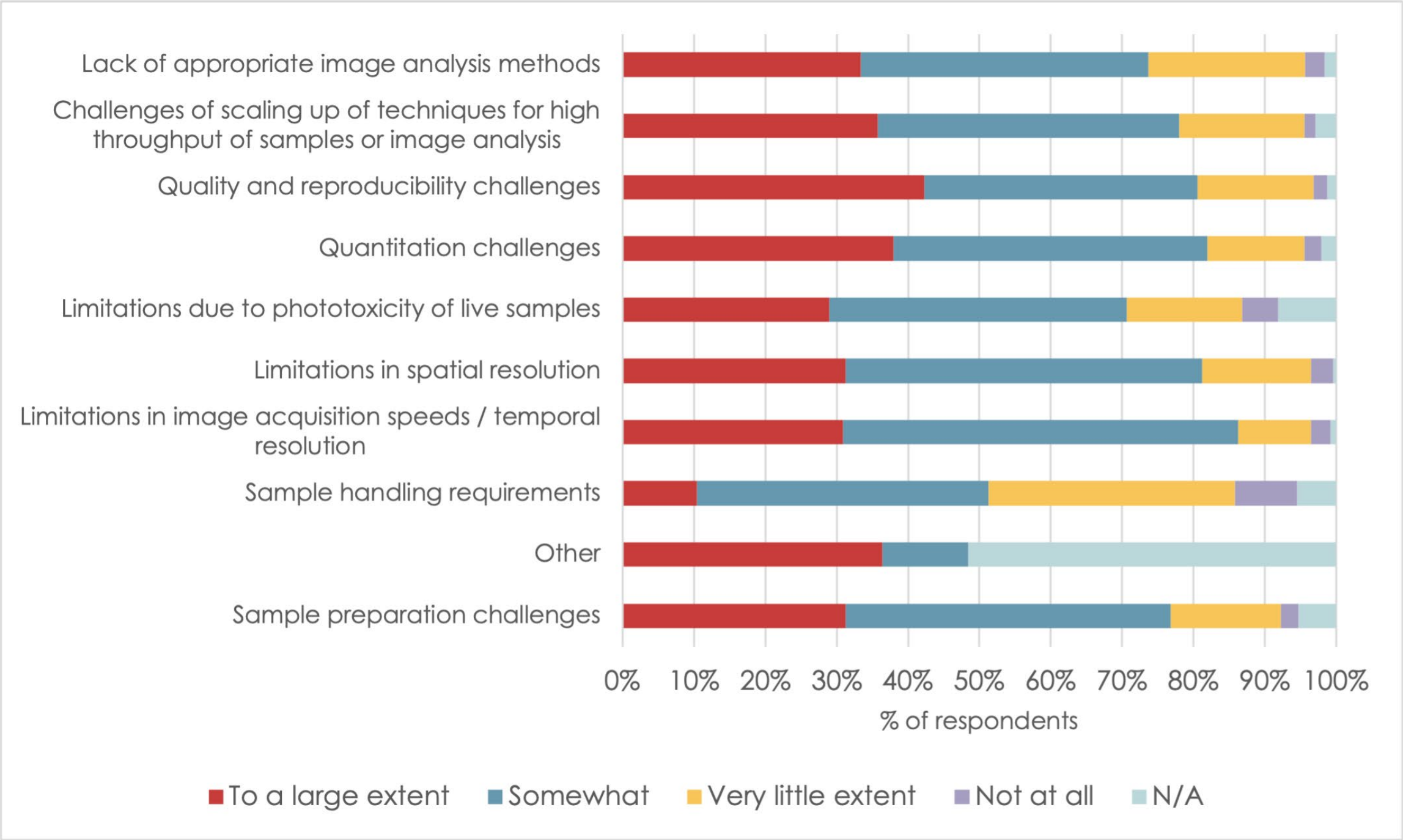




Barriers and challenges limiting progress in the field of bioimaging

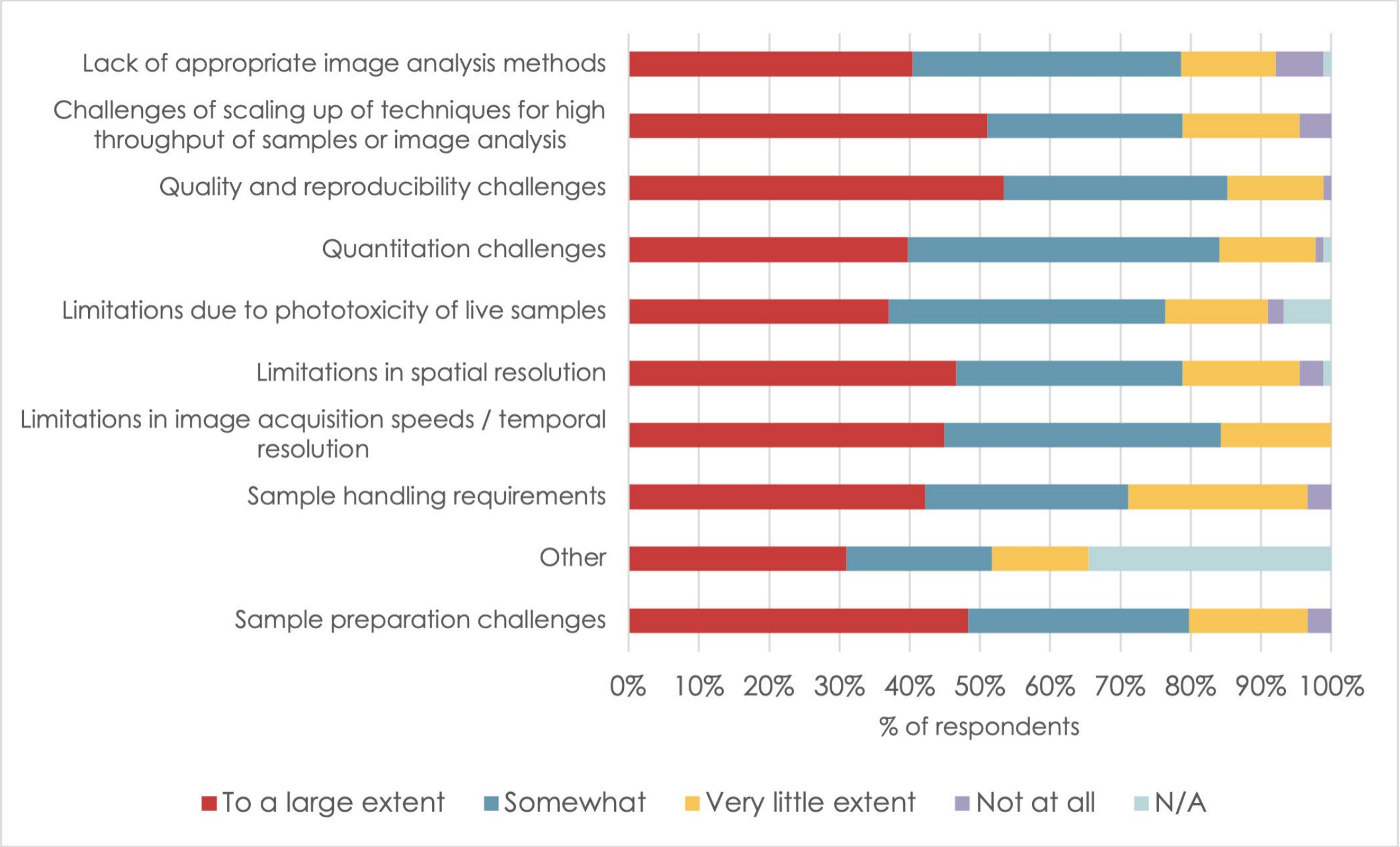
With proposed solutions

Scientific or technological barriers in high-income countries



Survey responses: 261

Scientific or technological barriers in low- and middle-income countries



Survey responses: 91

What are we going to do?

Principles

- Support **novel imaging** tools and technological developments to break deadlocks in specific areas or fields
- **Democratise novel methodologies** if these have the potential to accelerate discovery for large scientific communities (in both HICs and LMICs)
- Consider activities aimed at increasing the capacity of **well-established** methodologies and/or lowering cost/widening access to existing tools and technologies in LMICs if this has the potential to impact large scientific communities

Long-term Outcomes

Detect and follow any biological mechanisms across the scale of life

Bioimaging Data are FAIR and equitable software solutions are available

Equitable access to novel Bioimaging

Activities ready to be funded 2023-2024

Activity 1 – LMIC-focused

Partner with a global consortium to provide support to Bioimaging researches in low-resources settings

(end of 2023)

Activity 2

**Funding call aimed at developing novel bioimaging technologies
(bring together tech dev and tech users)**

**Work in progress –
Launch final quarter of 2023
Applications by first quarter 2024**



Thank you

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