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SUPPLEMENTARY FILE 2: Research priorities on conditions affecting the young person's hip focussing on primary cam morphology and its consequences in athletes mapped against REporting guideline for PRIority Setting of health (REPRISE) framework

Contents

No	Item	Descriptor	Text in write-up and Section
A	**Context and scope**		
1	Define geographical scope	Global, regional, national, city, local area, institutional/organizational level, health service	**Global** **INTRODUCTION** "…an international group of clinicians, athletes, patients, and researchers—representing the **Y**oung **A**thlete's **Hi**p **R**esearch (YAHiR) Collaborative...' **Objective 2**: "…work towards agreement…" **Stage 1: Planning** "Steering committee: The study steering committee included members of the YAHiR Collaborative and aimed for a robust Delphi method and ENHR ranking process. Interpreting 'diversity' as more than representation of certain demographic groups, the steering committee ensured a diverse (e.g., sex/gender, country of residence, profession), informed (knowledgeable about primary cam morphology and its natural history), and representative of previously minoritised groups relevant to this research field (e.g., participants from the Global South, patient and public representatives, and women) international Delphi panel. By prioritising anonymity and access to adequate topic-specific resources, the online Delphi method and ENHR ranking strategy supported a more equitable and inclusive process. (Supplementary File 4: Primary Cam Morphology Delphi Study Steering Committee Terms of Reference)" Table 2 in the manuscript outlines the demographic characteristics of the Delphi and ENHR participants
2	Define health area, field, focus	Disease or condition specific, interventions, healthcare delivery, health system	**Conditions affecting the young person's hip** **INTRODUCTION:** Objective (2) "work towards agreement (and highlight residual disagreements) on a set of research priorities on conditions affecting the young person's hip, focussing primarily on primary cam morphology and its natural history"

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3	Define intended beneficiaries	This may include the general population or a specific population based on demographic (age, gender), clinical (disease, condition), or other characteristics who may benefit from the research	**Athletes, patients, researchers, clinicians and funders** **INTRODUCTION**: "Research partnerships with athletes, patients, researchers and clinicians should agree on a prioritised research agenda for this field." **DISCUSSSION:** "While informing more rigorous, inclusive and evidence-based research, this consensus is a roadmap for researchers, policy makers and funders to implement research dedicated to reducing the cost and burden of hip disease related to primary cam morphology."
4	Define the target audience of the priorities	Policy makers, funders, researchers, industry or others who have the potential to implement the priorities identified	**Policy makers, funders, researchers, clinicians, patients** **ABSTRACT and CONCLUSION:** 'While informing more rigorous, inclusive and evidence-based research, this agreement is a roadmap for researchers, policy makers and funders to implement research dedicated to reducing the cost and burden of hip disease related to primary cam morphology.'
5	Identify the research area	Public health, health services research, clinical research, basic science	**Clinical research** **INTRODUCTION:** "…conditions affecting the young person's hip focussing on primary cam morphology and its natural history."
6	Identify the type of research questions	Etiology, diagnosis, prevention, treatment (interventions), prognosis, health services, psychosocial, behavioral and social science, economic evaluation, implementation; this may not be pre-defined	**Multiple research questions (methodologies)** **Table 2 and Figure 5:** Etiology, diagnosis, prevention, treatment, prognosis, screening of primary cam morphology and its natural history (FAI syndrome and hip Osteoarthritis), and the lived experiences of patients living with these conditions.
7	Define the time frame	Interim, short-term, long-term priorities, plans to revise and update	**Medium- to long-term priorities** **RESULTS**: "The 18 prioritised and ranked research statements (Figure 5), highlighted in green in Table 4, outlined 7 research domains including (1) best practice physiotherapy, (2) rehabilitation progression and return to sport, (3) exercise intervention and load management, (4) primary cam morphology aetiology and prognosis, (5) FAI syndrome aetiology and prognosis, (6) diagnostic criteria, and (7) screening (Supplementary File 9). These are medium- to long-term research priorities."

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B	**Governance and team**		
8	Describe the selection and structure of the leadership and management team	Those responsible for initiating, developing, and guiding the process for priority setting, and examples of structures include; Steering Committee, Advisory Group, Technical Experts	YAHiR Collaborative steering committee **Stage 1: Planning:** "Steering committee: The study steering committee included members of the YAHiR Collaborative and aimed for a robust Delphi method and ENHR ranking process. Interpreting 'diversity' as more than representation of certain demographic groups, the steering committee ensured a diverse (e.g., sex/gender, country of residence, profession), informed (knowledgeable about primary cam morphology and its natural history), and representative of previously minoritised groups relevant to this research field (e.g., participants from the Global South, patient and public representatives, and women) international Delphi panel. By prioritising anonymity and access to adequate topic-specific resources, the online Delphi method and ENHR ranking strategy supported a more equitable and inclusive process. (Supplementary File 4: Primary Cam Morphology Delphi Study Steering Committee Terms of Reference)"
9	Describe the characteristics of the team	Stakeholder group or role, institutional affiliations, country or region, demographics (e.g. age sex), discipline, experience, expertise	**Stage 1: Planning** "Delphi and ENHR ranking panel: We describe in a linked paper (Oxford Delphi consensus study, Part 1 – Figure 3 and Table 1) and Supplementary File 1, how the 'closeness continuum' was adapted and applied to purposively recruit 73 experts for this study" **Table 2**: Demographic characteristics of the Delphi and ENHR participants
10	Describe any training or experience relevant to conducting priority setting	Consultants or advisors, members with experience or skills relevant to the conducting priority-setting e.g. qualitative methods, surveys, facilitation	**Panel information pack and training** **Stage 1: Planning** "Panel information pack and training: All panel members had access from the outset of the project and throughout the Delphi process, to the course material, including recorded presentations, of the first 8 Webinars of the Oxford-Aspetar-La Trobe Young Athlete's Hip Webinar Series (Supplementary File 5). Panel members had full-text access to 5 recent consensus statements, and a summary of their research recommendations (Supplementary File 6). Completion of the webinars and/or reading of the consensus statements was not required."
C	**Framework for priority setting**		

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11	State the framework used (if any)	James Lind Alliance, COHRED, CHNRI, Dialogue Model, no framework (general research priority setting)	**Essential National Health Research (ENHR) strategy** **Study design – Delphi method and Research Priority Setting process** "A two-round Delphi method was used to prioritise the research statements (Domain 5 of the Oxford Consensus Study). We modified the classical Delphi method slightly by replacing an open qualitative first round with a pre-selected list of statements based on a literature review and synthesis of steering group members' knowledge. Three online Microsoft Forms surveys followed to further rank the prioritised statements according to the Council on Health Research for Development (COHRED) Essential National Health Research (ENHR) strategy for research priority setting."

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D		**Stakeholders or participants**	
12	Define the inclusion criteria for stakeholders involved in priority setting	Patients, caregivers, general community, health professionals, researchers, policy makers, nongovernmental organizations, government, industry; specific groups including vulnerable and marginalized populations	**Researchers, clinicians, patients** **Stage 1: Planning** "Delphi and ENHR ranking panel: We describe in a linked paper (Oxford Delphi consensus study, Part 1 – Figure 3 and Table 1) and Supplementary File 1, how the 'closeness continuum' was adapted and applied to purposively recruit 73 experts for this study." "Patient and public involvement (PPI): We involved patient and public partners in the planning, delivery, and dissemination phases of the Oxford consensus through the YAHiR Collaborative's PPI group. The latter group was represented in the Delphi study steering committee. We supplied all members of the PPI group with a glossary, mentored them on definition use and content (during individual and one PPI group online meetings), and invited them to weigh in on each Delphi round as well as the ENHR ranking surveys.[33] They had access to the recordings of the Oxford-Aspetar-La Trobe Young Athlete's Hip Webinar Series, providing a good knowledge base including the current evidence, and issues, allowing an informed assessment. Members of the PPI group lead and actively participated in the mixed stakeholder group discussions following the Delphi rounds (Stage 3 below)."
13	State the strategy or method for identifying and engaging stakeholders	Partnership with organizations, social media, recruitment through hospitals	**Closeness continuum** **Stage 1: Planning** "Delphi and ENHR ranking panel: We describe in a linked paper (Oxford Delphi consensus study, Part 1 – Figure 3 and Table 1) and Supplementary File 1, how the 'closeness continuum' was adapted and applied to purposively recruit 73 experts for this study."
14	Indicate the number of participants and/or organizations involved	Number of individuals and organizations, include number by stakeholder group	**Full details of the number of participants and/or organizations involved is outlined in table 2**
15	Describe the characteristics of stakeholders	Stakeholder group, demographic characteristics, areas of interest and expertise, discipline, affiliations	**Full details of the number of participants and/or organizations involved is outlined in table 2**

16	State if reimbursement for participants was provided	Cash, vouchers, certificates, acknowledgement; what purpose e.g. travel, accommodation, honorarium	**Participants were not reimbursed for eengaing in thee research project** **Stage 1:** Planning: "Participants were not reimbursed."
E	**Identification and collection of research priorities**		
17	Describe methods for collecting initial priorities	Methods e.g. Delphi survey, surveys, nominal group technique, interviews, focus groups, meetings, workshops; prioritization e.g. voting, ranking; mode e.g. face-to-face, online; may be informed by evidence e.g. systematic reviews, reviews of guidelines/other documents, health technology assessment	**Stage 1: Planning** "Statement preparation: The steering committee created an extensive list of statements and conceptual framework of all the potential future research priorities for primary cam morphology and its consequences. We based the initial statement list on a concept analysis of primary cam morphology[5], the early results of a qualitative study to explore stakeholder perspectives on factors contributing to high-quality research on how primary cam morphology develops, the Lisbon Agreement on Femoroacetabular Imaging[22–24], and the research recommendations of recent (since January 2016) consensus recommendations on research in the field.[18–24,35]"
18	Describe methods for collating and categorising priorities	Taxonomy or other framework used to organize, summarise, and aggregate topics or questions	**Stage 1: Planning:** "Members of the Delphi study steering committee independently reviewed the statements, followed by an iterative, asynchronous online process to review, discuss, modify and approve the final statements. The steering committee provided additional descriptive information ("Help Text") where appropriate, and asked stakeholders, including members of the PPI group, to provide feedback on the draft Delphi survey. They examined the survey's face validity (e.g., comprehensibility and acceptability) and refined language, formatting, and layout."
19	Describe methods and reasons for modifying (removing, adding, reframing) priorities	Based on scope, clarity, definition, duplication, other criteria	**Stage 1: Planning** "Members of the Delphi study steering committee independently reviewed the statements, followed by an iterative, asynchronous online process to review, discuss, modify and approve the final statements. The steering committee provided additional descriptive information ("Help Text") where appropriate, and asked stakeholders, including members of the PPI group, to provide feedback on the draft Delphi survey. They examined the survey's face validity (e.g., comprehensibility and acceptability) and refined language, formatting, and layout."

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20	Describe methods for refining or translating priorities into research topics or questions	Reviewed by Steering Committee or project team	**Stage 1: Planning** "Members of the Delphi study steering committee independently reviewed the statements, followed by an iterative, asynchronous online process to review, discuss, modify and approve the final statements. The steering committee provided additional descriptive information ("Help Text") where appropriate, and asked stakeholders, including members of the PPI group, to provide feedback on the draft Delphi survey. They examined the survey's face validity (e.g., comprehensibility and acceptability) and refined language, formatting, and layout."
21	Describe methods for checking whether research questions or topics have been answered	Systematic reviews, evidence mapping, consultation with experts	**Stage 1: Planning** "Members of the Delphi study steering committee independently reviewed the statements, followed by an iterative, asynchronous online process to review, discuss, modify and approve the final statements. The steering committee provided additional descriptive information ("Help Text") where appropriate, and asked stakeholders, including members of the PPI group, to provide feedback on the draft Delphi survey. They examined the survey's face validity (e.g., comprehensibility and acceptability) and refined language, formatting, and layout."
22	Describe number of research questions or topics	Number of priorities at each stage of the process	**Full details are outlined in table 3**
F	**Prioritisation of research topics/questions**		
23	Describe methods and criteria for prioritising research topics or questions	Methods e.g. Delphi survey, surveys, nominal group technique, interviews, focus groups, meetings, workshops; Prioritization e.g. voting, ranking; Mode e.g. face-to-face, online; Criteria e.g. need, feasibility, novelty, equity	**Study design – Delphi method and Research Priority Setting process** "A two-round Delphi method was used to prioritise the research statements (Domain 5 of the Oxford Consensus Study). We modified the classical Delphi method slightly by replacing an open qualitative first round with a pre-selected list of statements based on a literature review and synthesis of steering group members' knowledge. Three online Microsoft Forms surveys followed to further rank the prioritised statements according to the Council on Health Research for Development (COHRED) Essential National Health Research (ENHR) strategy for research priority setting."
24	State the method or threshold for excluding research topics/questions	Thresholds for ranking scores, proportions, votes; other criteria	**Delphi consensus method: table 1** **Stage 1:** Planning "The steering committee agreed on a consensus definition prior to the Delphi rounds (Table 1)." - Table 1

G	Output		
25	State the approach to formulating the research priorities	Area, topic, questions, PICO (population, intervention, comparator, outcome)	The research priorities were formulated and reported in 7 domains
H	**Evaluation and feedback**		
26	Describe how the process of prioritisation was evaluated	Survey, workshop	**Stage 3: Online Interacting Group Process and Research Priority Setting using the ENHR ranking exercise** "Feedback: Following the ENHR ranking exercise, panellists were able to attend one of six optional, time-zone friendly online feedback-and-discuss-meetings."
27	Describe how priorities were fed back to stakeholders and/or the public, and how feedback (if received) was addressed and integrated	Public meetings or workshop, newsletters, website, email, online presentations	**Stage 3: Online Interacting Group Process and Research Priority Setting using the ENHR ranking exercise** "Interacting Group Process - online mixed stakeholder group discussion meetings: Facilitated by Delphi steering committee and PPI group members, Delphi panellists discussed all discordant items as well as areas of tension and dissent, during two online mixed stakeholder group meetings, based on the Interacting Group Process. The second meeting, reported in this paper, discussed research statements prioritised after the two Delphi rounds. The first meeting discussed the Delphi round results for the first 4 domains: definitions, terminology, taxonomy and imaging outcomes (Oxford Delphi consensus study, Part 1). To create a safe space for panellists to share their views, the steering committee facilitated discussions in small zoom breakout rooms that were not recorded. Group leads documented the discussions in a field diary, and maintained speaker anonymity." "Feedback: Following the ENHR ranking exercise, panellists were able to attend one of six optional, time-zone friendly online feedback-and-discuss-meetings."
I	**Implementation**		
28	Outline the strategy or action plans for implementing priorities	Communication with target audience, via policies and funding	Webinar Series, and YAHiR Collaborative Symposium and Research Meeting **Dissemination and implementation:** "To fulfil Objective 3 of the Oxford Delphi consensus, we applied the revised Bloom's taxonomy[37] (Figure 3) to develop two education events aimed at early dissemination and implementation: Oxford-Aspetar-La Trobe Young Athlete's Hip Webinar Series (Supplementary File 5),

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			and YAHiR Collaborative's Young Athlete's Hip Symposium and Research Meeting (22-23 September 2022 at Worcester College in Oxford – Supplementary File 13). The revised Bloom's taxonomy, a tool to create education that encourages critical thinking, emphasises verbs—the basis of the cognitive process.[37]"
29	Describe plans, strategies, or suggestions to evaluate impact	Integration in decision-making, funding allocation, review of relevant documents	**Dissemination and implementation** "The YAHiR Research Meeting on 23 September 2022 discussed plans and strategies to implement and evaluate the impact of the prioritised research agenda."
J	**Funding and conflict of interest**		
30	State sources of funding	Name sources of funding for the priority-setting exercise; if relevant include the budget and/or cost	**Acknowledgement and funding:** The lead author received a Kellogg College, Oxford Research Support Grant to the value of £1000
31	Declare any conflicts or competing interests	State any conflicts of interest that may be at an individual level and/or at a contextual level (e.g. political issues, controversies) that may affect the process, output or implementation	**Full details outlined in the competing interests section**