

**Supplementary file 6: Prioritization Criteria Matching**

<b>Study</b>	<b>Authors' prioritization criteria</b>	<b>Prioritization criteria reclassification</b>
Cowan and Oliver, 2013 [1]	1. Whether uncertainties have been submitted by both clinicians and patients	Interest of topic to health professionals Interest of topic to consumers
	2. Whether the issue raised reflects what Steering Group members know to be the concerns of groups which are under-represented among the survey respondents	Equity consideration related to the problem
	3. Whether the uncertainty has been commonly expressed in other fora, such as patient helpline services	Interest of topic to consumers
	4. Prevalence of treatment uncertainties – high prevalence = higher priority	Health burden
	5. Whether uncertainties submitted by clinicians and/or patients overlap with those from research recommendations	Availability of research on topic
Hacking and Cleary, 2016 [2]	6. DALYs per person	Health burden
	7. Absolute burden of disease	Health burden
	8. 'Cost per patient treated' to calculate the 'avertable with improved efficiency.'	Expected impact of applying evidence on economic outcomes
Ghaffar 2009, 2009 [3, 4]	9. Disease burden: The disease burden is measured as years of healthy life lost due to premature mortality, morbidity or disability. Summary measures, such as the disability adjusted life years (DALY), can be used to measure the magnitude.	Health burden
	10. Current level of knowledge: The current knowledge base available is assessed to help solve the health problem and evaluate the applicability of	Availability of research on topic

	<p>solutions, including the cost and the effectiveness of existing interventions</p> <p>The third component is about assessing the present knowledge available to help solve the health problem and evaluate the applicability of solutions, including the costs and the effectiveness of existing interventions</p>	
	<p>11. Individual, household and community: in the CAM, this column reviews elements which are relevant to the reduction of disease burden and can be modified at the individual, family or community level. This includes relevant interventions improving primary care, prevention and education.</p> <p>This column of the matrix reviews available information/evidence relating to interventions for identified problems that can be implemented at different levels, for example by the individual, family/household or community</p>	<p>Interest of topic to patients/consumers</p> <p>Community engagement</p> <p>Health burden</p>
	<p>12. Resource flows: The current level of investment on research for the specific disease and/or determinant is calculated.</p> <p>Component E consists of calculating the present level of investments in research for the health problem that is being considered. This will reveal the sources and amount of research funds that are being allocated to the specific problem and give a clear sense of whether the problem</p>	<p>Availability of resources</p>

	is a high priority on the country's research agenda.	
	13. Predicted cost and effectiveness of new interventions: The promise of the research and development effort is assessed, against other potential interventions, and it is to be examined if future research developments would reduce costs, thus allowing interventions to be compared and applied to wider population segments.	Expected impact of applying evidence on economic outcomes
	14. Macroeconomic policies: this column in the matrix focuses on elements at the central government level or those outside the country which can have a role in the control of diseases or conditions.	Interest of the topic to national stakeholders  Interest of the topic to global stakeholders
	15. Causes (determinants) of the health problem; Determinants of the disease  The second component consists of analysing the factors that are responsible for the persistence of the health problem, such as a lack of knowledge about the condition or disease, insufficient coping mechanisms, poor policies and programmes, weak institutions or factors outside the health domain.	Determinants of problem
	16. The equity dimension of the combined approach matrix facilitates comparison of different social groups in relation to particular health-related or health systems related problems. Social groups can be defined on the basis of gender, income level, race or ethnicity, religion or sexual orientation, depending	Expected impact of applying evidence on equity  Equity considerations

	on the context. The equity dimension takes into account the issues, concerns and biases which are not effectively addressed in the institutional and public health dimensions but are critical to the process of priority-setting in health research resulting in effective interventions carried out by appropriate sectors	
Lomas 2003[5]	17. The issue is likely to be a high priority for at least three to five years.	Urgency
	18. There is not a large stock of existing relevant research in the area.	Availability of research on topic
	19. The research capacity exists to respond with high-quality research on this issue.	Research capacity
	20. The research would have potentially high impact relative to its costs.	Expected impact of applying evidence on economic outcomes
	21. Decision makers would be able to use research results on this issue.	Applicability/utilization of research
	22. The issue is amenable to a significant number of feasible and generalizable research questions.	Topic amenability to research
	23. Decision makers are receptive to research on this issue.	Political will
Okello 2000, Lansang 1997 [6, 7]	24. Magnitude of the problem	Health burden
	25. Persistence of the problem	Health burden
	26. Relevance (how relevant is the research topic to the health needs of the community?)	Interest of topic to consumers
	27. Equity focus	Expected impact of applying evidence on equity
	28. Ethical and moral issues	Ethical, human rights & moral obligations
	29. Human rights issues (is there a possibility that this research topic violates any human rights issue?)	Ethical, human rights & moral obligations
	30. Urgency	Urgency

	31. Adequacy and usefulness of the current knowledge base (avoiding duplication)	Availability of research on topic Usefulness of available research on topic
	32. Capacity of the system to carry out the research (How adequate is the capacity of the system to undertake the research in terms of competency, infrastructure, support system, mechanisms and resources?)	Research capacity
	33. Research capacity development;	Research capacity
	34. Research utilization (What are the chances of the outcome recommendations being implemented and the project being sustained?)	Applicability / utilization of research Sustainability
	35. Applicability of the research outcome	Applicability / utilization of research
	36. Community concern/demand	Interest of topic to consumers
	37. Obligation and professional responsibility (Are there any societal obligations and professional responsibilities for this problem)	Interest of topic to health professionals
	38. Partnership building (what is the probability that partners from various disciplines or sectors will collaborate to undertake the research)?	Research capacity
	39. Political will/acceptability /commitment	Political will
	40. Responsiveness to the National Health policy or national goals	Interest of topic to national stakeholders
	41. Availability of cost-effective interventions	Expected impact of applying evidence on economic outcomes
	42. Operational effectiveness: How workable is the planned operation/management of the research?	Research capacity
	43. Justification of the cost investment: How justifiable is the cost of running this research project?	Availability of resources
	44. Justification of time: How justifiable is it to spend this	Availability of resources

	amount of time on this research project?	
	45. Legal aspects: Is there a chance that a component of the research topic is illegal in the country?	Ethical, human rights & moral obligations
	46. Funding support	Availability of resources
	47. Impact on health	Expected impact of applying evidence on health outcomes
	48. Environmental health and sociopolitical effects	Expected impact of applying evidence on development & broader society
	49. Impact on development	Expected impact of applying evidence on development & broader society
	50. Economic impact (Will the planned research topic provide significantly more cost-effective interventions compared to the existing ones?)	Expected impact of applying evidence on economic outcomes
	51. Feasibility (How feasible is the planned research, considering available resources?)	Availability of resources
National Institutes of Health, 2001[8]	52. Economic issues, including the potential effects of the research on quality of life.	Expected impact of applying evidence on health outcomes Expected impact of applying evidence on economic outcomes
	53. Number of individuals affected	Health burden
	54. Number of deaths caused by a disease	Health burden
	55. Degree of disability produced by a disease	Health burden
	56. Economic and social costs of a disease	Economic burden Equity concerns
	57. The need to act rapidly to control the spread of a disease,	Urgency
	58. Gaps in knowledge that merit special effort	Availability of research on topic Usefulness of available research on topic Affordability

	59. Capitalizing on scientific opportunities, The balance between intramural and extramural research, The balance among laboratory research, clinical research, and epidemiological research	Availability of research on topic  Interest of the topic to health professionals
	60. The cost of specific research projects and their benefits,	Expected impact of applying evidence on economic outcomes
	61. The specific type of funding to use for various research areas, for example, selecting among grants, contracts, and support of centers	Availability of resources
	62. The potential impact of particular research areas on human health and quality of life,	Expected impact of applying evidence on health outcomes
World Health Organization, 1996 [9]	63. How big is the health problem? Disease burden potentially addressed	Health burden
	64. Is enough known about the problem now to consider interventions?	Availability of research on topic
	65. Adequacy of the current level of effort (how much are investors worldwide currently allocating to R&D on this problem) assess the current level of effort	Interest of topic to regional/global stakeholders
	66. How cost-effective will these interventions be? Can they be developed soon and for a reasonable outlay? cost-effectiveness of currently available alternative interventions	Expected impact of applying evidence on economic outcomes
	67. Judged success probabilities of the effort	Expected impact of applying evidence on health outcomes
Berra 2010[10]	68. Prevalence of the condition or health problem (or use of service)	Health burden
	69. Burden and importance of the illness	Health burden
	70. Cost of services to manage the condition	Economic burden of health problem

	71. Potential to translate new knowledge into clinical or health services practice	Applicability / utilization of research
	72. Financial opportunity	Availability of resources
	73. Variation in use of the service	Variation in practice
	74. Need for knowledge about the problem	Availability of research on topic
	75. Political interest	Political will
	76. Potential to change health outcomes	Expected impact of applying evidence on health outcomes
	77. Potential to inform ethical, legal, or social issues	Ethical, human rights & moral considerations
	78. Potential to change costs	Expected impact of applying evidence on economic outcomes
Carson 2000 [11]	79. Does the research address a new (under-researched) topic or tackle an old topic in a new way?	Availability of research on topic
	80. Does the research incorporate a process for defining and conceptualizing the problem	Health burden Topic amenability to research
	81. Does the research focus on the issue of inequalities, health life-stages; settings/contexts outcome differentials between population groups, life-stages, settings or contexts?	Equity consideration
	82. Does the research address the question of dissemination and implementation of research-based knowledge	Applicability / utilization of research
	83. Does the research aim to increase knowledge about the 'importance' or burden of the problem (is the problem regarded as a 'high importance' public health or health services issue)?	Health burden
	84. Does the research examine the causes of a health problem?	Determinants of problem
	85. Does the research study solutions to the problem? intervention; solution; strategy; efficacy;	Expected impact of applying evidence on health outcomes

	effectiveness; cost-benefit; cost-effectiveness; cost-utility; prevention; disease management; treatment; quality of care;	Expected impact of applying evidence on economic outcomes
Chang 2012 [12]	86. Appropriateness, importance: Systematic review questions are preselected as appropriate and important for patient-centered research	Interest of topic to patients/consumers  Expected impact of applying evidence on patient experience of care
	87. Potential value (probable impact on health)	Expected impact of applying evidence on health outcomes
	88. Desirability for new research or duplication (Identification of ongoing research may reduce urgency of evidence gaps)	Availability of research on topic
	89. Feasibility (feasibility of conducting the research, including the ability of the research to be conducted, capacity, burden, or costs)	Research capacity  Availability of resources
Chapman 2013 [13]	90. Magnitude	Health burden
	91. Urgency	Urgency
	92. Feasibility	Research capacity  Availability of resources
	93. Potential to maximize the reduction of maternal mortality and morbidity,	Expected impact of applying evidence on health outcomes
	94. Future impact (on maternal health research)	Potential to change conclusions/advance research
Dubois 2011 [14]	95. The incidence, prevalence, and burden of illness	Health burden
	96. Clinical burden of illness	Health burden
	97. Cost (per patient, in aggregate)	Economic burden
	98. Addresses special population	Equity considerations
	99. Time frame to complete research	Urgency
	100. Current level of evidence gaps	Availability of research on topic
	101. Current variation in care/outcomes	Variation in practice

	102. Cost to conduct research	Availability of resources
	103. Likelihood that research will influence care	Expected impact of applying evidence on health policy and practice
	104. Likelihood that others would fund research	Availability of resources
	105. Likelihood of research success	Applicability / utilization of research
Rudan 2008 [15]	106. Ethical aspects? (some health research options will be more likely to raise ethical concerns than the others)	Ethical, human rights & moral considerations
	107. Novelty? (some health research options will be more likely to generate truly novel and non-existing knowledge)	Availability of research on topic
	108. Answerability (some health research options will be more likely to be answerable than the others)	Topic amenability to research
	109. Attractiveness? (some health research options will be more likely to lead to publications in high-impact journals)	Research capacity
	110. Potential for translation? (some health research options will be more likely to generate knowledge that will be translated into health intervention)	Applicability / utilization of research
	111. Community involvement? (some health research options will have more additional positive side-effects through community involvement)	Health burden Community engagement
	112. Public opinion? (some health research options will seem more justified and acceptable to general public than the others)	Interest of topic to consumers
	113. Affordability? (the translation or implementation of knowledge generated)	Availability of resources

	through some health research options will not be affordable within the context)	
	114. Cost and feasibility? (all other criteria being equal, some research options will still require more funding than the others and thus be less feasible investments)	Availability of resources
	115. Deliverability (some health research options will lead to/impact health interventions that will not be deliverable within the context)	Applicability / utilization of research
	116. Effectiveness? (some health research options will be more likely to generate/improve truly effective health interventions)	Expected impact of applying evidence on health policy and practice
	117. Maximum potential impact on burden? (some health research options will have a theoretical potential to reduce much larger portions of the existing disease burden than the others)	Expected impact of applying evidence on health outcomes
	118. Equity? (some health research options will lead to health interventions that will only be accessible to the privileged in the society/ context, thus increasing inequity)	Expected impact of applying evidence on equity
	119. Likelihood of generating patents/lucrative products? (some research options will have greater likelihood of generating patents or other potentially lucrative products, thus promising greater financial return on investments, regardless of their impact on disease burden)	Expected impact of applying evidence on economic outcomes
Somanadhan, 2020 [16]	120. Importance to patients and healthcare providers	Interest of the topic to health professionals;

		Interest of the topic to patients/consumers
	121. Feasible	Availability of resources
Viergever 2010 [17]	122. The magnitude of a health problem	Health burden
	123. Local research capacity	Research capacity
	124. Cost-effectiveness	Expected impact of applying evidence on economic outcomes
	125. Likelihood of reducing disease burden,	Expected impact of applying evidence on health outcomes
	126. Present level of knowledge,	Availability of research on topic
	127. Degree of equitability	Expected impact of applying evidence on equity
	128. Ethical aspects;	Ethical, human rights & moral considerations
	129. Sustainability	Sustainability
	130. Current resource flows	Availability of resources
Wald 2014 [18]	131. Patient-centeredness	Expected impact of applying evidence on patient experience of care  Interest of topic to patients/consumers
	132. Durability of information	Sustainability
	133. Ease of implementation (the likelihood that the findings can be implemented)	Applicability / utilization of research
	134. impact on clinical decision-making (e.g. the research reduces uncertainty in making treatment decisions or provides new information about the balance of benefits versus harms),	Expected impact of applying evidence on health policy and practice
	135. Size of the impacted patient population	Health burden

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