Online supplementary document (Provided by authors)

Table w1. The CHNRI methodology for setting priorities in health research investments.

STAGE 1: Defining the context and criteria for priority setting

Specifying the context a priori is a critical part of the CHNRI process, because priority scores for many research investment options may change substantially according to different contexts. The context for this exercise was defined to address research investment priorities that could assist in achieving UN's MDG4. This is a goal on which global consensus has been reached and wide political commitment has been made.

The context was specified by the WHO Child and Adolescent Health as follows:

• Burden of disease of interest: deaths from preterm birth and low birth weight (PB/LBW);
• Population of interest: children under 5 years of age in all developing countries, where nearly all cases of PB/LBW deaths occur;
• Existing policy/target: reduction of PB/LBW mortality by two thirds by 2015 (in order to contribute to the achievement of the UN's MDG4)
• Level of urgency: high (because the goal is not being achieved)
• Time frame: to achieve detectable improvement in the rate of PB/LBW mortality reduction by 2015 or soon thereafter;

STAGE 2: Choice of technical experts, systematic listing and scoring of research investment options

The co-ordinators of the project for WHO Child and Adolescent Health (RB and JM) invited a group of 21 international technical experts with interest in PB/LBW research to participate in the CHNRI process. The selection of experts was based primarily on their track record of conducting research of high quality for many years on the topic of PB/LBW in low and middle income countries. Every effort was made to invite a mix of people with different backgrounds (clinicians, epidemiologists, public health experts, program leaders and basic scientists) and from different countries (both developed and developing ones), so that the mix contains a diversity of views from the wider research community. Every expert scored only 2 criteria of his greatest expertise, which led to each research question being assessed independently by 16 different experts who accepted participation in the scoring. This limited the potential impact of any single expert on overall research priority scores.

The first task of the technical experts was to propose a large spectrum of research questions in a systematic way, according to the CHNRI framework for listing research questions (**Table w2**). The conceptual framework for this process was described in detail elsewhere [7,8]. The co-ordinators from WHO collected all the proposed ideas from each of the experts independently by e-mail. The process was open-ended and it initially yielded 82 research questions from 21 experts. Then the list of research questions was consolidated and worded to make the new knowledge, that was proposed to be generated, apparent to all the scorers. In producing this list, the co-ordinators limited the overlap between proposed ideas and ensured that the research questions were phrased in a way that would make the CHNRI scoring process applicable to each research question. We feel that the final list of 82 questions covers the wide spectrum of all possible questions.

The second task of the experts was to score all research questions independently, according to the five agreed criteria. For each of the 82 research questions and each criterion, each of the 16 experts who agreed to take part in this step answered three questions targeted to assess the likelihood of the proposed research to comply with the priority-setting criterion (see **Table 2**). This task was completed by all 16 participating experts, each one choosing 2 criteria closest to his/her expertise. The entire process was conducted and completed via e-mail between October 2007 and June 2008. Further information on

methods related to this part of the priority-setting process were presented elsewhere in greater details [7,8].

STAGE 3: Community involvement - input from larger group of stakeholders

CHNRI methodology ensures community involvement through incorporating the opinions and values from a broader group of stakeholders (e.g. expected recipients of the research, taxpayers who fund health research, health workers, journalists and media, experts in ethics, law, political science, etc.) [16]. Stakeholders lack expertise to directly decide research priorities, but their opinions and values can still be incorporated by weighing the chosen priority-setting criteria according to their perceived importance. In three separate exercises that took place between March and June 2006, CHNRI consultants interviewed three different groups of stakeholders [16]. We decided to use weights provided by the group of stakeholders most appropriate to this exercise (members of an international priority setting network co-ordinated from the University of Toronto) to compute the overall priority score for each of the 82 research options. More detailed explanations on the rationale and methods for including stakeholders' opinions in the process are presented elsewhere [16].

STAGE 4: Computation of "research priority scores"

All the experts answered the questions listed in **Table 1** by 'Yes' (1 point) or 'No' (0 points). They were also allowed to declare an informed but undecided answer (0.5 points) or declare themselves insufficiently informed to answer the question (missing input). Thus, the proposed research questions got a score for each of the five criteria as "the proportion of maximum possible points scored when an answer was given" (i.e., excluding the missing input). They represent a direct measure of collective optimism of the scorers. Each of the 82 listed research questions received five intermediate scores (each ranging between 0-100%), which were then multiplied by 100 and weighted according to the input from the stakeholders. The weights were applied as follows: a weight of 1.75 was given to the criterion "maximum potential for disease burden reduction"; 0.96 to "answerability in an ethical way"; 0.91 to "predicted effect on equity in the population"; 0.89 to "deliverability, affordability and sustainability"; and 0.86 to the criterion "potential contribution to effectiveness" [8,16]. The overall research priority score (RPS) was then computed as the weighted mean of all five intermediate priority scores. The exact scores given to all 82 research questions from individual experts are presented in **supplementary Table w2**. The final list of priorities with intermediate and final priority scores for all 82 proposed research questions is presented in **supplementary Table w3**.

Assessment of agreement between scorers

CHNRI methodology has the ability to expose the issues of the greatest agreement and controversy. This allows more focused discussion among experts following this exercise, and informs the investors and policy makers about the amount of controversy that surrounds each research question. The datasets that CHNRI methodology produces are not appropriate for application of the usual Kappa agreement statistics, which has been discussed in detail elsewhere [8].

For each evaluated research investment option, average expert agreement (AEA) is informing us, for an average question, what proportion of scorers gave the same most frequent answer. This parameter satisfactorily accounts for missing answers, is unaffected by responses of 'undecided', and is also unaffected by the varying number of scorers per criterion and differences in scorer composition for the different criteria. In AEA computation, all 4 possible responses ("Yes", "No", "Neither" and "Don't know") are treated as a valid response. Therefore, missing values ("Don't know") are also treated as a possible response. If the substantial proportion of the experts say that they "Don't know" the answer, AEA will reflect this and reduce the level of overall agreement, rather than increase it.

Advantages and limitations of the CHNRI methodology

The applied CHNRI methodology proved to be helpful to systematically list and score a very large number of specific research questions, as shown recently in exercises conducted at national level in South Africa, and at global level for mental health research issues, zinc deficiency, childhood pneumonia, childhood diarrhoea, neonatal infections, primary health care, disability groups, etc. (see http://www.chnri.org/publications.php). Other advantages of the CHNRI process include its systematic nature, transparency, well defined (a priori) context and criteria chosen for discriminating between research investment options, a highly structured way in which relevant information is obtained from the scorers, independent scoring that limits influence of strong-minded individuals on the rest of the scorers, its informative and intuitive quantitative outputs and ability to expose points of greatest agreement and controversy.

Still, the methodology is not free of several possible biases. Although the advantages mentioned above represent a serious attempt to deal with many issues inherent to a highly complex process of research investment priority setting, there are still concerns over the validity of the CHNRI approach and related biases. One of them is related to the fact many possible good ideas ("research investment options") may not have been included in the initial list of research options that was scored by the experts, and to the potential bias towards items that get the greatest press. The spectrum of research investment options listed initially in this exercise was derived through a systematic process, but it is not endless and it cannot ever cover every single research idea. Specific research methodologies (i.e. randomized clinical trials, etc.) are not mentioned because the research questions listed in that exercise are unlikely to be answered by a single well-defined study. Therefore, the CHNRI process aims to achieve reasonable coverage of the spectrum of possible ideas. After the completion of the exercise, approximate scores and ranks for some specific research questions that are missing in the initial systematic list could still be estimated – either by relating them to the most similar questions on the list or by having those missed questions scored by a single expert (or by a group), using the CHNRI framework and then comparing the computed score to all other scores received for the originally listed research options.

Another concern over the CHNRI process is that its end product represents a possibly biased opinion of a very limited group of involved people. In theory, a chosen group of experts can have biased views in comparison to any other potential groups of experts. However, the number of people globally who possess enough experience, expertise and knowledge on the topic (in this case, PB/LBW) to be able to judge a very diverse spectrum of research questions is rather limited (although certainly much larger than the group that we eventually selected). If one thinks of this "global pool of technical experts" as the whole population that could theoretically be used to solicit expert opinion on the questions that need to be asked, we then selected a "sample" from that population, based on their track record in research on PB/LBW. Given that the "sample" of the experts chosen for this exercise was one of the largest and the most diverse to conduct a CHNRI exercise to date, while the number of experts in this neglected health problem globally is not large, we doubt that there would be considerable differences in the composition of the initial list of questions (or results of the scoring process) if some other group of experts had been selected.

Obviously, CHNRI methodology is not free of bias that results from the choice of the experts, and different groups of experts may indeed have quite different opinions. However, the larger and more diverse the group of chosen experts, the less likely is that the results of their scoring would significantly deviate from the output of any other large and diverse expert group, chosen from a limited "pool of global technical experts on PB/LBW".

Validation of CHNRI methodology

CHNRI methodology combines two ideas:

(i) "Principal component analysis" - a statistical technique which reduces a very complex system of large number of variables to a small number of relatively independent "principal components" which still capture a sizeable proportion of variation in the system. By defining a set of 5 "criteria", CHNRI process effectively reduces a notoriously complex and multi-dimensional task of priority setting, which

could be approached through an almost infinite number of “lenses”, into an exercise where the 5 most important (and reasonably independent) criteria for priority setting are clearly defined. They can even be weighted afterwards, in order of their importance to the users.

(ii) “Wisdom of the crowds” – this refers to the process of taking into account the collective opinion of a group of individuals rather than a single expert (or small number of experts) to answer a question, because it has been shown that the average of collective guesses are nearly always closer to the truth than any expert judgement. The pre-requisites for this process to work are: (i) Diversity of opinion (each person should have private information even if it's just an eccentric interpretation of the known facts); (ii) Independence (people's opinions aren't determined by the opinions of those around them); (iii) Decentralization (people are able to specialize and draw on local knowledge); and (iv) Aggregation (some mechanism exists for turning private judgments into a collective decision – in this case, the CHNRI method).

The validation of CHNRI method based on the exercises conducted to date showed: (i) extraordinary stability (correlation coefficients of over 90%) of scores given to same questions by the same experts in different points in time; (ii) almost identical scores of the same question scored by a larger group multiple times (score always falls within +1.7 points on a scale 0-100); and (iii) Monte Carlo simulations in random sub-samples of the larger group of scorers showed that the probability that the outcomes of the exercise could be substantially different if another group of experts conducted the scoring becomes incredibly small as soon as each criterion is scored by more than 17-23 rational persons with some knowledge of the problem; (iv) change of the context of the exercise leads the same group of experts to assign significantly different scores to the same research questions (Rudan I et al., personal communication).

In this paper, we used 16 technical experts to score each criterion. Thus, given the well-defined context for this CHNRI exercise and a set of simple YES/NO questions, it is entirely improbable that any other group of rational individuals with some knowledge of the problem, regardless of their background or selection, would ever reach dramatically different conclusions than our group did.

Although this may seem counter-intuitive to some critics, this is the basic property of the „wisdom of crowds“ phenomenon (for more details please see an excellent book by James Surowiecki: The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, Societies and Nations), which CHNRI uses as its fundamental principle. Once that each individual gets a right to express judgement that is treated equally as the judgement of any other individual, then the personal biases that those individuals bring into the process tend to cancel and dilute each other regardless who the participants are. What is left is the information based on accumulated knowledge, lifetime experience and common sense of those who took part – which is the result of the CHNRI process.

In comparison to other methods for setting priorities, in “expert panel”-type processes one very loud vote has a potential to heavily bias the process, resulting in shameful inequity and snowballing support for some issues at the expense of the others, a situation which we are observing today. We recently conducted Delphi and CHNRI exercises in parallel to compare them. This happened during the large GAPPS meeting (“Global action plan for prematurity and stillbirth”) sponsored by The Gates Foundation. Nine working groups were defining priorities using Delphi-type process, while three working groups were using CHNRI method. At the end of the conference, the rapporteurs from Delphi groups realized that it is simply not possible to have a discussion on all possible research options and keep in mind all their pros and cons all the time. Eventually, the group leaders ended up forwarding the ideas that they originally brought to the table and gained support for them from the rest of the group. In CHNRI groups, however, a process highlighted pros and cons of many competing ideas. More importantly, after the scoring was conducted, the top priorities were often surprising to the group - because they were frequently the issues which have not been discussed at all, and no-one had expertise in them.

Table w2. Scores assigned to research ideas by the participants in the exercise.

RESEARCH INSTRUMENT	RESEARCH AVENUE	RESEARCH OPTION	RESEARCH QUESTION	RESEARCH QUESTION #
Basic epidemiological research	Measuring the burden of LBW	Incidence of LBW and relative contribution of prematurity and growth retardation	Sentinel sites for population-based ascertainment of all live and stillbirths, and their birth weights and gestational ages (from 24 weeks gestation) in various regions.	1
		Contribution of LBW to neonatal mortality	Population-based estimates of the contribution of LBW (overall, preterm, and SGA) to neonatal mortality as primary or contributory cause at global and regional levels	2
			Population studies to determine mortality associated with preterm birth at gestations 24-28 weeks, 28-32 weeks and 32-36 weeks using verbal autopsy, and the time of death (first day, first week, first month, post-neonatal period)	3
			Develop mathematical models for asessing relative contribution of LBW amongst multiple and competing causes of death	4
	Understanding risk factors	Contribution of maternal factors (other than infection and nutrition) to causation of LBW	Contribution of adolescent pregnancy and short birth intervals to causation of preterm birth and intrauterine growth restriction	5
			Determine the degree to which second-hand smoke contributes to LBW among non-smoking women	6
			Contribution of psychosocial and physical stress (manual labour) to preterm birth and intrauterine growth retardation	7
		Influence of maternal infections on incidence of preterm birth	Incidence of intrauterine infection (chorioamnionitis) in resource poor communities and its influence on preterm birth	8
			Incidence of bacterial vaginosis in resource poor communities and its influence on preterm birth	9
			Incidence of chronic gingivitis or other chronic infective processes in the mother on preterm birth	10
		Influence of maternal nutritional status on incidence of LBW	Relationships between maternal height, weight (BMI) and birthweight in populations subject to nutritional stunting	11
			Prevalence of hypovitaminosis D in pregnancy and its contribution to LBW at term	12
			Identify risk factors for "eating down" in areas where gestational weight gain is low	13
	Functional outcomes in LBW infants	Relationship of early growth in LBW infants with functional outcomes during infancy, childhood and adult life	Correlation of early growth rate (linear and ponderal) with infant mortality risk and neurological outcome in preterm infants fed breastmilk	14
			Identification of minimum weight gain cutoff for intervention in breastmilk fed preterm infants	15
			Identification of minimum weight gain cutoff for intervention in breast milk fed SGA infants	16
			Contribution of preterm birth and intrauterine growth retardation to stunting in childhood (increased risk of LBW in next generation of girls subjected to stunting)	17
		Determinants of functional outcomes in LBW infants	Relationship of the home environment and neurocognitive development of LBW infants	18
			Relationship of sleeping arrangements and infections with SIDS in LBW infants	19
			Prevalence of zinc deficiency in preterm infants (particularly those of <32 weeks gestation) fed on unsupplemented breastmilk	20
			Relationship between late anaemia and infant mortality	21
			Risk factors for lactational failure in LBW infants	22
Health Policy and Systems Research	Improved delivery of existing interventions for care of LBW infants	Early identification and selection of LBW infants for provision of additional care	Approaches to increase the proportion of LBW infants who receive additional care before discharge among those born in a hospital	23
			Idenfication of LBW infants within 24-48 hours of birth for additional care among among those born at home	24
			Identification and differentiation of prematurity and term growth retardation by paramedical personnel using simple methods	25
		Improved care of LBW infants at home	Identification of current behaviours, and barriers and supports for optimal home care practices, including care seeking for illness	26
			Perceptions and attitudes of families and communities, including TBAs, to viability of preterm, LBW infants	27
			Identification of optimal timing and content of home visits and potential workers to do the home visits	28
			Effect of peer-supported home care interventions on survival of preterm infants of >32 weeks gestation	29
			Compare the effectiveness of facility, family and community based health education programmes for improve preventive practices	30
			Test the effectiveness of interventions to increase awareness about frequency of breastfeeding, and test interventions that enable women to feed frequently	31
		Improved care of LBW infants in health facilities	Improved criteria for identifying LBW infants who need to be cared for in a hospital	32
			Approaches to improve quality of care of LBW infants in health facilities	33
			Attitudes of health providers to viability of preterm, LBW infants	34
			Approaches to improve access to care for the subset of LBW infants who need hospital care	35
			Prevalence and timing of hypoglycaemia in preterm and growth restricted LBW infants and approaches to prevent it	36
	Improved delivery of existing interventions for prevention of LBW	Delivery of a package of interventions along the continuum of care for prevention of LBW	Effect of a package of interventions (including delaying first pregnancy, birth spacing, anti-malarial therapy, prophylactic antibiotics for high risk women, dietary interventions and micronutrients on the incidence of preterm birth and growth retardation	37
		Delivery of interventions during pregnancy for prevention of LBW	Approaches to improve access to quality antenatal care including interventions to prevent LBW (e.g. IPT, syphilis treatment)	38
			Approaches to improve utilization of effective ANC (at least 4 visits)	39
			Determine the degree to which the burden of LBW could be ameliorated by appropriate nutritional interventions (e.g. food or micronutrient supplementation) administered during pregnancy	40
			Evaluate the possibility of changing existing government food supplementation programmes to adopt the use of foods that meet demonstrated needs of the pregnant women who will be served by these interventions	41

			Approaches to reduce smoking in fathers of unborn chidren during pregnancy	42
		Delivery of interventions to adolescents and women of reproductive age for prevention of LBW	Approaches to improve access to Adolescent Reproductive and Sexual Health (ARSH), Family Planning and STI services	43
			Approaches to improve utilization of ARSH, Family Planning and STI services	44
			Approaches to reduce smoking and alcohol exposure in adolescents and young women, particularly in transitional countries	45
			Approaches for the prevention of adolescent pregnancy	46
			Determine the degree to which the burden of LBW could be ameliorated by appropriate nutritional interventions (e.g. food or micronutrient supplementation) administered before pregnancy	47
			Evaluate social constraints to the acceptance and use of current interventions	48
	Improved delivery of existing interventions to improve outcome for LBW infants	Delivery of antepartum and intrapartum interventions to improve outcome for LBW infants	Effectiveness of counselling during pregnancy for prevention, recognition and management of LBW infants	49
			Approaches to increase the use of antenatal corticosteriods in preterm labour in resource-poor settings	50
			Approaches to increase the use of antibiotics for premature prolonged rupture of membranes in resource-poor settings	51
			Estimation of the contribution of inadequate resuscitation of preterm infants to their mortality and effectiveness of interventions to improve resuscitation	52
Research on improving existing interventions	Improving existing interventions interventions for care of LBW infants	Improved feeding of LBW infants	Effective interventions for achieving early initiation of breastfeeding including feeding mode and techniques for those unable to suckle directly from the breast	53
			Identification and evaluation of AFASS replacement feeding options for preterm infants of HIV positive mothers	54
			Compare the safety and effectiveness of cup and gavage feeding in preterm infants	55
			Effectiveness of micronutrient supplementation (e.g. zinc, vitamin D, iron) in improving linear growth and survival of LBW infants	56
			Safety and efficacy of high volume breastmilk feeding for preterm and low birth weight infants	57
			Optimal timing of complementary feeding for preterm infants, particularly those of 28-32 weeks of gestation	58
		Improved growth monitoring	Development of simple, precise methods for measuring linear growth of preterm infants	59
			Development of risk-based growth reference for preterm and SGA infants	60
		Improved thermal care	Comparison of KMC and alternative methods of keeping the LBW infant warm in community settings	61
			Effectiveness of plastic bags to maintain temperature of unstable preterm infants	62
		Improved skin and cord care	Effectiveness of improved skin care (e.g. sunflower oil massage)	63
			Effectiveness of improved cord care (e.g. chlorhexidine application)	64
		Improved "birth" vaccination	Efficacy of routine "birth" vaccines given at different postconceptional ages and weights in preterm and growth retarded LBW infants	65
		Improved treatment of infections and complications of preterm birth	Identify which infections in LBW infants can be treated with oral antibiotics and which ones require intrmuscular or intravenous antibiotics	66
			Early non-invasive continuous positive airways pressure for preterm infants with respiratory distress	67
	Improving existing interventions for prevention of LBW	Interventions during pregnancy for prevention of LBW	Determine the minimum effective maternal corticosteroid exposure in preterm labour	68
			Relative efficacy of delayed and early cord clamping for preterm and SGA infants on functional consequences like anaemia, respiratory problems and jaundice	69
Research for development of new interventions	New interventions for care of LBW infants	Improved feeding of LBW infants	Identifying micronutrients whose supplementation improves functional outcomes including survival in distinct subgroups of preterm and growth retarded infants	70
			Development and evaluation of nterventions to improve the quality (energy and micronutrient density) of complementary foods after 6 months of age in LBW infants	71
			Development of methods for harmonising the composition of expressed breastmilk to infant requirements without constraining output	72
			Development of safe and effective pharmacological methods of stimulating breastmilk supply	73
			Development of safe and effective protein "fortifiers" to promote early neonatal growth in preterm infants of <32 weeks gestation in resource poor settings	74
		Improved thermal care of LBW infants	Development of new simple and effective interventions for providing thermal care to LBW infants, if KMC is not acceptable to the mother	75
		Improved skin and cord care of LBW infants	Development of new simple and effective interventions that prevent infections and improve survival (e.g. new emollients for massage)	76
		Interventions to reduce complications of preterm birth	Development of interventions for activating endogenous surfactant production through gene switching	77
			Development of interventions for activation of HbA synthesis to ameliorate early anaemia in preterm babies	78
			Evaluation of the role of probiotics in preventing sepsis in LBW infants	79
	New interventions for prevention of LBW	Interventions during pregnancy for prevention of LBW	Develop maternal biochemical indicators predicting low birth weight	80
			Development of safer and more effective tocolytic therapy that can be provided orally	81
			Development of simple methods of identification of asymptomatic bacteriuria and bacterial vaginosis	82

Q.1.1. Would you say the research question is clear and has well defined endpoints?						Q.1.2. Based on: (i) the level of research capacity required to conduct the proposed research; and (ii) the size of the gap from current level of knowledge to the proposed endpoints; would you say that a study can be designed to answer the research question and to reach the proposed endpoints of the research?						Q.1.3. Do you think that a study needed to answer the proposed research question would obtain ethical approval without major concerns?					
Victora	Rasmus.	Tomlinson	Singhal	Biloglav	Rudan	Victora	Rasmus.	Tomlinson	Singhal	Biloglav	Rudan	Victora	Rasmus.	Tomlinson	Singhal	Biloglav	Rudan
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0.5	1	0.5	0	0	0	0.5	1	1	0	0.5	0.5	1	1	1	1	1	0.5
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0.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
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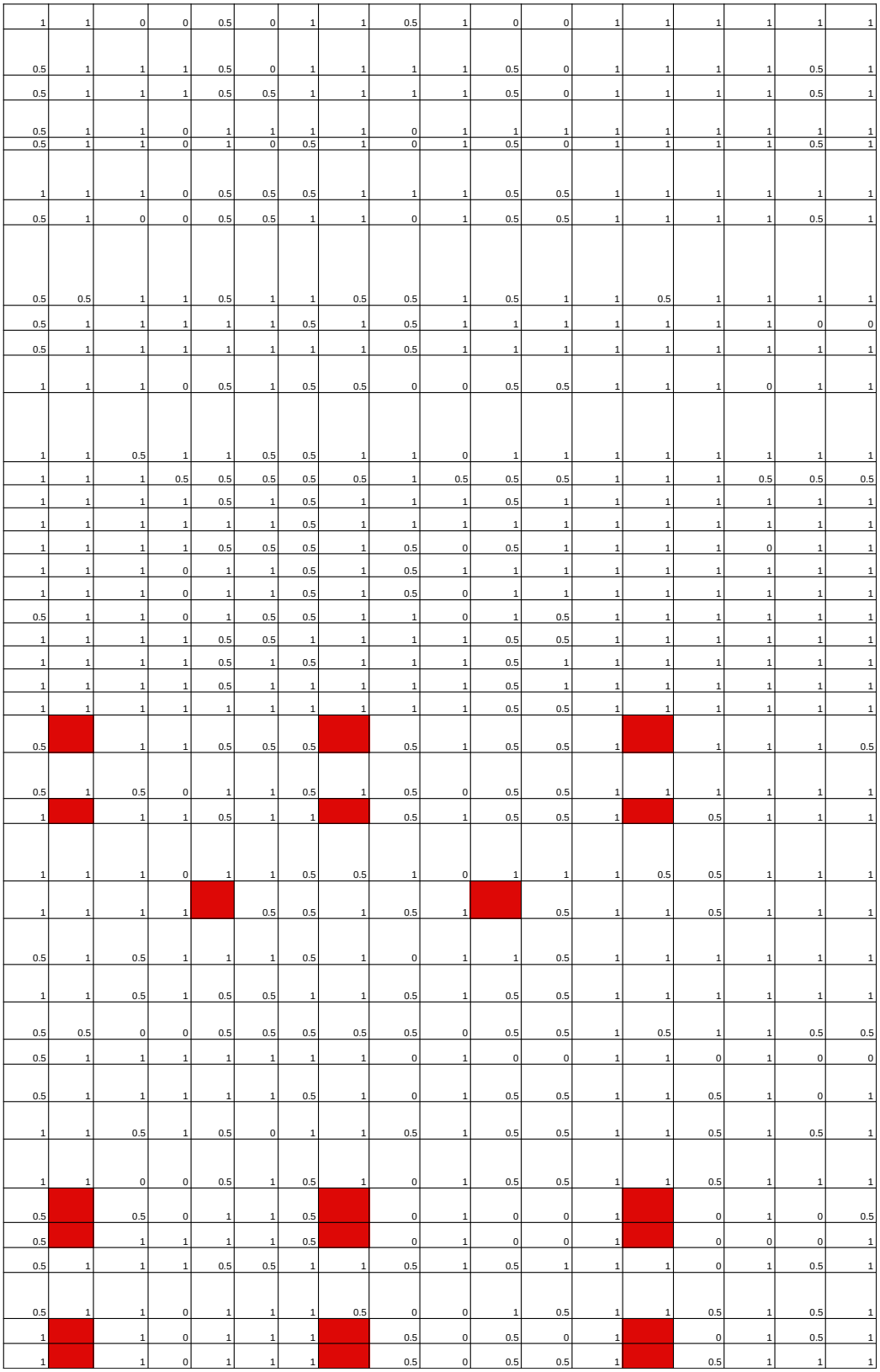
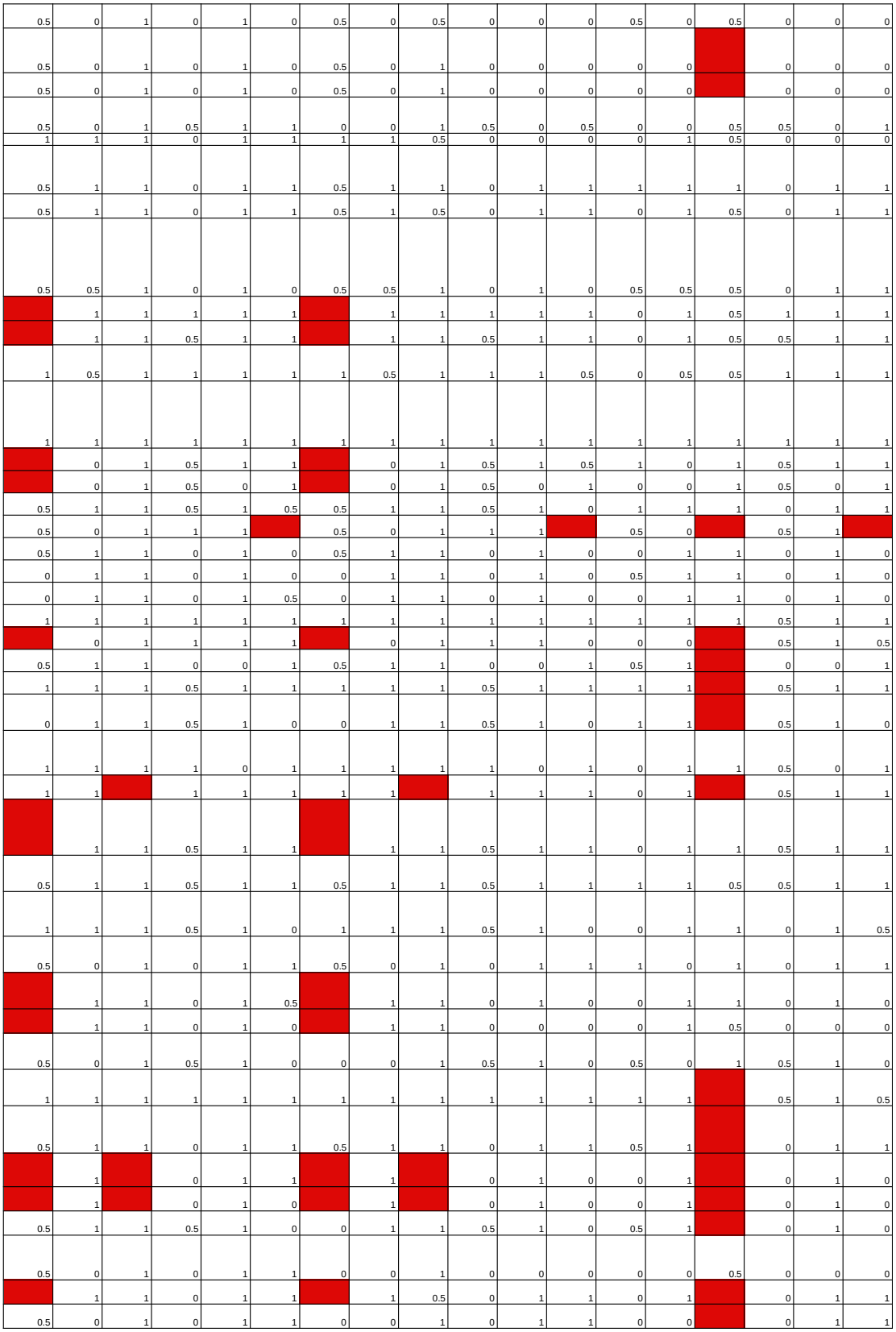
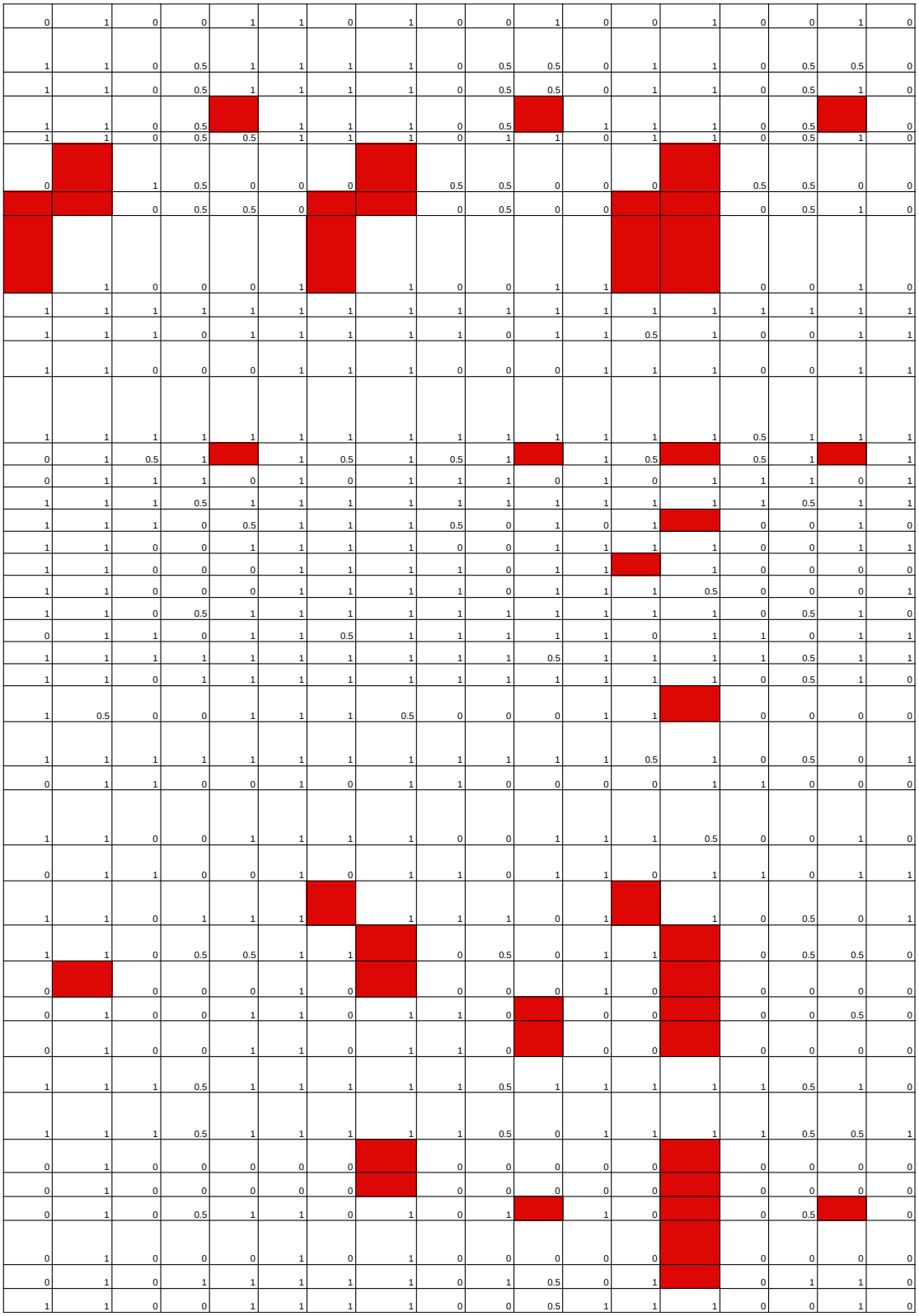
1	1	0.5	0	0.5	0.5	1	1	0.5	1	0.5	0.5	1	1	1	1	0.5	0.5



Q.2.1. Based on the best existing evidence and knowledge, would the intervention(s) which would eventually benefit from the proposed research be efficacious in reducing diarrhoea-related mortality?						Q.2.2. Based on the best existing evidence and knowledge, would the intervention(s) which would eventually benefit from the proposed research be likely to be effective under programme conditions?						Q.2.3. Would you say that the evidence upon which your opinion is based is of high quality?					
Sachdev	Edmond	Rasmus.	Kramer	Mori	Bhutta	Sachdev	Edmond	Rasmus.	Kramer	Mori	Bhutta	Sachdev	Edmond	Rasmus.	Kramer	Mori	Bhutta
0	0.5	1	1	0.5	1	0	0.5	1	1	0.5	1	1	0.5	1	0.5	1	1
1	0	1	1	0.5	1	1	0	1	1	0.5	1	1	0	1	0.5	1	1
1	0.5	1	1	0.5	0	1	0.5	1	1	0.5	0	1	0.5	1	1	0	1
0	0	1	1	0.5	0	0	0	1	1	0.5	0	0	0	0.5	0.5	1	0
1	0	1	0	0	1	1	0	1	0	1	1	1	0	1	0	0	1
1	0	1	0	0	1	1	0	1	0	1	0	0	0	1	0	0	0.5
1	0	1	0	0	0.5	1	0	0.5	0	0	0	0.5	0	0.5	0	0	0.5
1	1	1	1	1	1	1	1	0.5	1	0	1	0.5	1	0.5	0.5	1	1
1	1	1	1	1	0	1	1	0.5	1	0	0	0.5	1	1	0.5	0	1
0.5	1	0.5	0.5	1	0		1	0.5	0.5	0	0	0	1	0.5	0.5	0	1
0	0	1	0	1	1	0	0	1	0	1	0	1	0	1	0	1	1
1	1	1	0	0	0	1	1	1	0	1	0	0.5	1	0.5	0	1	0
0	0	1	0	0	0	0	0	0.5	0	1	0	0	0	0.5	0	1	1
0	0	1	0	1	0.5	0	0	0.5	0	0	0.5	0.5	0	0.5	0	1	1
0.5	1	1	0.5	1	0	0.5	1	1	0.5	0	0	0	1	0.5	0.5	0	0
0.5	1	1	0.5	1	0	0.5	1	1	0.5	0	0	0	1	0.5	0.5	0	0
0	0	1	0	1	1	0	0	0.5	0	0	1	0.5	0	1	0	0	1
0	1	1	0	0	1	0	1	0.5	0	1	0	0.5	1	1	0	0	1
0	1	1	0.5	0	0	0	1	0.5	0.5	1	0	1	1	1	0.5	0	1
1	1	1	0	1	0.5	1	1	1	0	0	0	0.5	1	0.5	0	1	0.5
0	1	1	0	1	0	0	1	1	0	0	0	0.5	1	0.5	0	0	0
0.5	1	1	1	1	0.5	0.5	1	1	1	0	0	1	1	0.5	0.5	0	0
1	1	1	1	0	1	1	1	1	1	1	0	0.5	1	0.5	0.5	0	1
1	1	1	1	0	1	1	1	0.5	1	1	1	1	1	0.5	1	1	1
1	1	1	0	0	1	1	1	1	0	1	1	0.5	1	0.5	0	0	1
1	1	1	0.5	0	1	1	1	1	0.5	1	1	0.5	1	0.5	0	1	1
0.5	1	1	0	0	1	0.5	1	0.5	0	1	0	0.5	1	0.5	0	0	0
1	1	1	0.5	0	1	1	1	0.5	0.5	1	1	1	1	0.5	0.5	1	1
1	0	1	0	0	1	1	0	0.5	0	1	1	0.5	0	0.5	0	1	1
0.5	1	1	0	0	1	0.5	1	1	0	1	1	0.5	1	0.5	0	1	1
1	0	1	0	0	1	1	0	1	0	1	1	1	0	1	0	0	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0.5	1	1	0	0	1	0.5	1	1	0	1	0	0.5	1	0.5	0	1	0.5
1	1	1	1	0	1	1	1	0.5	1	1	1	0.5	1		1	0	1
0.5	1	1	0	1	1	0.5	1	1	0	1	0	0	1	0.5	0	1	0.5
1	1	1	0.5	0	1	1	1	1	0.5	1	1	1	1	1	0.5	1	1
1	1	1	0	0	1	1	1	1	0	1	1	1	1	1	0	1	1
0.5	1	1	0	0	1	0.5	1	0.5	0	1	0.5	0.5	1	0.5	0	0	1
0.5	1	1	0	1	1	0	1	1	0	1	1	0.5	1	1	0	1	1
0	1	1	0	1	1	0	1	1	0	1	0	0	1	1	0	0	0.5



Q.3.1. Taking into account (i) the infrastructure and resources required to deliver effective interventions (e.g. human resources, health facilities, communication and transport infrastructure), and (ii) the need for change in demand, beliefs and attitudes of users, would you say that the endpoints of the research would be deliverable (or the findings of this research would improve deliverability of other interventions)?						Q.3.2. Taking into account the resources available to implement the research results, would you say that the endpoints of the research would be affordable (or improve affordability) within the context of interest?						Q.3.3. Taking into account (i) the capacity of the government (e.g. adequacy of government regulation, monitoring and enforcement; governmental intersectoral coordination), and (ii) internal and external partnership required for delivery of interventions (e.g. partnership with civil society and external donor agencies), would you say that the endpoints of the research would be sustainable (or would improve sustainability of other interventions) ?					
Williams	Manandhar	Singhal	Bhandari	Iyengar	Mori	Williams	Manandhar	Singhal	Bhandari	Iyengar	Mori	Williams	Manandhar	Singhal	Bhandari	Iyengar	Mori
1	1	0	0	1	0.5	1	0	1	0	1	0.5	1	0	1	0	1	0.5
1	1	0	0	1	0.5	1	1	1	0	1	0.5	1	1	1	0	1	0.5
0	1	0	0	0	0.5	0	0	1	0	1	0.5	0	0	1	0	0.5	0.5
1	1	1	0	1	0.5	1	1	1	0	0.5	0.5	1	1	1	0	0.5	0.5
1	1	0	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1
0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0
1	1	0	0	0	0.5	1	1	0	0	0	0.5	1	0	0	0	0.5	0.5
1	1	1	0	[redacted]	1	1	1	1	0	0.5	0	1	1	1	0	0	0
1	1	1	0	0.5	1	1	1	1	0	1	0	1	1	1	0	0.5	0
1	1	1	0.5	[redacted]	1	1	1	1	0.5	[redacted]	0	1	1	1	0.5	[redacted]	0
1	1	0	0	1	0.5	1	1	1	0	1	0.5	1	1	1	0	1	0.5
1	1	0	0.5	0	1	1	0	0	0.5	0	0	1	0	0	0.5	0.5	0
0	1	0	1	1	1	0	1	0	1	1	1	0	1	0	1	1	0
1	1	1	0	1	1	1	1	1	0	1	1	1	0	1	0	0	0
1	1	0	0	0.5	1	1	1	1	0	0	1	1	0	1	0	1	1
1	1	1	0	1	1	1	1	1	0	0	1	1	1	0	0	1	1
0	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0
1	1	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0
0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
1	1	0	0.5	1	1	1	[redacted]	0	0.5	1	1	1	0	0	0.5	1	0
0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.5	1
1	1	0	0	1	0.5	1	1	0	0	1	0.5	1	1	0	0	0	0.5
1	1	1	1	1	1	0.5	1	1	1	1	1	0.5	1	1	1	1	1
1	1	1	0.5	1	1	1	1	1	1	0.5	1	1	1	1	1	0	1
0	1	1	0.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0.5	0
0	1	0	1	1	0	0	1	0	1	1	0	1	1	0	1	0.5	0
1	1	0	1	1	1	1	1	0	1	0.5	1	1	1	0	1	1	0
1	1	1	0.5	0.5	1	1	1	1	1	1	1	1	1	1	0.5	0.5	0
1	1	0	1	1	1	0	1	0	1	1	1	0.5	1	0	1	0.5	0
1	1	0	0.5	1	1	1	1	0	0.5	1	1	1	1	0	0.5	0.5	0
0	1	1	0.5	1	1	0.5	1	1	0.5	1	1	0.5	1	1	0.5	1	1
1	1	1	1	1	1	0.5	1	1	1	1	1	0.5	1	1	1	1	1
0	1	0	0.5	0	1	0	1	0	0.5	1	1	1	1	0	0.5	0.5	0
1	1	1	0.5	0.5	1	0.5	1	1	1	0	1	0.5	1	1	1	0	1
1	1	0.5	0.5	1	1	0.5	1	1	1	[redacted]	1	0.5	1	1	0	[redacted]	1
0	1	1	1	1	1	0	1	1	1	1	1	0	1	1	0.5	0.5	1
1	1	0	0.5	1	1	1	1	0	1	1	1	1	1	0	0.5	1	1
1	[redacted]	0	1	1	1	0.5	1	0	1	1	1	0.5	1	0	0.5	1	1
0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0.5	1
0	0	0	1	1	1	0	0	0	1	0	1	0	0	0	0.5	0.5	1



Q.4.1. Taking into account the best available information, would you say that reaching of research endpoints would eventually, assuming high deliverability, affordability and sustainability of health interventions, have a capacity to directly and indirectly remove 5% of all child deaths?							Q.4.2. To remove 10% of all child deaths?							Q.4.3. To remove 15% of all child deaths?						
Williams	Manandhar	Sachdev	Edmond	Kramer	Bhandari	Bhutta	Williams	Manandhar	Sachdev	Edmond	Kramer	Bhandari	Bhutta	Williams	Manandhar	Sachdev	Edmond	Kramer	Bhandari	Bhutta
1	0	1	0	1	0	1	1	0	0	0	1	0	1	0	0	0	0	0.5	0	1
1	0	0	0	1	0	1	1	0	1	0	1	0	1	0	0	0	0	0.5	0	1
1	0	0	0	1	0.5	1	1	0	1	0	1	0	1	0	0	0	0	0.5	0	0
1	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0.5	0	0
1	1	0		0	1	1	0	0	1		0	1	0	0	0	0		0	1	0
0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
1	1	0	1	0	0.5	1	1	0	1	1	0	0	0	0	0	0	1	0	0	0
1	1	0	1	1	0.5	1	1	0	1	1	0.5	0	1	1	0	0	1	0.5	0	1
1	1	0	1	1	0.5	0	1	0	1	1	0.5	0	0	0	0	0	1	0.5	0	0
1	1	1	1	0.5	0.5	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
1	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	1	0	0.5	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0
0	1	1	1	0	0.5	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
1	0	1	1	0	0.5	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
1	1	0	0	0.5	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
1	1	0	0	0.5	0	0	1	0	1	0	0.5	0	0	0	0	0	0	0.5	0	0
1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	1	1	0	0	0	0	0	1	0.5	0	0	0	0	0	1	0	0	0
1	1	1	1	0	0.5	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
1	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
1	1	0	1	1	0	1	1	1	0	1	0.5	0	0	1	0	0	1	0	0	0
1	1	0	1	1	0.5	1	1	1	0	1	1	0	0.5	0	1	1	1	1	0	0
1	1	0	1	1	0	1	1	1	0	1	1	0	1	0	1	1	1	1	1	0
0	1	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0
1	1	0	1	1	0	1	1	1	0	1	1	0	1	0	1	1	1	0.5	1	1
1	1	1	1	0	0	0.5	0	1	0	1	0	0	0	0	0	0	1	0	0	0
1	1	0	1	1	0	1	0	1	0	1	1	0	1	0	0	1	1	1	1	0
1	1	0	1	0	0	1	1	1	0	1	0	1	1	0	0	1	1	0	0	1
0	1	1	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1
1	1	0	1	0	0	1	1	1	0	1	0	0	1	0	0	1	1	0	0	0.5
1	1	0	1	1	0	1	1	1	0	1	1	0	1	0	1	1	1	1	0	1
1	1	0	1	1	0.5	1	1	1	0	1	1	0	1	1	1	1	1	1	0	1
1	1	1	1	0	0	1	0	1	0	1	0	0	0.5	0	1	0	1	0	0	0
1	1	0	1	1	0	1	1	1	0	1	1	0	1	1	1	1	1	1	0	1
0	1	0	1	0	0.5	0.5	0	1	1	1	0	0	0	0	0	0	1	0	0	0
1	1	0	1	1	0	1	0	1	1	1	0.5	0.5	1	0	1	0	1	0	0	1
1	1	1	1	0	0.5	1	1	1	0	1	0	0	1	0	0	0	1	0	0	0.5
1	1	1	1	0	0	1	0	1	0	1	0	0	1	0	0	0	1	0	0	0.5
0	1	1	1	0	1	1	0	1	0	1	0	0	1	0	0	0	1	0	0	0.5
0	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0

0	1	1	0.5	0	0	0	0	1	0	0.5	0	0	0	0	0	0	0.5	0	0	0
1	1	1	1	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0
1	1	1	1	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0
1	1	1	0.5	1	0	0.5	1	1	0	0.5	0	0	0	0	0	0	0.5	0	0	0
1	1	0	1	0	1	0.5	0	1	0	1	0	0	0	0	0	1	1	0	0	0
0	1	0	1	0	0	1	0	1	0	1	0	0	0.5	0	0	0	1	0	0	0
0	1	1	1	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0
1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	0	0
1	1	0	1	1	0.5	0.5	1	1	1	1	0.5	0	0	1	1	0	1	0	0	0
1	1	0	1	1	0	1	1	1	1	1	1	0	1	0	0	0	1	1	0	0
1	1	0	1	1	1	1	1	1	0	1	0.5	0	0.5	1	1	1	1	0	0	0
1	1	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
1	1	0	0	0.5	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	0.5	1	0.5	0	1	0	1	0	0	0	0	1	0	1	0	0	0
1	1	1	0	1	0		1	1	0	0	1	0		0	0	0	0	0.5	0	
1	1	0	0.5	0	0	0	0	1	1	0.5	0	0	0	0	0	0	0.5	0	0	0
0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
1	1	0	0.5	0	0	0	0	0	0	0.5	0	0	0	0	0	0	0.5	0	0	0
1	1	0	1	1	1	1	0	1	1	1	0.5	0	1	0	0	0	1	0	0	0
1	1	1	1	1	0.5	1	0	1	0	1	0.5	0	0	0	0	0	1	0	0	0
1	1	1	1	0	0.5	1	0	1	0	1	0	0	0	0	0	0	1	0	0	0
1	1	0	1	1	0.5	1	0	1	1	1	1	0	1	0	0	0	1	0.5	0	0.5
1	1	1	1	1	0	0	0	0	0	1	0.5	0	0	0	0	0	1	0	0	0
1	1	1	1	1	1	1	1	1	0	1	1	0	1	0	1	0	1	1	0	1
1	1	0	0.5	1	1	1	0	1	1	0.5	1	0	1	0	0	0	0.5	1	0	0
1	1	0	0.5	0.5	0	1	1	1	0	0.5	0	0	0	1	0	0	0.5	0	0	0
1	1	0	1	0.5	0	1	0	1	0	1	0	0	0	0	0	0	1	0	0	0
1	1	1	1	0.5	0.5	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0
1	1	1	0.5	0	1	1	0	1	0	0.5	0	0	1	0	0	0	0.5	0	0	0
0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
1	1	1	1	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0
0	1	1	1	0.5	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0
1	1	0	1	1	1	1	0	1	1	1	0.5	0	1	0	1	0	1	0	0	0
1	1	0	1	0	1	1	0	1	1	1	0	0	0	0	1	0	1	0	0	0
1	1	0	1	0	0	0.5	1	1	0	1	0	0	0	0	0	0	1	0	0	0
1	1	0	0.5	0	0	0	0	1	0	0.5	0	0	0	0	0	0	0.5	0	0	0
0	1	0	1	0.5	0.5	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0
0	1	0	0.5	0	0	0	0	1	1	0.5	0	0	0	0	1	0	0.5	0	0	0
1	1	1	1	0	0	1	0	1	0	1	0	0	0	0	1	0	1	0	0	0
1	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0

Q.5.1. In given context, would you say that the present distribution of disease burden primarily addressed by the proposed research affects mainly the underprivileged in the population?						Q.5.2. Would you agree that the immediate results of the proposed research could be of help to all segments of the society, and not just the privileged ones?						Q.5.3. Would you say that the proposed research has the overall potential to improve equity in disease burden distribution in the longer term (e.g. by 2015)?					
Victora	Lawn	Tomlinson	Biloglav	Iyengar	Rudan	Victora	Lawn	Tomlinson	Biloglav	Iyengar	Rudan	Victora	Lawn	Tomlinson	Biloglav	Iyengar	Rudan
1	1	1	1	1	1	1	1	1	1	0.5	1	0.5	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	0	1	0.5	1	1	1	1	1
1	1	0.5	0.5	1	0	1	0.5	0.5	1	1	1	0.5	0.5	0	1	1	1
1	1	1	0.5	1	0	1	1	1	1	1	1	0.5	1	1	1	1	1
1	0.5	0	0.5	0	0	1	0.5	1	1	0	1	0.5	0.5	1	0.5	1	0
1	1	1	0.5	1	1	1	0.5	1	0.5	0	1	0.5	0.5	1	0.5	1	0
1	1	1	1	1	1	1	1	1	0.5	1	1	0.5	1	1	0.5	0	0
1	1	1	1	0	1	1	0.5	1	0.5	1	1	0.5	0.5	1	0.5	0	0
1	1	0.5	0	[redacted]	0	1	0	1	1	[redacted]	1	0.5	0	1	0.5	[redacted]	0
1	1	1	1	1	1	1	0.5	1	1	1	1	0.5	0.5	1	1	1	1
1	1	0.5	1	1	0	1	0.5	1	1	1	1	0.5	0.5	1	1	1	1
1	1	0	1	1	1	1	1	0	0.5	1	1	0.5	1	0	1	0	1
1	1	0.5	1	1	1	1	0.5	0.5	1	1	1	0.5	0.5	0	1	0	1
1	1	0	1	1	1	1	0.5	0.5	1	1	1	0.5	0.5	0	1	1	1
1	1	0.5	1	1	1	1	0.5	0.5	1	1	1	0.5	0.5	0.5	1	1	1
1	1	1	0.5	1	1	1	0.5	1	1	0	1	0.5	0.5	1	0.5	1	1
1	1	0.5	0.5	1	1	1	0	0.5	1	1	1	0.5	0	0.5	0	0	0
1	1	0	0.5	0	1	1	0	0	1	0	1	0.5	0	0	0	1	0
1	1	1	1	1	1	1	0	1	1	1	1	0.5	0.5	1	1	1	1
1	1	1	1	1	0	1	0.5	1	1	1	1	0.5	0.5	1	1	1	1
1	1	0.5	0.5	0	0.5	1	1	1	1	0	1	0.5	1	1	1	1	1
1	1	0	1	1	1	1	0.5	0.5	1	1	1	0.5	1	1	1	1	1
1	1	0.5	1	1	1	1	1	1	1	1	1	0.5	1	1	1	0	1
1	1	0.5	1	1	1	1	0.5	1	1	1	1	0.5	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	1
1	1	1	1	1	0	1	0.5	1	1	1	1	0.5	0.5	1	1	0	1
1	1	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	1
1	1	1	1	0.5	1	1	1	1	1	0.5	1	0.5	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	0.5	1	1	0.5	1	1
1	1	1	0.5	0	0	1	1	1	1	0	1	0.5	1	1	1	1	1
1	1	0	1	0.5	1	1	1	0.5	0.5	1	0.5	0.5	1	0.5	1	1	1
1	1	0.5	0	1	0	1	0.5	0.5	0.5	1	0.5	0.5	1	1	1	1	1
1	1	0	0	0	0	1	0.5	0.5	0.5	1	0.5	0.5	1	0	1	0	1
1	1	0.5	1	0.5	1	1	1	0.5	1	1	1	0.5	1	0.5	1	0	1
1	1	1	0	0	0	1	0.5	1	1	0	1	0.5	1	1	1	1	1
1	1	1	1	1	1	1	1	1	0.5	1	1	0.5	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	0
1	1	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	1
1	1	1	0.5	0	0.5	1	0.5	1	0	0.5	0	0.5	1	1	1	0	0.5
1	1	1	0.5	0	0.5	1	1	1	0	0.5	0	0.5	1	1	1	0.5	0.5

1	0.5	0.5	0.5	1	0	1	0	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0	0
1	1	0.5	0.5	1	1	1	1	0.5	0.5	1	0	0.5	1	1	0.5	1	0
1	1	0.5	0.5	0.5	1	1	1	0.5	0.5	0.5	0.5	0.5	1	1	0.5	1	0.5
1	1	0.5	0		0.5	1	0	1	1		0	0.5	0.5	1	1		0.5
1	1	0.5	1	1	0.5	1	1	0.5	0.5	1	0	0.5	1	1	1	1	1
1	1	1	1	0	1	1	0.5	1	0.5	0	0.5	0.5	0.5	1	1	1	1
1	1	0	0.5	1	1	1	0.5	0	0.5	0	1	0.5	1	0.5	0.5	1	1
1	1	0.5	1	1	0.5	1	1	0.5	1	1	0.5	0.5	1	1	1	0	1
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1	1	1	1	0	1	1	0.5	1	1	0	0	0.5	1	1	1	0	1
1	1	0	0	1	0	1	0.5	0.5	1	1	1	0.5	1	0.5	1	1	1
1	1	1	0.5		0.5	1	1	1	0.5		0.5	0.5	1	1	1		1
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1	1	0.5	0.5	1	0.5	1	1	0.5	0.5	1	0.5	0.5	1	0.5	1	1	1
1	1	0	0.5	1	0.5	1		0	1	1	0.5	0.5		0.5	1	1	1
1	1	0	0.5	0	0.5	1		0	1	0	1	0.5		0	1	0	1
1	1	0	0.5	1	1	1		0	1	1	1	0.5		0.5	1	1	1
1	1	1	1	1	1	1		1	1	1	1	0.5		1	1	1	1
1	1	1	1	1	1	1		1	1	1	1	0.5		1	1	0	1
1	1	1	1	1	1	1	1	1	0.5	1	0.5	0.5	1	1	1	1	1
1	1	0.5	1	1	1	1	1	1	0.5	1	0	0.5	1	1	1	1	1
1	1	0	1	0	1	1	0	0.5	0.5	0	0.5	0.5	0.5	1	1	1	1
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1	1	0	1	1	1	1	0.5	0	1	0	1	0.5	1	0.5	1	1	1
1	1	0	0.5	0	1	1	0.5	0	0	0	0	0.5	1	0.5	1	1	1
1	1	0.5	0.5	1	0.5	1	0.5	0.5	1	0	1	0.5	1	0.5	1	1	1
1	1	1	1	1	1	1	0.5	1	0.5	0	0.5	0.5	1	1	1	1	1
1	1	1	1	1	1	1	0.5	1	0.5	0	0.5	0.5	1	1	1	1	1
1	1	0	0.5	0	0.5	1	0.5	0	0.5	0	0.5	0.5	0.5	0	0.5	0	0.5
1	1	0	1	0.5	0.5	1	0.5	0	0	0	0	0.5	0.5	0	0	1	0
1	1	1	1	0	1	1	0	1	0	0	0	0.5	0.5	1	0.5	0	1
1	1	1	1	1	1	1	0.5	1	0.5	1	0.5	0.5	1	1	1	1	1
1	1	0.5	1	1	1	1	1	0.5	0.5	0	0	0.5	1	0.5	0.5	0	0.5
1	1	0	0.5	0.5	0.5	1	0	0	0	0	0	0.5	0	1	0	1	0
1	1	0	1	1	1	1	0	0	0	0	0	0.5	0	0.5	0	0	0
1	1	0	0.5	0	0.5	1	0.5	0	0	0	0	0.5	0.5	0.5	0	0	0
1	1	0	0.5	1	0.5	1	0	0	0	0	0	0.5	0	0	0	0	0
1	1	0.5	0.5	1	0.5	1	1	0.5	0.5	1	0	0.5	1	0	0.5	1	0
1	1	0.5	0.5	1	0.5	1	0.5	0	0.5	0	0	0.5	1	0	0.5	1	0

Table w3. The final list with CHNRI research priority scores (RPS) and average expert agreement (AEA) for all proposed research ideas.

RANK	RESEARCH QUESTION	N	ANSWER	EFFECTIV	DELIVER	BURDEN	EQUITY	TOTAL (unwgh)	TOTAL (weigh)	AEA
1	Idenfication of LBW infants within 24-48 hours of birth for additional care among among those born at home	24	94	89	89	71	89	86.5	84.2	0.821
2	Approaches to improve quality of care of LBW infants in health facilities	33	81	100	94	79	72	85.2	83.9	0.808
3	Identification of current behaviours, and barriers and supports for optimal home care practices, including care seeking for illness	26	86	78	86	74	97	84.2	82.7	0.776
4	Approaches to increase the use of antenatal corticosteriods in preterm labour in resource-poor settings	50	81	91	100	71	81	84,6	82,4	0,819
5	Effective interventions for achieving early initiation of breastfeeding including feeding mode and techniques for those unable to suckle directly from the breast	53	86	100	97	67	72	84,4	81,5	0,790
6	Approaches to improve access to care for the subset of LBW infants who need hospital care	35	94	82	78	76	81	82.2	81.4	0.748
7	Improved criteria for identifying LBW infants who need to be cared for in a hospital	32	86	97	81	71	78	82.6	80.8	0.754
8	Effectiveness of improved cord care (e.g. chlorhexidine application)	64	94	91	81	60	86	82,4	78,8	0,787
9	Comparison of KMC and alternative methods of keeping the LBW infant warm in community settings	61	89	97	78	55	97	83.1	78.6	0.828
10	Approaches to increase the use of antibiotics for premature prolonged rupture of membranes in resource-poor settings	51	94	81	75	60	97	81.5	78.2	0.757
11	Approaches to increase the proportion of LBW infants who receive additional care before discharge among those born in a hospital	23	75	75	94	67	86	79.4	77.4	0.735
12	Development of new simple and effective interventions for providing thermal care to LBW infants, if KMC is not acceptable to the mother	75	75	94	86	60	89	80.7	77.2	0.738
13	Effect of a package of interventions (including delaying first pregnancy, birth spacing, anti-malarial therapy, prophylactic antibiotics for high risk women, dietary interventions and micronutrients on the incidence of preterm birth and growth retardation	37	78	86	78	62	94	79.6	76.8	0.735
14	Identification of optimal timing and content of home visits and potential workers to do the home visits	28	81	81	75	62	97	79	76.4	0.735
15	Identify which infections in LBW infants can be treated with oral antibiotics and which ones require intrmuscular or intravenous antibiotics	66	72	75	83	76	75	76.3	76.3	0.730
16	Approaches to improve access to quality antenatal care including interventions to prevent LBW (e.g. IPT, syphilis treatment)	38	92	78	78	52	92	78.3	74.3	0.789
17	Effectiveness of micronutrient supplementation (e.g. zinc, vitamin D, iron) in improving linear growth and survival of LBW infants	56	97	75	94	48	81	79	74.2	0.776
18	Effect of peer-supported home care interventions on survival of preterm infants of >32 weeks gestation	29	86	53	83	57	92	74.2	71.8	0.668
19	Incidence of intrauterine infection (chorioamnionitis) in resource poor communities and its influence on preterm birth	8	69	83	62	64	81	71,9	70,6	0,645
20	Effectiveness of improved skin care (e.g. sunflower oil massage)	63	94	56	94	40	92	75.4	70.2	0.768
21	Effectiveness of plastic bags to maintain temperature of unstable preterm infants	62	92	60	75	48	91	73	69.3	0.743
22	Population-based estimates of the contribution of LBW (overall, preterm, and SGA) to neonatal mortality as primary or contributory cause at global and regional levels	2	83	75	69	40	97	73.1	68.1	0.724
23	Sentinel sites for population-based ascertainment of all live and stillbirths, and their birth weights and gestational ages (from 24 weeks gestation) in various regions.	1	97	72	58	40	94	72.5	67.8	0.702
24	Approaches to improve utilization of effective ANC (at least 4 visits)	39	83	56	74	45	97	71	67,2	0,687
25	Contribution of adolescent pregnancy and short birth intervals to causation of preterm birth and intrauterine growth restriction	5	89	56	83	39	89	71.1	66.3	0.756
26	Early non-invasive continuous positive airways pressure for preterm infants with respiratory distress	67	83	90	39	55	75	68.4	66.3	0.700
27	Estimation of the contribution of inadequate resuscitation of preterm infants to their mortality and effectiveness of interventions to improve resuscitation	52	64	81	56	62	72	66.8	65.9	0.675
28	Compare the effectiveness of facility, family and community based health education programmes for improve preventive practices	30	69	67	67	48	94	69	65.7	0.648
29	Identifying micronutrients whose supplementation improves functional outcomes including survival in distinct subgroups of preterm and growth retarded infants	70	83	69	72	38	83	69.2	64.5	0.696
30	Development of new simple and effective interventions that prevent infections and improve survival (e.g. new emollients for massage)	76	69	74	83	48	64	67,6	64,3	0,651
31	Risk factors for lactational failure in LBW infants	22	75	64	53	55	78	64,8	63,4	0,611
32	Prevalence and timing of hypoglycaemia in preterm and growth restricted LBW infants and approaches to prevent it	36	94	61	81	33	72	68.5	63.2	0.666
33	Relative efficacy of delayed and early cord clamping for preterm and SGA infants on functional consequences like anaemia, respiratory problems and jaundice	69	84	83	61	36	75	67,9	62,9	0,650
34	Test the effectiveness of interventions to increase awareness about frequency of breastfeeding, and test interventions that enable women to feed frequently	31	64	56	67	50	78	62,8	60,8	0.581
35	Development and evaluation of nterventions to improve the quality (energy and micronutrient density) of complementary foods after 6 months of age in LBW infants	71	83	61	53	40	83	64,3	60,8	0,625
36	Relationships between maternal height, weight (BMI) and birthweight in populations subject to nutritional stunting	11	100	50	69	24	92	67	60.7	0.773
37	Incidence of bacterial vaginosis in resource poor communities and its influence on preterm birth	9	67	69	67	45	69	63.5	60.6	0.592
38	Safety and efficacy of high volume breastmilk feeding for preterm and low birth weight infants	57	75	64	59	42	78	63.5	60.2	0.602
39	Identification and differentiation of prematurity and term growth retardation by paramedical personnel using simple methods	25	69	67	92	19	92	67.7	60	0.762
40	Prevalence of zinc deficiency in preterm infants (particularly those of <32 weeks gestation) fed on unsupplemented breastmilk	20	81	61	62	31	89	64.7	59.6	0.703

41	Population studies to determine mortality associated with preterm birth at gestations 24-28 weeks, 28-32 weeks and 32-36 weeks using verbal autopsy, and the time of death (first day, first week, first month, post-neonatal period)	3	83	69	33	38	92	63.2	59.5	0.657
42	Identification and evaluation of AFASS replacement feeding options for preterm infants of HIV positive mothers	54	69	69	75	29	83	65	59.3	0.615
43	Attitudes of health providers to viability of preterm, LBW infants	34	100	58	50	45	53	61.3	59.2	0.644
44	Determine the minimum effective maternal corticosteroid exposure in preterm labour	68	78	84	58	38	56	62.8	58.9	0.643
45	Perceptions and attitudes of families and communities, including TBAs, to viability of preterm, LBW infants	27	94	47	53	36	81	62.1	58.5	0.654
46	Relationship between late anaemia and infant mortality	21	92	39	81	24	86	64.2	58.3	0.752
47	Determine the degree to which the burden of LBW could be ameliorated by appropriate nutritional interventions (e.g. food or micronutrient supplementation) administered during pregnancy	40	75	72	47	45	61	60.2	57.9	0.578
48	Development of safer and more effective tocolytic therapy that can be provided orally	81	63	70	62	43	64	60.4	57.6	0.596
49	Approaches for the prevention of adolescent pregnancy	46	67	50	64	40	81	60.3	57.4	0.622
50	Optimal timing of complementary feeding for preterm infants, particularly those of 28-32 weeks of gestation	58	89	56	67	26	72	61.8	56.6	0.647
51	Identification of minimum weight gain cutoff for intervention in breast milk fed SGA infants	16	78	50	72	26	83	61.9	56.5	0.644
51	Approaches to reduce smoking and alcohol exposure in adolescents and young women, particularly in transitional countries	45	86	44	63	38	63	59.1	56.2	0.596
53	Correlation of early growth rate (linear and ponderal) with infant mortality risk and neurological outcome in preterm infants fed breastmilk	14	92	36	67	31	75	60.1	56	0.656
54	Compare the safety and effectiveness of cup and gavage feeding in preterm infants	55	92	47	67	26	64	59.1	54.3	0.636
55	Determine the degree to which the burden of LBW could be ameliorated by appropriate nutritional interventions (e.g. food or micronutrient supplementation) administered before pregnancy	47	81	78	23	31	75	57.5	53.5	0.658
56	Identification of minimum weight gain cutoff for intervention in breastmilk fed preterm infants	15	81	50	64	21	78	58.7	53.2	0.652
57	Incidence of chronic gingivitis or other chronic infective processes in the mother on preterm birth	10	67	50	77	33	57	56.7	53.1	0.601
58	Efficacy of routine "birth" vaccines given at different postconceptional ages and weights in preterm and growth retarded LBW infants	65	73	62	41	36	64	55.2	52.3	0.639
59	Approaches to improve utilization of ARSH, Family Planning and STI services	44	81	24	61	33	72	54.2	51.4	0.632
60	Develop mathematical models for asessing relative contribution of LBW amongst multiple and competing causes of death	4	79	39	69	21	72	56.3	51.2	0.626
61	Development of risk-based growth reference for preterm and SGA infants	60	78	53	58	17	78	56.7	50.7	0.646
62	Prevalence of hypovitaminosis D in pregnancy and its contribution to LBW at term	12	78	56	39	21	83	55.4	50.4	0.641
63	Approaches to improve access to Adolescent Reproductive and Sexual Health (ARSH), Family Planning and STI services	43	78	24	58	33	72	53	50.4	0.621
64	Effectiveness of counselling during pregnancy for prevention, recognition and management of LBW infants	49	81	53	43	14	81	54.2	48.3	0.597
65	Contribution of psychosocial and physical stress (manual labour) to preterm birth and intrauterine growth retardation	7	61	31	39	40	72	48.7	47.7	0.533
66	Evaluation of the role of probiotics in preventing sepsis in LBW infants	79	78	59	47	33	33	50	47.6	0.546
67	Development of simple methods of identification of asymptomatic bacteriuria and bacterial vaginosis	82	73	50	58	24	53	51.7	47.5	0.615
68	Evaluate social constraints to the acceptance and use of current interventions	48	67	67	25	29	67	50.7	47.3	0.591
69	Development of simple, precise methods for measuring linear growth of preterm infants	59	83	53	53	19	53	52.2	47.3	0.640
70	Evaluate the possibility of changing existing government food supplementation programmes to adopt the use of foods that meet demonstrated needs of the pregnant women who will be served by these interventions	41	72	53	39	24	67	50.9	46.9	0.586
71	Development of safe and effective protein "fortifiers" to promote early neonatal growth in preterm infants of <32 weeks gestation in resource poor settings	74	75	47	31	31	58	48.6	46.1	0.607
72	Identify risk factors for "eating down" in areas where gestational weight gain is low	13	56	28	61	26	72	48.6	45.3	0.654
73	Contribution of preterm birth and intrauterine growth retardation to stunting in childhood (increased risk of LBW in next generation of girls subjected to stunting)	17	86	39	22	14	81	48.4	43.6	0.716
74	Development of safe and effective pharmacological methods of stimulating breastmilk supply	73	64	41	34	33	42	42.8	41.5	0.618
75	Approaches to reduce smoking in fathers of unborn chidren during pregnancy	42	67	25	39	21	50	40.4	37.8	0.632
76	Development of interventions for activating endogenous surfactant production through gene switching	77	47	54	6	36	39	36.3	36.2	0.629
77	Relationship of sleeping arrangements and infections with SIDS in LBW infants	19	56	56	6	26	44	37.5	35.8	0.676
78	Determine the degree to which second-hand smoke contributes to LBW among non-smoking women	6	64	42	22	10	56	38.6	34.3	0.703
79	Development of methods for harmonising the composition of expressed breastmilk to infant requirements without constraining output	72	50	59	13	19	42	36.7	33.9	0.671
80	Develop maternal biochemical indicators predicting low birth weight	80	69	28	18	26	31	34.3	33.5	0.633
81	Relationship of the home environment and neurocognitive development of LBW infants	18	53	50	28	0	58	37.8	31.9	0.711
82	Development of interventions for activation of HbA synthesis to ameliorate early anaemia in preterm babies	78	53	46	6	21	39	33.2	31.5	0.672