

Supplementary Table 8. List of publications included in the review by typology

Original Research: Learning & Evaluation (from research initiatives)

1. Abawi K, Chandra-Mouli V, Toskin I, Festin MP, Gertiser L, Idris R, Hamamy H, Ali M, Bonventure AM, Temmerman M *et al*: **E-learning for research capacity strengthening in sexual and reproductive health: The experience of the Geneva Foundation for Medical Education and Research and the Department of Reproductive Health and Research, World Health Organization.** *Human resources for health* 2016, **14**(1).
2. Aidam J, Sombie I: **The West African Health Organization's experience in improving the health research environment in the ECOWAS region.** *Health research policy and systems* 2016, **14**:30.
3. Atkins S, Yan W, Meragia E, Mahomed H, Rosales-Klitz S, Skinner D, Zwarenstein M: **Student experiences of participating in five collaborative blended learning courses in Africa and Asia: a survey.** *Global health action* 2016, **9**:28145.
4. Byrne E, Donaldson L, Manda-Taylor L, Brugha R, Matthews A, MacDonald S, Mwapasa V, Petersen M, Walsh A: **The use of technology enhanced learning in health research capacity development: lessons from a cross country research partnership.** *Globalization and health* 2016, **12**(19):
5. Cole DC, Nyirenda LJ, Fazal N, Bates I: **Implementing a national health research for development platform in a low-income country - a review of Malawi's Health Research Capacity Strengthening Initiative.** *Health research policy and systems* 2016, **14**(24):
6. Elmusharaf K, Tahir H, D OD, Brugha R, Homeida M, Abbas AM, Byrne E: **From local to global: a qualitative review of the multi-leveled impact of a multi-country health research capacity development partnership on maternal health in Sudan.** *Globalization and health* 2016, **12**(1):20.
7. Farnman R, Diwan V, Zwarenstein M, Atkins S: **Successes and challenges of north-south partnerships - key lessons from the African/Asian Regional Capacity Development projects.** *Global health action* 2016, **9**:30522.
8. Kaser M, Maure C, Halpaap BM, Vahedi M, Yamaka S, Launois P, Casamitjana N: **Research Capacity Strengthening in Low and Middle Income Countries - An Evaluation of the WHO/TDR Career Development Fellowship Programme.** *PLoS neglected tropical diseases* 2016, **10**(5):e0004631.
9. Mahendradhata Y, Nabieva J, Ahmad RA, Henley P, Launois P, Merle C, Maure C, Horstick O, Elango V: **Promoting good health research practice in low- and middle-income countries.** *Global health action* 2016, **9**:32474.
10. Protsiv M, Atkins S: **The experiences of lecturers in African, Asian and European universities in preparing and delivering blended health research methods courses: a qualitative study.** *Global health action* 2016, **9**:28149.
11. Protsiv M, Rosales-Klitz S, Bwanga F, Zwarenstein M, Atkins S: **Blended learning across universities in a South-North-South collaboration: a case study.** *Health research policy and systems* 2016, **14**(67):
12. Thomson DR, Semakula M, Hirschhorn LR, Murray M, Ndahindwa V, Manzi A, Mukabutera A, Karema C, Condo J, Hedt-Gauthier B: **Applied statistical training to strengthen analysis and health research capacity in Rwanda.** *Health research policy and systems* 2016, **14**(1).
13. Varshney D, Atkins S, Das A, Diwan V: **Understanding collaboration in a multi-national research capacity-building partnership: a qualitative study.** *Health research policy and systems* 2016, **14**(1):64.
14. Ager A, Zarowsky C: **Balancing the personal, local, institutional, and global: multiple case study and multidimensional scaling analysis of African experiences in addressing complexity and political economy in health research capacity strengthening.** *Health research policy and systems* 2015, **13**(5):
15. Daniels J, Nduati R, Kiarie J, Farquhar C: **Supporting early career health investigators in Kenya: a qualitative study of HIV/AIDS research capacity building.** *Pan African Medical Journal* 2015, **20**:192-192.
16. Dean L, Njelesani J, Smith H, Bates I: **Promoting sustainable research partnerships: a mixed-method evaluation of a United Kingdom-Africa capacity strengthening award scheme.** *Health research policy and systems* 2015, **13**(81):
17. Heller RF, Machingura PI, Musa BM, Paramita S, Myles P: **Mobilising the alumni of a Master of Public Health degree to build research and development capacity in low- and middle-income settings: the Peoples-uni.** *Health research policy and systems* 2015, **13**(71):
18. Ndebele P, Wassenaar D, Benatar S, Fleischer T, Kruger M, Adebamowo C, Kass N, Hyder AA: **Research ethics capacity building in sub-saharan Africa: A review of NIH fogarty-funded programs 2000-2012.** *Journal of Empirical Research on Human Research Ethics* 2014, **9**(2):24-40.

19. Saenz C, Heitman E, Luna F, Litewka S, Goodman KW, Macklin R: **Twelve years of fogarty-funded bioethics training in latin America and the caribbean: Achievements and challenges.** *Journal of Empirical Research on Human Research Ethics* 2014, **9**(2):80-91.
20. Zachariah R, Guillermin N, Berger S, Kumar AMV, Satyanarayana S, Bissell K, Edginton M, Hinderaker SG, Tayler-Smith K, Bergh Rvd *et al*: **Research to policy and practice change: is capacity building in operational research delivering the goods?** *Tropical Medicine and International Health* 2014, **19**(9):1068-1075.
21. Bennett S, Paina L, Ssengooba F, Waswa D, M'Imunya JM: **Mentorship in African health research training programs: an exploratory study of Fogarty International Center Programs in Kenya and Uganda.** *Education for health (Abingdon, England)* 2013, **26**(3):183-187.
22. Bennett S, Paina L, Ssengooba F, Waswa D, M'Imunya JM: **The impact of Fogarty International Center research training programs on public health policy and program development in Kenya and Uganda.** *BMC public health* 2013, **13**(770):
23. Marjanovic S, Hanlin R, Diepeveen S, Chataway J: **Research capacity-building in Africa: Networks, institutions and local ownership.** *Journal of International Development* 2013, **25**(7):936-946.
24. Miiro GM, Oukem-Boyer OO, Sarr O, Rahmani M, Ntoui F, Dheda K, Pym A, Mboup S, Kaleebu P: **EDCTP regional networks of excellence: initial merits for planned clinical trials in Africa.** *BMC public health* 2013, **13**:258.
25. Vian T, Koseki S, Feeley FG, Beard J: **Strengthening capacity for AIDS vaccine research: analysis of the Pfizer Global Health Fellows Program and the International AIDS Vaccine Initiative.** *BMC health services research* 2013, **13**(378):
26. Wilson LL, Rice M, Jones CT, Joiner C, Laborde J, McCall K, Jester PM, Carter SC, Boone C, Onwuzuligbo U *et al*: **Enhancing research capacity for global health: Evaluation of a distance-based program for international study coordinators.** *Journal of Continuing Education in the Health Professions* 2013, **33**(1):67-75.
27. Bennett S, Corluka A, Doherty J, Tangcharoensathien V: **Approaches to developing the capacity of health policy analysis institutes: a comparative case study.** *Health research policy and systems* 2012, **10**(7):
28. Bissell K, Harries AD, Reid AJ, Edginton M, Hinderaker SG, Satyanarayana S, Enarson DA, Zachariah R: **Operational research training: the course and beyond.** *Public health action* 2012, **2**(3):92-97.
29. Redman-Maclaren M, MacLaren DJ, Harrington H, Asugeni R, Timothy-Harrington R, Kekeubata E, Speare R: **Mutual research capacity strengthening: a qualitative study of two-way partnerships in public health research.** *International journal for equity in health* 2012, **11**(79):
30. Mahmood S, Hort K, Ahmed S, Salam M, Cravioto A: **Strategies for capacity building for health research in Bangladesh: Role of core funding and a common monitoring and evaluation framework.** *Health research policy and systems* 2011, **9**.
31. Minja H, Nsanabana C, Maure C, Hoffmann A, Rumisha S, Ogundahunsi O, Zicker F, Tanner M, Launois P: **Impact of health research capacity strengthening in low- and middle-income countries: the case of WHO/TDR programmes.** *PLoS neglected tropical diseases* 2011, **5**(10):e1351-e1351.
32. Goto A, Nguyen Quang V, Nguyen Thi Tu V, Yokokawa H, Yasumura S, Nguyen Thy K: **Epidemiology research training in Vietnam: evaluation at the five year mark.** *Fukushima journal of medical science* 2010, **56**(1):63-70.
33. Mayhew SH, Doherty J, Pitayarangsarit S: **Developing health systems research capacities through north-south partnership: an evaluation of collaboration with South Africa and Thailand.** *Health research policy and systems* 2008, **6**(8):
34. Jönsson K, Tomson G, Jönsson C, Kounnavong S, Wahlström R: **Health systems research in Lao PDR: capacity development for getting research into policy and practice.** *Health research policy and systems* 2007, **5**(11):
35. Hyder AA, Akhter T, Qayyum A: **Capacity development for health research in Pakistan: The effects of doctoral training.** *Health policy and planning* 2003, **18**(3):338-343.
36. Jentsch B, Pilley C: **Research relationships between the South and the North: Cinderella and the ugly sisters?** *Social Science and Medicine* 2003, **57**(10):1957-1967.

Original Research: Capacity Assessment

37. Erasmus E, Lehmann U, Agyepong IA, Alwar J, de Savigny D, Kamuzora P, Mirzoev T, Nxumalo N, Tomson G, Uzochukwu B *et al*: **Strengthening post-graduate educational capacity for health policy and systems research and analysis: the strategy of the Consortium for Health Policy and Systems Analysis in Africa.** *Health research policy and systems* 2016, **14**:29.

38. Uzochukwu B, Mbachu C, Onwujekwe O, Okwuosa C, Etiaba E, Nyström ME, Gilson L: **Health policy and systems research and analysis in Nigeria: examining health policymakers' and researchers' capacity assets, needs and perspectives in south-east Nigeria.** *Health research policy and systems* 2016, **14**(13):
39. Agyepong IA, Anniah K, Aikins M, Akweongo P, Esena R, Mirzoev T: **Health Policy, Health Systems Research and Analysis Capacity Assessment of the School of Public Health, University of Ghana.** *Ghana medical journal* 2015, **49**(3):200-213.
40. Motari M, Ota MO, Kirigia JM: **Readiness of ethics review systems for a changing public health landscape in the WHO African Region Ethics in Biomedical Research.** *BMC medical ethics* 2015, **16**(1).
41. Oliver S, Bangpan M, Stansfield C, Stewart R: **Capacity for conducting systematic reviews in low- and middle-income countries: a rapid appraisal.** *Health research policy and systems* 2015, **13**(23):
42. Ekeroma AJ, Kenealy T, Shulruf B, McCowan LM, Hill A: **Building reproductive health research and audit capacity and activity in the pacific islands (BRRACAP) study: Methods, rationale and baseline results.** *BMC medical education* 2014, **14**(1).
43. Haafkens J, Blomstedt Y, Eriksson M, Becher H, Ramroth H, Kinsman J: **Training needs for research in health inequities among health and demographic researchers from eight African and Asian countries.** *BMC public health* 2014, **14**(1254):
44. Kanoute A, Faye D, Bourgeois D: **Strategies to promote better research on oral health in Africa: a Delphi consensus study.** *Contemporary clinical dentistry* 2014, **5**(1):13-19.
45. Kebede D, Zielinski C, Mbondji PE, Sanou I, Kouvidila W, Lusamba-Dikassa PS: **Human resources in health research institutions in sub-Saharan African countries: results of a questionnaire-based survey.** *Journal of the Royal Society of Medicine* 2014, **107**(Suppl. 1):85-95.
46. Kilic B, Phillimore P, Islek D, Oztoprak D, Korkmaz E, Abu-Rmeileh N, Zaman S, Unal B: **Research capacity and training needs for non-communicable diseases in the public health arena in Turkey.** *BMC health services research* 2014, **14**:373.
47. Mirzoev T, Lê G, Green A, Orgill M, Komba A, Esena RK, Nyapada L, Uzochukwu B, Amde WK, Nxumalo N *et al*: **Assessment of capacity for Health Policy and Systems Research and Analysis in seven African universities: results from the CHEPSAA project.** *Health policy and planning* 2014, **29**(7):831-841.
48. Simba D, Mukose A, Bazeyo W: **Institutional capacity for health systems research in East and Central African schools of public health: strengthening human and financial resources.** *Health research policy and systems* 2014, **12**(23):
49. Franzen SR, Chandler C, Enquesslassie F, Siribaddana S, Atashili J, Angus B, Lang T: **Understanding the investigators: a qualitative study investigating the barriers and enablers to the implementation of local investigator-initiated clinical trials in Ethiopia.** *BMJ open* 2013, **3**(11):e003616.
50. Hofman K, Blomstedt Y, Addei S, Kalage R, Maredza M, Sankoh O, Bangha M, Kahn K, Becher H, Haafkens J *et al*: **Addressing research capacity for health equity and the social determinants of health in three African countries: the INTREC programme.** *Global health action* 2013, **6**(1):19668.
51. Nachega JB, Uthman OA, Ho Y, Lo M, Anude C, Kayembe P, Wabwire-Mangen F, Gomo E, Sow PS, Obike U *et al*: **Current status and future prospects of epidemiology and public health training and research in the WHO African region.** *International journal of epidemiology* 2012, **41**(6):1829-1846.
52. Paulus JK, Santoyo-Vistrain R, Havelick D, Cohen A, Kalyesubula R, Ajayi IO, Mattsson JG, Adami HO, Dalal S: **Global teaching and training initiatives for emerging cohort studies.** *Journal of epidemiology and global health* 2012, **2**(3):125-133.
53. Peykari N, Djalalinia S, Owlia P, Habibi E, Falahat K, Ghanei M, Malekafzali H, Baradaran Eftekhari M: **Health research system evaluation in I.R. of Iran.** *Archives of Iranian medicine* 2012, **15**(7):394-399.
54. Keshavarz Mohammadi N, Zaree F, de Leeuw E, Emamjomeh MM: **Share of nations in 37 international public health journals: An equity and diversity perspective towards health research capacity building.** *Iranian journal of public health* 2011, **40**(4):129-137.
55. Magesa SM, Mwape B, Mboera LE: **Challenges and opportunities in building health research capacity in Tanzania: a case of the National Institute for Medical Research.** *Tanzania journal of health research* 2011, **13**(5):427-443.
56. Nakanjako D, Byakika-Kibwika P, Kintu K, Aizire J, Nakwagala F, Luzige S, Namisi C, Mayanja-Kizza H, Kanya MR: **Mentorship needs at academic institutions in resource-limited settings: A survey at makerere university college of health sciences.** *BMC medical education* 2011, **11**(1).
57. Pepping F: **The current capacity for training in public health nutrition in West Africa.** *Global public health* 2010, **5**(Suppl. 1):S20-S41.

58. Redman-MacLaren ML, MacLaren DJ, Asugeni R, Fa'anuabae CE, Harrington H, Muse A, Speare R, Clough AR: **"We can move forward": challenging historical inequity in public health research in Solomon Islands.** *International journal for equity in health* 2010, **9**(25):
59. Nyika A, Kilama W, Chilengi R, Tangwa G, Tindana P, Ndebele P, Ikingura J: **Composition, training needs and independence of ethics review committees across Africa: Are the gate-keepers rising to the emerging challenges?** *Journal of medical ethics* 2009, **35**(3):189-193.
60. Malekafzali H, Eftekhari MB, Peykari N, Gholami FS, Djalali nia S, Owlia P, Habibi E, Mesgarpour B, Vasei M: **Research assessment of Iranian medical universities, an experience from a developing country.** *Iranian journal of public health* 2009, **38**(Suppl.1):47-49.
61. Moodley K, Myer L: **Health Research Ethics Committees in South Africa 12 years into democracy.** *BMC medical ethics* 2007, **8**.
62. Singh D: **Publication bias - A reason for the decreased research output in developing countries.** *South African Psychiatry Review* 2006, **9**(3):
63. Cuboni HD, Finau SA, Wainiqolo I, Cuboni G: **Fijian participation in health research: analysis of Medline publications 1965-2002.** *Pacific health dialog : a publication of the Pacific Basin Officers Training Program and the Fiji School of Medicine* 2004, **11**(1):59-78.

Original Research: HRCS Methods

64. Murphy J, Hatfield J, Afsana K, Neufeld V: **Making a Commitment to Ethics in Global Health Research Partnerships: A Practical Tool to Support Ethical Practice.** *Journal of Bioethical Inquiry* 2015, **12**(1):137-146.
65. Bates I, Boyd A, Smith H, Cole DC: **A practical and systematic approach to organisational capacity strengthening for research in the health sector in Africa.** *Health research policy and systems* 2014, **12**(11):
66. Huber J, Bauer D, Hoelscher M, Kapungu J, Kroidl A, Lennemann T, Maganga L, Opitz O, Salehe O, Sigauke A *et al*: **Evaluation of health research capacity strengthening trainings on individual level: Validation of a questionnaire.** *Journal of evaluation in clinical practice* 2014, **20**(4):390-395.
67. Le G, Mirzoev T, Orgill M, Erasmus E, Lehmann U, Okeyo S, Goudge J, Maluka S, Uzochukwu B, Aikins M *et al*: **A new methodology for assessing health policy and systems research and analysis capacity in African universities.** *Health research policy and systems* 2014, **12**:59.
68. Jessani N, Lewy D, Ekirapa-Kiracho E, Bennett S: **Institutional capacity for health systems research in East and Central African schools of public health: experiences with a capacity assessment tool.** *Health research policy and systems* 2014, **12**(21):
69. Birch AP, Tuck J, Malata A, Gagnon AJ: **Assessing global partnerships in graduate nursing.** *Nurse education today* 2013, **33**(11):1288-1294.
70. Bates I, Akoto AY, Ansong D, Karikari P, Bedu-Addo G, Critchley J, Agbenyega T, Nsiah-Asare A: **Evaluating health research capacity building: an evidence-based tool.** *PLoS medicine* 2006, **3**(8):e299.

Original Research: HRCS Evidence Synthesis

71. Bates I, Boyd A, Aslanyan G, Cole DC: **Tackling the tensions in evaluating capacity strengthening for health research in low- and middle-income countries.** *Health policy and planning* 2015, **30**(3):334-344.
72. Cole DC, Boyd A, Aslanyan G, Bates I: **Indicators for tracking programmes to strengthen health research capacity in lower- and middle-income countries: a qualitative synthesis.** *Health research policy and systems* 2014, **12**(17):(12 A-(12 A.
73. Boyd A, Cole DC, Cho DB, Aslanyan G, Bates I: **Frameworks for evaluating health research capacity strengthening: a qualitative study.** *Health research policy and systems* 2013, **11**(46):
74. Gadsby EW: **Research capacity strengthening: donor approaches to improving and assessing its impact in low- and middle-income countries.** *International Journal of Health Planning and Management* 2011, **26**(1):89-106.
75. Edwards N, Webber J, Mill J, Kahwa E, Roelofs S: **Building capacity for nurse-led research.** *International nursing review* 2009, **56**(1):88-94.

Original Research: Miscellaneous

76. Cole DC, Johnson N, Mejia R, McCullough H, Turcotte-Tremblay AM, Barnoya J, Falabella Luco MS: **Mentoring health researchers globally: Diverse experiences, programmes, challenges and responses.** *Global public health* 2016, **11**(9):1093-1108.
77. Parker M, Kingori P: **Good and bad research collaborations: Researchers' views on science and ethics in global health research.** *PloS one* 2016, **11**(10).
78. Muldoon KA, Birungi J, Berry NS, Ngolobe MH, Mwesigwa R, Shannon K, Moore DM: **Supporting southern-led research: Implications for north-south research partnerships.** *Canadian Journal of Public Health* 2012, **103**(2):128-131.
79. Nurse K, Wight D: **Development assistance and research capacity strengthening: the commissioning of health research in East Africa.** *Journal of Eastern African Studies* 2011, **5**(2):233-251.

Commentary

80. Atkins S, Marsden S, Diwan V, Zwarenstein M: **North-south collaboration and capacity development in global health research in low- and middle-income countries - the ARCADE projects.** *Global health action* 2016, **9**:30524.
81. Atkins S, Varshney D, Meragia E, Zwarenstein M, Diwan V: **'Research clinics': online journal clubs between south and north for student mentoring.** *Global health action* 2016, **9**:30434.
82. Bloomfield GS, Narayan KM, Sampson UK, Narula J: **What Defines a Valuable Investment in Global Health Research?** *Global heart* 2016, **11**(1):1-3.
83. Bloomfield GS, Xavier D, Belis D, Alam D, Davis P, Dorairaj P, Ghannem H, Gilman RH, Kamath D, Kimaiyo S *et al*: **Training and Capacity Building in LMIC for Research in Heart and Lung Diseases: The NHLBI-UnitedHealth Global Health Centers of Excellence Program.** *Global heart* 2016, **11**(1):17-25.
84. Cubaka VK, Schriver M, Kyamanywa P, Cotton P, Kallestrup P: **Capacity-building for equitable global health research from Africa: the power of two.** *International journal of public health* 2016, **61**(3):389-390.
85. Davies J, Mullan Z: **Research capacity in Africa--will the sun rise again?** *The Lancet Global health* 2016, **4**(5):e287.
86. Dossou JP, Assarag B, Delamou A, Van der Veken K, Belaid L, Ouedraogo M, Khalfallah S, Aouras H, Diadhiou M, Fassassi R *et al*: **Switching the poles in sexual and reproductive health research: implementing a research capacity-strengthening network in West and North Africa.** *Reproductive health* 2016, **13**(1):91.
87. Hawkes S, Aulakh BK, Jadeja N, Jimenez M, Buse K, Anwar I, Barge S, Odubanjo MO, Shukla A, Ghaffar A *et al*: **Strengthening capacity to apply health research evidence in policy making: Experience from four countries.** *Health policy and planning* 2016, **31**(2):161-170.
88. Hyder AA, Norton R, Perez-Nunez R, Mojarro-Iniguez FR, Peden M, Kobusingye O: **The Road Traffic Injuries Research Network: a decade of research capacity strengthening in low- and middle-income countries.** *Health research policy and systems* 2016, **14**:14.
89. O'Connor S, Gallagher J, Wamba N, Moyo C, Chirambo GB, O'Donoghue J: **Establishing Long-Term Nursing Informatics Capacity in Malawi, Africa.** *Studies in health technology and informatics* 2016, **225**:1013-1014.
90. Osanjo GO, Oyugi JO, Kibwage IO, Mwanda WO, Ngugi EN, Otieno FC, Ndege W, Child M, Farquhar C, Penner J *et al*: **Building capacity in implementation science research training at the University of Nairobi.** *Implementation science : IS* 2016, **11**:30.
91. Sturke R, Vorkoper S, Duncan K, Levintova M, Parascondola M: **Addressing NCDs through research and capacity building in LMICs: lessons learned from tobacco control.** *Global health action* 2016, **9**:32407.
92. Winchester MS, BeLue R, Oni T, Wittwer-Backofen U, Deobagkar D, Onya H, Samuels TA, Matthews SA, Stone C, Airhihenbuwa C: **The Pan-University Network for Global Health: framework for collaboration and review of global health needs.** *Globalization and health* 2016, **12**:13.
93. Adanu R, Mbizvo MT, Baguiya A, Adam V, Ademe BW, Ankomah A, Aja GN, Ajuwon AJ, Esimai OA, Ibrahim T *et al*: **Sexual and Reproductive Health Research and Research Capacity Strengthening in Africa: Perspectives from the region.** *Reproductive health* 2015, **12**:64.
94. Airhihenbuwa CO, Ogedegbe G, Iwelunmor J, Jean-Louis G, Williams N, Zizi F, Okuyemi K: **Claim Your Space: Leadership Development as a Research Capacity Building Goal in Global Health.** *Health Education and Behavior* 2015, **43**:17S-24S.
95. Berman J, Mitambo C, Matanje-Mwagomba B, Khan S, Kachimanga C, Wroe E, Mwape L, Oosterhout JJv, Chindebvu G, Schoor Vv *et al*: **Building a knowledge translation platform in Malawi to support evidence-informed health policy.** *Health research policy and systems* 2015, **13**(73):(8 December 2015)-(2018 December 2015).

96. Cash-Gibson L, Guerra G, Salgado-de-Snyder VN: **SDH-NET: a South-North-South collaboration to build sustainable research capacities on social determinants of health in low- and middle-income countries.** *Health research policy and systems* 2015, **13**(45):(22 October 2015)-(2022 October 2015).
97. Cottler LB, Zunt J, Weiss B, Kamal AK, Vaddiparti K: **Building global capacity for brain and nervous system disorders research.** *Nature* 2015, **527**(7578):S207-213.
98. Kombe F: **Enhancing quality and integrity in biomedical research in Africa: An international call for greater focus, investment and standardisation in capacity strengthening for frontline staff.** *BMC medical ethics* 2015, **16**(1).
99. Koso-Thomas M, McClure EM, Belizán JM, Althabe F, Buekens PM, Tshetu A, Bose CL, Garces A, Hambidge KM, Krebs NF *et al*: **The Global Network for Women's and Children's Health Research: A model of capacity-building research.** *Seminars in Fetal and Neonatal Medicine* 2015, **20**(5):293-299.
100. Langlois EV, Ranson MK, Barnighausen T, Bosch-Capblanch X, Daniels K, El-Jardali F, Ghaffar A, Grimshaw J, Haines A, Lavis JN *et al*: **Advancing the field of health systems research synthesis.** *Systematic reviews* 2015, **4**:90.
101. MacLaren D, Asugeni J, Redman-MacLaren M: **Strengthening research capacity in the Pacific: an example from the Atoifi Health Research Group, Solomon Islands.** *Australasian psychiatry : bulletin of Royal Australian and New Zealand College of Psychiatrists* 2015, **23**(6):42-44.
102. McGregor S, Henderson KJ, Kaldor JM: **Capacity building in longitudinal HIV research.** *The Lancet Global health* 2015, **3**(1):e18-19.
103. Miranda JJ, Bernabe-Ortiz A, Diez-Canseco F, Malaga G, Cardenas MK, Carrillo-Larco RM, Pesantes MA, Araya R, Boggio O, Checkley W *et al*: **Building a platform for translational research in chronic noncommunicable diseases to address population health: lessons from NHLBI supported CRONICAS in Peru.** *Global heart* 2015, **10**(1):13-19.
104. Adedokun B, Nyasulu P, Maseko F, Adedini S, Akinyemi J, Afolabi S, Wet Nd, Sulaimon A, Sambai C, Utembe W *et al*: **Sharing perspectives and experiences of doctoral fellows in the first cohort of Consortium for Advanced Research Training in Africa: 2011-2014.** *Global health action* 2014, **7**:25127-25127.
105. Anderson F, Donkor P, de Vries R, Appiah-Denkyira E, Dakpallah GF, Rominski S, Hassinger J, Lou A, Kwansah J, Moyer C *et al*: **Creating a charter of collaboration for international university partnerships: the Elmina Declaration for Human Resources for Health.** *Academic medicine : journal of the Association of American Medical Colleges* 2014, **89**(8):1125-1132.
106. Carothers CL, Heimburger DC, Schlachter S, Gardner P, Primack A, Warner TL, Vermund SH: **Training programs within global networks: lessons learned in the Fogarty international clinical research scholars and fellows program.** *American Journal of Tropical Medicine and Hygiene* 2014, **90**(1):173-179.
107. Chu KM, Jayaraman S, Kyamanywa P, Ntakiyiruta G: **Building Research Capacity in Africa: Equity and Global Health Collaborations.** *PLoS medicine* 2014, **11**(3).
108. Cole DC, Aslanyan G, Dunn A, Boyd A, Bates I: **Dilemmas of evaluation: Health research capacity initiatives.** *Bulletin of the World Health Organization* 2014, **92**(12):920-921.
109. Hanney SR, González-Block MA: **Four centuries on from Bacon: Progress in building health research systems to improve health systems?** *Health research policy and systems* 2014, **12**(1).
110. Harries AD, Marais B, Kool B, Ram S, Kumar AM, Gounder S, Viney K, Brostrom R, Roseveare C, Bissell K *et al*: **Mentorship for operational research capacity building: hands-on or hands-off?** *Public health action* 2014, **4**(Suppl 1):S56-58.
111. Kabiru CW, Izugbara CO, Wairimu J, Amendah D, Ezeh AC: **Strengthening local health research capacity in Africa: the African Doctoral Dissertation Research Fellowship Program.** *The Pan African medical journal* 2014, **17**:1.
112. Klinkenberg E, Assefa D, Rusen ID, Dlodlo RA, Shimeles E, Kebede B, Fiseha D, Tsegaye F, Leimane I, Teklai Y *et al*: **The Ethiopian initiative to build sustainable capacity for operational research: overview and lessons learned.** *Public health action* 2014, **4**(Suppl 3):S2-7.
113. Mandala WL, Cowan FM, Laloo DG, Wilkinson RJ, Kelly P, Chidzonga MM, Michelo C, Gomo E, Bailey R, Simuyemba M *et al*: **Southern Africa consortium for research excellence (SACORE): successes and challenges.** *The Lancet Global health* 2014, **2**(12):e691-692.
114. Pratt B, Loff B: **A framework to link international clinical research to the promotion of justice in global health.** *Bioethics* 2014, **28**(8):387-396.
115. Ramsay A, Harries AD, Zachariah R, Bissell K, Hinderaker SG, Edginton M, Enarson DA, Satyanarayana S, Kumar AM, Hoa NB *et al*: **The Structured Operational Research and Training Initiative for public health programmes.** *Public health action* 2014, **4**(2):79-84.

116. Sweetland AC, Oquendo MA, Sidat M, Santos PF, Vermund SH, Duarte CS, Arbuckle M, Wainberg ML: **Closing the mental health gap in low-income settings by building research capacity: perspectives from Mozambique.** *Annals of global health* 2014, **80(2)**:126-133.
117. Ekeroma A: **Building clinical research capacity in the Pacific Islands.** *Journal of primary health care* 2013, **5(3)**:257-258.
118. Noormahomed EV, Mocumbi AO, Preziosi M, Damasceno A, Bickler S, Smith DM, Funzamo C, Aronoff-Spencer E, Badaro R, Mabila F *et al*: **Strengthening research capacity through the medical education partnership initiative: the Mozambique experience.** *Human resources for health* 2013, **11**:62.
119. Pratt B, Loff B: **Linking research to global health equity: the contribution of product development partnerships to access to medicines and research capacity building.** *American journal of public health* 2013, **103(11)**:1968-1978.
120. Sanchez AL, Canales M, Enriquez L, Zelaya AA, Espinoza VE, Fontecha GA: **Research capacity strengthening in Honduras.** *The Lancet Global health* 2013, **1(2)**:e75.
121. Sanchez AL, Canales M, Enriquez L, Bottazzi ME, Zelaya AA, Espinoza VE, Fontecha GA: **A research capacity strengthening project for infectious diseases in Honduras: experience and lessons learned.** *Global health action* 2013, **6**:21643-21643.
122. Shaji KS: **Capacity building in mental health research: The way forward.** *Indian journal of psychological medicine* 2013, **35(3)**:302-304.
123. Vasquez EE, Hirsch JS, Giang le M, Parker RG: **Rethinking health research capacity strengthening.** *Global public health* 2013, **8 Suppl 1**:S104-124.
124. Aikins AdG, Arhinful DK, Pitchforth E, Ogedegbe G, Allotey P, Agyemang C: **Establishing and sustaining research partnerships in Africa: a case study of the UK-Africa Academic Partnership on Chronic Disease.** *Globalization and health* 2012, **8(29)**:
125. Greenwood B, Bhasin A, Targett G: **The Gates Malaria Partnership: a consortium approach to malaria research and capacity development.** *Tropical Medicine and International Health* 2012, **17(5)**:558-563.
126. Ijsselmuiden C, Marais DL, Becerra-Posada F, Ghannem H: **Africa's neglected area of human resources for health research - the way forward.** *South African Medical Journal* 2012, **102(4)**:228-233.
127. Kasonde JM, Campbell S: **Creating a Knowledge Translation Platform: nine lessons from the Zambia Forum for Health Research.** *Health research policy and systems* 2012, **10**:31.
128. McKee M, Stuckler D, Basu S: **Where there is no health research: What can be done to fill the global gaps in health research?** *PLoS medicine* 2012, **9(4)**.
129. Nwaka S, Ochem A, Besson D, Ramirez B, Fakorede F, Botros S, Inyang U, Mgone C, Adaye-Mensah I, Konde V *et al*: **Analysis of pan-African Centres of excellence in health innovation highlights opportunities and challenges for local innovation and financing in the continent.** *BMC international health and human rights* 2012, **12(1)**.
130. Osei-Atweneboana MY, Lustigman S, Prichard RK, Boatman BA, Basanez MG: **A research agenda for helminth diseases of humans: health research and capacity building in disease-endemic countries for helminthiasis control.** *PLoS neglected tropical diseases* 2012, **6(4)**:e1602.
131. Pinto RM, Da Silva SB, Penido C, Spector AY: **International participatory research framework: Triangulating procedures to build health research capacity in Brazil.** *Health promotion international* 2012, **27(4)**:435-444.
132. Thornicroft G, Cooper S, Bortel TV, Kakuma R, Lund C: **Capacity building in global mental health research.** *Harvard review of psychiatry* 2012, **20(1)**:13-24.
133. Airhihenbuwa CO, Shisana O, Zungu N, BeLue R, Makofani DM, Shefer T, Smith E, Simbayi L: **Research capacity building: a US-South African partnership.** *Global health promotion* 2011, **18(2)**:35-94.
134. Farquhar C, Nathanson N: **The Afya Bora Consortium: An Africa-US Partnership to Train Leaders in Global Health.** *Infectious disease clinics of North America* 2011, **25(2)**:399-409.
135. Forde M, Morrison K, Dewailly E, Badrie N, Robertson L: **Strengthening integrated research and capacity development within the Caribbean region.** *BMC international health and human rights* 2011, **11(Suppl. 2)**:S7-S7.
136. Gezmu M, Degruittola V, Dixon D, Essex M, Halloran E, Hogan J, Grobler A, Kim S, McDermott J, McKaig R *et al*: **Strengthening biostatistics resources in sub-Saharan Africa: Research collaborations through U.S. partnerships.** *Statistics in medicine* 2011, **30(7)**:695-708.
137. Kariuki T, Phillips R, Njenga S, Olesen OF, Klatser PR, Porro R, Lock S, Cabral MH, Gliber M, Hanne D: **Research and capacity building for control of neglected tropical diseases: the need for a different approach.** *PLoS neglected tropical diseases* 2011, **5(5)**:e1020.

138. Laabes EP, Desai R, Zawedde SM, Glew RH: **How much longer will Africa have to depend on western nations for support of its capacity-building efforts for biomedical research?** *Tropical Medicine and International Health* 2011, **16**(3):258-262.
139. Manabe YC, Katabira E, Brough RL, Coutinho AG, Sewankambo N, Merry C: **Developing independent investigators for clinical research relevant for Africa.** *Health research policy and systems* 2011, **9**(44):
140. Wilson ME, Ko AI, Reis MG: **Collaborative teaching and learning: a model for building capacity and partnerships to address NTDs.** *PLoS neglected tropical diseases* 2011, **5**(3):e939-e939.
141. Brown KH, McLachlan M, Cardosa P, Tchibindat F, Baker SK: **Strengthening public health nutrition research and training capacities in West Africa: Report of a planning workshop convened in Dakar, Senegal, 26-28 March 2009.** *Global public health* 2010, **5** Suppl 1:S1-19.
142. Ezeh AC, Izugbara CO, Kabiru CW, Fonn S, Kahn K, Manderson L, Undieh AS, Omigbodun A, Thorogood M: **Building capacity for public and population health research in Africa: The consortium for advanced research training in Africa (CARTA) model.** *Global health action* 2010, **3**(1).
143. Kabiru CW, Izugbara CO, Wambugu SW, Ezeh AC: **Capacity development for health research in Africa: experiences managing the African Doctoral Dissertation Research Fellowship Program.** *Health research policy and systems* 2010, **8**(21):
144. Kutcher S, Horner B, Cash C, Lopez MF, Pascual MA: **Building psychiatric clinical research capacity in low and middle income countries: The Cuban-Canadian partnership project.** *Innovation Journal* 2010, **15**(1):1-10.
145. Lazarus JV, Wallace SA, Liljestrand J: **Improving African health research capacity.** *Scandinavian journal of public health* 2010, **38**(6):670-671.
146. Maher D, Biraro S, Hosegood V, Isingo R, Lutalo T, Mushati P, Ngwira B, Nyirenda M, Todd J, Zaba B: **Translating global health research aims into action: the example of the ALPHA network.** *Tropical Medicine and International Health* 2010, **15**(3):321-328.
147. Ntoumi F: **Networking and capacity building for health research in central Africa.** *Wiener klinische Wochenschrift* 2010, **122**(SUPPL. 1):23-26.
148. Zumla A, Huggett J, Dheda K, Green C, Kapata N, Mwaba P: **Trials and tribulations of an African-led research and capacity development programme: the case for EDCTP investments.** *Tropical Medicine and International Health* 2010, **15**(4):489-494.
149. Coloma J, Harris E: **From construction workers to architects: developing scientific research capacity in low-income countries.** *PLoS biology* 2009, **7**(7):e1000156.
150. Kilama W: **From research to control: Translating research findings into health policies, operational guidelines and health products.** *Acta tropica* 2009, **112**(SUPPL. 1).
151. Kilama WL: **The 10/90 gap in sub-Saharan Africa: Resolving inequities in health research.** *Acta tropica* 2009, **112**(SUPPL. 1).
152. Hussein G: **The Sudan experience.** *Journal of Academic Ethics* 2008, **6**(4):289-293.
153. Kumar N, Ravindran GD, Bhan A, Srivastava JS, Nair VM: **The India experience.** *Journal of Academic Ethics* 2008, **6**(4):295-303.
154. Malomo AO, Ogundiran TO, Jegede A, Adejumo A: **The Nigeria experience.** *Journal of Academic Ethics* 2008, **6**(4):305-309.
155. Sheikh S: **The Pakistan experience.** *Journal of Academic Ethics* 2008, **6**(4):283-287.
156. Tindana P, Boateng O: **The Ghana experience.** *Journal of Academic Ethics* 2008, **6**(4):277-281.
157. Upshur REG: **Introduction.** *Journal of Academic Ethics* 2008, **6**(4):271-275.
158. Whitworth JAG, Kokwaro G, Kinyanjui S, Snewin VA, Tanner M, Walport M, Sewankambo N: **Strengthening capacity for health research in Africa.** *Lancet (British edition)* 2008, **372**(9649):1590-1593.
159. Nuyens Y: **10 best resources for ... health research capacity strengthening.** *Health policy and planning* 2007, **22**(4):274-276.
160. Schulz-Baldes A, Vayena E, Biller-Andorno N: **Sharing benefits in international health research. Research-capacity building as an example of an indirect collective benefit.** *EMBO reports* 2007, **8**(1):8-13.
161. Stillman F, Yang G, Figueiredo V, Hernandez-Avila M, Samet J: **Building capacity for tobacco control research and policy.** *Tobacco control* 2006, **15**(Suppl.1):i18-i23.
162. Andruchow JE, Soskolne CL, Racioppi F, Bertolini R: **Capacity building for epidemiologic research: a case study in the newly independent state of Azerbaijan.** *Annals of epidemiology* 2005, **15**(3):228-231.
163. Goto A, Thi Ngoc Phuong N, Thi Mai Huong N, Hughes J: **Building postgraduate capacity in medical and public health research in Vietnam: An in-service training model.** *Public health* 2005, **119**(3):174-183.
164. Lansang MA, Dennis R: **Building capacity in health research in the developing world.** *Bulletin of the World Health Organization* 2004, **82**(10):764-770.

- 165.Nchinda TC: **Research capacity strengthening in the South.** *Social Science & Medicine* 2002, **54**(11):1699-1711.
- 166.Reddy P, Taylor SE, Sifunda S: **Research capacity building and collaboration between South African and American partners: The adaptation of an intervention model for HIV/AIDS prevention in corrections research.** *AIDS Education and Prevention* 2002, **14**(5 SUPPL.):92-102.
- 167.Varkevisser CM, Mwaluko GMP, Grand LE: **Research in action: The training approach of the Joint Health Systems Research Project for the Southern African Region.** *Health policy and planning* 2001, **16**(3):281-291.

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- 168.Adedokun BO, Olopade CO, Olopade OI: **Building local capacity for genomics research in Africa: Recommendations from analysis of publications in Sub-Saharan Africa from 2004 to 2013.** *Global health action* 2016, **9**(1).
- 169.Huber J, Nepal S, Bauer D, Wessels I, Fischer MR, Kiessling C: **Tools and instruments for needs assessment, monitoring and evaluation of health research capacity development activities at the individual and organizational level: A systematic review.** *Health research policy and systems* 2015, **13**(1).
- 170.Mugabo L, Rouleau D, Odhiambo J, Nisingizwe MP, Amoroso C, Barebwanuwe P, Warugaba C, Habumugisha L, Hedt-Gauthier BL: **Approaches and impact of non-academic research capacity strengthening training models in sub-Saharan Africa: a systematic review.** *Health research policy and systems* 2015, **13**(30):
- 171.González-Block MA, Vargas-Riaño EM, Sonela N, Idrovo AJ, Ouwe-Missi-Oukem-Boyer O, Monot JJ: **Research capacity for institutional collaboration in implementation research on diseases of poverty.** *Tropical Medicine and International Health* 2011, **16**(10):1285-1290.
- 172.San Sebastian M, Hurtig AK: **Review of health research on indigenous populations in Latin America, 1995-2004.** *Salud publica de Mexico* 2007, **49**(4):316-320.

Supplementary Table 9. HRCS definitions, sources and citing papers¹

Subject Defined	Capacity Term	Definition & Source	Cited In
Health	Building [30]	“an ability of individuals, organisations or systems to perform and utilise health research effectively, efficiently and sustainably” [70]	[30, 70]
Research Capacity	Strengthening [70]	“the ability to define problems, set objectives and priorities, build sustainable institutions and organisations, and identify solutions to key national health problems” [1]	[74, 126, 166]
	Building [166]	“a strategy that is implemented worldwide to improve the ability of developing countries to tackle the persistent and disproportionate burdens of disease they face” [2]	[123]
	Strengthening [74, 126]	“the process required for building capacity in health research would be define the institutional systems needed to support research, enumerate existing and missing resources and improve research support by addressing the identified gaps” [70]	[45]
	Strengthening	“the level of expertise and resources needed for the production of new knowledge and its application” [3] ²	[48]
	Building	“an approach to the development of sustainable skills, organisational structure, resources and commitment to health improvement...to multiply health gains many times over” [4] ³	[139]
	Building	“a systematic, purposeful and goal-oriented effort to strengthen human resources and infrastructure to enable local scientists and institutions to become independent and responsive to existing and emerging health needs and threats” [97] ²	[97]
Research Capacity	Building [164]	“the ongoing process of empowering individuals, institutions, organisations, and nations to: define and prioritise problems systematically; develop and scientifically evaluate appropriate solutions; and share and apply the knowledge generated” [164] ⁴	[29, 123, 159, 164]
	Strengthening [29, 123, 159]	“process of individual and institutional development which leads to higher levels of skills and greater ability to perform useful research” [5]	[16, 72]
	Strengthening [16, 72]	“the process by which individuals, organisations, and societies develop abilities (individually and collectively) to perform functions effectively, efficiently and in a sustainable manner to define problems, set objectives and priorities, build sustainable institutions and bring solutions to key national problems” [6]	[4, 31, 74]
	Development [4]	“the ability to conduct, manage, disseminate, and apply research in policy and practice” [132]	[132]
	Strengthening [31, 74]	“Includes any efforts to increase the ability of individuals and institutions to undertake high-quality research and to engage with the wider community of stakeholders” [7]	[91, 96]
	Building	“a long-term process that requires a systematic and inter-sectoral approach to developing appropriate regulatory frameworks, building and maintaining physical infrastructure, and investing in human resources, equipment and training in an environment conducive to research commitment and institutional support” [8]	[130]

	Strengthening	“consists of two main closely inter-related and inter-dependent activities, which, together, form the basis of institutional development. The two parts are: improving, through appropriate training, the capabilities of scientists to undertake quality research; improving institutional support – equipment, supplies and other logistic support to the institution in which the trained scientists have to work” [165]	[165]
	Building	“strengthening the abilities of individuals, institutions, and countries to perform research functions, defining national problems and priorities, solving national problems, utilizing the results of research in policy making and programme delivery.” [9]	[46]
	Strengthening	“goes beyond facilitating or funding a research project to the broader objectives of nurturing the prerequisites of the research process, such as state and institutional support, specialized training, infrastructural development, networking opportunities, publications and career paths.” [79]	[79]
	Building	“a deliberate effort to augment health and social science research outputs as well as human capital, so as to favourably impact upon a research focus area” [166] ⁵	[166]
Capacity	Building	“a process that improves the ability of a person, group, organisation or system to meet its objectives or perform better” [10]	[25]
	Building	“the process of helping communities and organisations harness human, technical and financial resources, which allows them to respond adequately to health issues in ways that inform such policies” [11]	[133]
	Strengthening	“process through which people, organisations, and society as a whole are enabled to shape their own development and adapt it to changing conditions and frameworks” [12]	[66]
	Strengthening	“process of improving individual skills, processes, and structures at the organisational level and the networks and context in which the organisation functions” [65]	[65]
	Building	“helping recipient countries to invent, develop and maintain institutions and organisations which are capable of learning and bringing about their own transformation, so that they can play a dynamic role in supporting national development processes” [13]	[150]
	Strengthening	“the ability of individuals or groups to perform tasks in a sustainable manner” [47]	[47]
Organisational capacity	Development	“the capacity of research departments in universities, think tanks and so on to fund, manage and maintain themselves” [14]	[27]
Progress	Building [142]	“ability to understand, interpret, select, adapt, use, transmit, diffuse, produce and commercialise scientific and technological knowledge in ways appropriate to culture, aspirations and level of development” [15]	[142, 143]
	Development [143]		

1. Numbered citations in italics pertain to the reference list in Supplementary Table 1. Numbered citations in normal (non-italicised) font are listed below. 2. Presented as a definition of ‘Health Systems Research’ capacity. 3. Presented as a definition of ‘research capacity’ in citing publication, but included in the ‘health research capacity’ definition list as contains specific reference to ‘health research’. 4. Cited as definition of ‘health’ research capacity in [123]. 5. Presented as a definition of ‘capacity’ in citing publication, but included in the ‘research capacity’ definition list as contains specific reference to ‘research’

List of References (not included in Supplementary Table 1)

1. Global Forum for Health Research. The 10.90 report on health research. Geneva: Global Forum for Health Research, 2000.
2. Council on Health Research for Development. Beyond air: Research and innovation as key drivers for health, equity and development. Geneva: Council on Health Research for Development, 2012.
3. Block MAG, Mills A. Assessing capacity for health policy and systems research in low and middle income countries. *Health Research Policy and Systems*, 1(1), p.1. Health research policy and systems. 2003;1(1). doi: 10.1186/1478-4505-1-1.
4. Albert E, Mickan S. Closing the gap and widening the scope. New directions for research capacity building in primary health care. *Australian family physician*. 2003;32(12):1038-40, 43. PubMed PMID: 14708158.
5. Golenko X, Pager S, Holden L. A thematic analysis of the role of the organisation in building allied health research capacity: A senior managers perspective. *BMC health services research*. 2012;12(1). doi: 10.1186/1472-6963-12-276.
6. Global Forum for Health Research. The 10/90 Report on Health Research 2003-2004. Geneva: Global Forum for Health Research, 2004.
7. ESSENCE on Health Research. Seven principles for strengthening research capacity in low- and middle-income countries: simple ideas in a complex world. Geneva: TDR-ESSENCE on Health Research, 2014.
8. Volmink J, Dare L. Addressing inequalities in research capacity in Africa. *BMJ*. 2005;331(7519):705-6. doi: 10.1136/bmj.331.7519.705. PubMed PMID: 16195259; PubMed Central PMCID: PMC1239957.
9. UNDP. Technical advisory paper, No:2. New York: UNDP, 1999.
10. LaFond AK, Brown L, Macintyre K. Mapping capacity in the health sector: a conceptual framework. *The International journal of health planning and management*. 2002;17(1):3-22. doi: 10.1002/hpm.649. PubMed PMID: 11963442.
11. Haines A, Sanders D. Building capacity to attain the Millennium Development Goals. *Trans R Soc Trop Med Hyg*. 2005;99(10):721-6. doi: 10.1016/j.trstmh.2005.06.010. PubMed PMID: 16029880.
12. Gesellschaft für Internationale Zusammenarbeit (GIZ). Capacity works. The Management Model for Sustainable Development. Eschborn: Gesellschaft für Internationale Zusammenarbeit (GIZ), 2011.
13. Depart of Economic and Social Affairs. Capacity-building for poverty eradication: Analysis of, and lessons from, evaluations of UN system support to countries' efforts. New York: United Nations, 2002.
14. DFID. Research Programme Consortia: Guidance note on capacity development. London: DFID, 2009.
15. Watson R, Crawford M, Farley S. Strategic approaches to science and technology in development. Geneva: World Bank, 2003.

Supplementary Table 10. Content analysis of capacity definitions by capacity term¹

Subject Defined	Capacity Term	Content Domains ²									
		Ind.	Ins.	Env.	Def.	Car.	App.	Qua	Sus.	Pro.	Con
Health Research Capacity	Building [139]	x	x					x		x	
Health Research Capacity	Building [97]	x	x						x		
Research Capacity	Building [132]					x	x				
Research Capacity	Building [91, 96]	x	x			x	x	x			
Research Capacity	Building [130]	x	x	x						x	x
Research Capacity	Building [46]	x	x	x	x	x	x	x			
Research Capacity	Building [166]	x				x		x			
Capacity	Building [25]	x	x	x				x		x	
Capacity	Building [133]		x	x			x			x	
Capacity	Building [150]		x	x					x		
Progress	Building [142], Development [143]					x	x				
Health Research Capacity	Building [30], Strengthening [70]	x	x	x		x	x		x		
Health Research Capacity	Building [166], Strengthening [74, 126]		x		x	x			x		
Research Capacity	Building [164], Strengthening [29, 123, 159]	x	x	x	x	x	x			x	x
Health Research Capacity	Strengthening [123]			x				x			
Health Research Capacity	Strengthening [48]					x	x				
Research Capacity	Strengthening [16, 72]	x	x			x		x		x	
Research Capacity	Strengthening [165]	x	x			x		x			
Research Capacity	Strengthening [79]	x	x	x							
Capacity	Strengthening [66]	x	x	x						x	
Capacity	Strengthening [65]	x	x	x				x		x	
Capacity	Strengthening [47]	x				x			x		
Research Capacity	Development [4], Strengthening [31, 74]	x	x	x	x	x	x	x	x	x	
Health Research Capacity	Development [45]		x					x		x	
Organisational Capacity	Development [27]		x						x		
Progress	Building [142], Development [143]					x	x				

1. Numbered citations pertain to the reference list in Supplementary Table 1. 2. The content of each definition was independently coded according to the following criteria: explicit reference to individual (ind.), institutional (Ins.) or environmental (Env.) level capacity strengthening; explicit reference to strengthening capacity in terms of defining research questions or identifying research priorities (Def.), conducting research or applying research methods (Car.) or communicating and applying research outcomes

(App.); explicit reference to facilitating an improvement in research abilities/quality (Qua.) sustainability (Sus.), reference to HRCS as a process (Pro.) and/or HRCS as a continuous activity (Con.).