Supplementary Material 1: Search terms

Search terms:

Mhealth terms: (mhealth OR m-health OR "mobile health" OR ((mobile technolog* OR "mobile phone" OR "mobile device" OR phone OR tablet OR PDA OR "personal digital assistant" OR iPAD OR iPOD OR "smart phone" OR "feature phone" OR app OR "mobile application") AND Health) OR (("Text messag*" OR "short messag*" OR SMS OR "social media" OR "mobile communication") AND health)

Review terms: ("systematic review" OR "literature review" OR "meta-analysis" OR "review of reviews" OR "systematic map" OR "evidence map" OR "evidence gap map" OR "evidence synthesis" OR "research synthesis")

Developing country term: ("developing countr*" OR LMICs OR "low- and middle-income countr*" OR "low and middle income countr*" OR Africa OR Asia OR "Latin America" OR "East* Europe" OR "majority world" OR "global south")

Supplementary Material 2: Systematic search records

Source	Terms	Results
Google Scholar	("mobile health" OR mHealth) AND review AND ("developing countries" OR LMICs OR Africa OR Asia OR Latin America")	500: 51
	Update 30 May 2017 (August 2016-May 2017)	500: 14
Google	(Mhealth OR "mobile health") AND review	500: 34 Dups 18
	Update 30 May 2017 (August 2016-May 2017)	500: 10 Dups: 7
3ie	(Mhealth OR "mobile health")	1:1
	Update 30 May 2017 (August 2016-May 2017)	7:3 Dups: 4
Cochrane	(Mhealth OR "mobile health")	4: 0
	Update 30 May 2017 (August 2016-May 2017)	3: 0
Campbell	(Mhealth OR "mobile health")	0
	Update 30 May 2017 (August 2016-May 2017)	0
CINAHL	Master string	1247*: 64
	Update 30 May 2017 (August 2016-May 2017	5: 2 Dups: 2
Pubmed	(Mhealth OR "mobile health") OR ("mobile technology*" AND health) AND ("systematic review" OR "literature review")	1008: 41
	Update 30 May 2017 (August 2016-May 2017)	46: 5 Dups: 4
Medline	Master string	1247*: 64
	Update 30 May 2017 (August 2016-May 2017	11: 7 Dups: 7
PsychInfo	(Mhealth OR "mobile health")	211*: 12
	Update 30 May 2017 (August 2016-May 2017)	13
ERIC	(Mhealth OR "mobile health")	211*: 12
	Update 30 May 2017 (August 2016-May 2017)	13
Education Full-text	(Mhealth OR "mobile health")	211*: 12
	Update 30 May 2017 (August 2016-May 2017)	13
Isl web of science	(Mhealth OR "mobile health") OR ("mobile technology*" AND health) AND ("systematic review" OR "literature review")	465: 82
	Update 30 May 2017 (August 2016-May 2017)	111: 14 Dups: 12

Supplementary material 3: List of included systematic reviews and primary studies

Systematic reviews included in the scoping review

1. Hall, C.S., Fottrell, E., Wilkinson, S. and Byass, P., 2014. Assessing the impact of mHealth interventions in low-and middle-income countries–what has been shown to work?. *Global health action*, *7*(1), p.25606.
2. Peiris, D., Praveen, D., Johnson, C. and Mogulluru, K., 2014. Use of mHealth systems and tools for non-communicable diseases in low-and middle-income countries: a systematic review. *Journal of cardiovascular translational research*, *7*(8), pp.677-691.
3. Aranda-Jan, C.B., Mohutsiwa-Dibe, N. and Loukanova, S., 2014. Systematic review on what works, what does not work and why of implementation of mobile health (mHealth) projects in Africa. *BMC public health*, *14*(1), p.188.
4. Agarwal, S., Perry, H.B., Long, L.A. and Labrique, A.B., 2015. Evidence on feasibility and effective use of mHealth strategies by frontline health workers in developing countries: systematic review. *Tropical medicine & international health*, *20*(8), pp.1003-1014.
5. Källander, K., Tibenderana, J.K., Akpogheneta, O.J., Strachan, D.L., Hill, Z., ten Asbroek, A.H., Conteh, L., Kirkwood, B.R. and Meek, S.R., 2013. Mobile health (mHealth) approaches and lessons for increased performance and retention of community health workers in low-and middle-income countries: a review. *Journal of medical Internet research*, *15*(1).
6. Braun, R., Catalani, C., Wimbush, J. and Israelski, D., 2013. Community health workers and mobile technology: a systematic review of the literature. *PloS one*, *8*(6), p.e65772.
7. Hurt, K., Walker, R.J., Campbell, J.A. and Egede, L.E., 2016. mHealth interventions in low and middle-income countries: a systematic review. *Global journal of health science*, *8*(9), p.183.
8. Bloomfield, G.S., Vedanthan, R., Vasudevan, L., Kithei, A., Were, M. and Velazquez, E.J., 2014. Mobile health for non-communicable diseases in Sub-Saharan Africa: a systematic review of the literature and strategic framework for research. *Globalization and health*, *10*(1), p.49.
9. Goel, S., Bhatnagar, N., Sharma, D. and Singh, A., 2013. Bridging the human resource gap in primary health care delivery systems of developing countries with mhealth: narrative literature review. *JMIR mHealth and uHealth*, *1*(2).
10. O'Donovan, J., Bersin, A. and O'Donovan, C., 2015. The effectiveness of mobile health (mHealth) technologies to train healthcare professionals in developing countries: a review of the literature. *BMJ Innovations*, *1*(1), pp.33-36.
11. Chib, A., van Velthoven, M.H. and Car, J., 2015. mHealth adoption in low-resource environments: a review of the use of mobile healthcare in developing countries. *Journal of health communication*, *20*(1), pp.4-34.
12. Amoakoh-Coleman, M., Borgstein, A.B.J., Sondaal, S.F., Grobbee, D.E., Miltenburg, A.S., Verwijs, M., Ansah, E.K., Browne, J.L. and Klipstein-Grobusch, K., 2016. Effectiveness of mHealth interventions targeting health care Workers to improve pregnancy outcomes in low-and middle-income countries: a systematic review. *Journal of medical Internet research*, *18*(8).
13. Adepoju, I.O.O., Albersen, B.J.A., De Brouwere, V., van Roosmalen, J. and Zweekhorst, M., 2017. mHealth for Clinical Decision-Making in Sub-Saharan Africa: A Scoping Review. *JMIR mHealth and uHealth*, *5*(3).

14. Colaci, D., Chaudhri, S. and Vasan, A., 2016. mHealth Interventions in Low-Income Countries to Address Maternal Health: A Systematic Review. *Annals of Global Health*, *82*(5), pp.922-935.
15. Tian, M., Zhang, J., Luo, R., Chen, S., Petrovic, D., Redfern, J., Xu, D.R. and Patel, A., 2017. mHealth Interventions for Health System Strengthening in China: A Systematic Review. *JMIR mHealth and uHealth*, *5*(3).
16. White, A., Thomas, D.S., Ezeanochie, N. and Bull, S., 2016. Health worker mHealth utilization: a systematic review. *CIN: Computers, Informatics, Nursing*, *34*(5), pp.206-213.

Primary studies extracted from the systematic reviews and included in the scoping review

1. Alam, M., Khanam, T. and Khan, R., 2010, December. Assessing the scope for use of mobile based solution to improve maternal and child health in Bangladesh: A case study. In *Proceedings of the 4th ACM/IEEE International Conference on Information and Communication Technologies and Development* (p. 3). ACM.
2. Andreatta, P., Debpuur, D., Danquah, A. and Perosky, J., 2011. Using cell phones to collect postpartum hemorrhage outcome data in rural Ghana. *International Journal of Gynecology & Obstetrics*, *113*(2), pp.148-151.
3. Barrington, J., Wereko-Brobby, O., Ward, P., Mwafongo, W. and Kungulwe, S., 2010. SMS for Life: a pilot project to improve anti-malarial drug supply management in rural Tanzania using standard technology. *Malaria journal*, *9*(1), p.298.
4. Chang, L.W., Kagaayi, J., Arem, H., Nakigozi, G., Ssempijja, V., Serwadda, D., Quinn, T.C., Gray, R.H., Bollinger, R.C. and Reynolds, S.J., 2011. Impact of a mHealth intervention for peer health workers on AIDS care in rural Uganda: a mixed methods evaluation of a cluster-randomized trial. *AIDS and Behavior*, *15*(8), p.1776.
5. DeRenzi, B., Findlater, L., Payne, J., Birnbaum, B., Mangilima, J., Parikh, T., Borriello, G. and Lesh, N., 2012, March. Improving community health worker performance through automated SMS. In *Proceedings of the Fifth International Conference on Information and Communication Technologies and Development*(pp. 25-34). ACM.
6. Diero, L., Rotich, J.K., Bii, J., Mamlin, B.W., Einterz, R.M., Kalamai, I.Z. and Tierney, W.M., 2006. A computer-based medical record system and personal digital assistants to assess and follow patients with respiratory tract infections visiting a rural Kenyan health centre. *BMC Medical Informatics and Decision Making*, *6*(1), p.21.
7. Zurovac, D., Sudoi, R.K., Akhwale, W.S., Ndiritu, M., Hamer, D.H., Rowe, A.K. and Snow, R.W., 2011. The effect of mobile phone text-message reminders on Kenyan health workers' adherence to malaria treatment guidelines: a cluster randomised trial. *The Lancet*, *378*(9793), pp.795-803.

   Jones, C.O., Wasunna, B., Sudoi, R., Githinji, S., Snow, R.W. and Zurovac, D., 2012. "Even if you know everything you can forget": health worker perceptions of mobile phone text-messaging to improve malaria case-management in Kenya. *PLoS One*, *7*(6), p.e38636.
   Zurovac, D., Larson, B.A., Sudoi, R.K. and Snow, R.W., 2012. Costs and cost-effectiveness of a mobile phone text-message reminder interventions to improve health workers' adherence to malaria guidelines in Kenya. *PLoS one*, *7*(12), p.e52045.

8. Gisore, P., Shipala, E., Otieno, K., Rono, B., Marete, I., Tenge, C., Mabeya, H., Bucher, S., Moore, J., Liechty, E. and Esamai, F., 2012. Community based weighing of newborns and use of mobile phones by village elders in rural settings in Kenya: a decentralised approach to health care provision. *BMC pregnancy and childbirth*, *12*(1), p.15.

9. JSI. 2013. Supply Chains for Community Case Management – strategy and plan. Availabe from: http://sc4ccm.jsi.com/about-sc4ccm/

10. Khan, A.J., Khowaja, S., Khan, F.S., Qazi, F., Lotia, I., Habib, A., Mohammed, S., Khan, U., Amanullah, F., Hussain, H. and Becerra, M.C., 2012. Engaging the private sector to increase tuberculosis case detection: an impact evaluation study. *The Lancet infectious diseases*, *12*(8), pp.608-616.

11. Lemay, N.V., Sullivan, T., Jumbe, B. and Perry, C.P., 2012. Reaching remote health workers in Malawi: baseline assessment of a pilot mHealth intervention. *Journal of health communication*, *17*(sup1), pp.105-117.

12. MacLeod, B., Phillips, J., Stone, A.E., Walji, A. and Awoonor-Williams, J.K., 2012. The architecture of a software system for supporting community-based primary health care with mobile technology: the mobile technology for community health (MoTeCH) initiative in Ghana. *Online Journal of Public Health Informatics*, *4*(1).

13. Mahmud, N., Rodriguez, J. and Nesbit, J., 2010. A text message-based intervention to bridge the healthcare communication gap in the rural developing world. *Technology and Health Care*, *18*(2), pp.137-144.

14. Ngabo, F., Nguimfack, J., Nwaigwe, F., Mugeni, C., Muhoza, D., Wilson, D.R., Kalach, J., Gakuba, R., Karema, C. and Binagwaho, A., 2012. Designing and Implementing an Innovative SMS-based alert system (RapidSMS-MCH) to monitor pregnancy and reduce maternal and child deaths in Rwanda. *The Pan African Medical Journal*, *13*.

15. Palazuelos, D., Diallo, A.B., Palazuelos, L., Carlile, N., Payne, J.D. and Franke, M.F., 2013. User perceptions of an mHealth medicine dosing tool for community health workers. *JMIR mHealth and uHealth*, *1*(1).

16. Ramachandran, D., Goswami, V. and Canny, J., 2010, December. Research and reality: using mobile messages to promote maternal health in rural India. In *Proceedings of the 4th ACM/IEEE international conference on information and communication technologies and development* (p. 35). ACM.

17. Svoronos, T., Mjungu, P., Dhadialla, R., Luk, R., Zue, C., Jackson, J. and Lesh, N., 2010. CommCare: Automated quality improvement to strengthen community-based health. *Weston, Mass.: D-Tree International*.

18. Tomlinson, M., Solomon, W., Singh, Y., Doherty, T., Chopra, M., Ijumba, P., Tsai, A.C. and Jackson, D., 2009. The use of mobile phones as a data collection tool: a report from a household survey in South Africa. *BMC Medical Informatics and Decision Making*, *9*(1), p.51.

19. Blaschke, S., Bokenkamp, K., Cosmaciuc, R., Denby, M., Hailu, B. and Short, R., 2009. Using mobile phones to improve child nutrition surveillance in Malawi. *Brooklyn, NY: UNICEF Malawi, UNICEF Innovations, Mobile Development Solutions*.

20. Munro, M.L., Lori, J.R., Boyd, C.J. and Andreatta, P., 2014. Knowledge and skill retention of a mobile phone data collection protocol in rural Liberia. *Journal of Midwifery & Women's Health*, *59*(2), pp.176-183.

   Lori, J.R., Munro, M.L., Boyd, C.J. and Andreatta, P., 2012. Cell phones to collect pregnancy data from remote areas in Liberia. *Journal of Nursing Scholarship*, *44*(3), pp.294-301.

21. McNabb, M., Chukwu, E., Ojo, O., Shekhar, N., Gill, C.J., Salami, H. and Jega, F., 2015. Assessment of the quality of antenatal care services provided by health workers using a mobile phone decision support application in northern Nigeria: a pre/post-intervention study. *PLOS one*, *10*(5), p.e0123940.
22. Martínez-Fernández, A., Lobos-Medina, I., Díaz-Molina, C.A., Chen-Cruz, M.F. and Prieto-Egido, I., 2015. TulaSalud: An m-health system for maternal and infant mortality reduction in Guatemala. *Journal of telemedicine and telecare*, *21*(5), pp.283-291.
23. Little, A., Medhanyie, A., Yebyo, H., Spigt, M., Dinant, G.J. and Blanco, R., 2013. Meeting community health worker needs for maternal health care service delivery using appropriate mobile technologies in Ethiopia. *PloS one*, *8*(10), p.e77563.

> Medhanyie, A.A., Little, A., Yebyo, H., Spigt, M., Tadesse, K., Blanco, R. and Dinant, G.J., 2015. Health workers' experiences, barriers, preferences and motivating factors in using mHealth forms in Ethiopia. *Human resources for health*, *13*(1), p.2.
> Medhanyie, A.A., Moser, A., Spigt, M., Yebyo, H., Little, A., Dinant, G. and Blanco, R., 2015. Mobile health data collection at primary health care in Ethiopia: a feasible challenge. *Journal of Clinical Epidemiology*, *68*(1), pp.80-86.

24. Surka, S., Edirippulige, S., Steyn, K., Gaziano, T., Puoane, T. and Levitt, N., 2014. Evaluating the use of mobile phone technology to enhance cardiovascular disease screening by community health workers. *International journal of medical informatics*, *83*(9), pp.648-654.