Online Annex 2: Detailed results

Public ation	Population, Country and Crisis	SRH intervention	Health Outcome *	Methods	Results and Quality rating	Conclusion
Casey et al (2013) [20]	**Population:** IDP and general population **Country:** Uganda **Crisis Type:** Armed conflict **Stage:** Early recovery	**Intervention Category:** Health system strengthening and/or capacity building **Intervention Type:** Mobile outreach, public health centre strengthening for family planning (FP) services	**Health Outcome Category:** Family Planning **Measurement:** Self-reported knowledge and use of modern FP methods; unmet contraceptive need **Definition:** Unmet contraceptive need - proportion of women wanting no more children or to wait two years or more for next child, or current or recently delivered pregnancy unwanted or mistimed; and not using modern FP nor when pregnant	**Design:** Case series **Sampling:** multi-stage sampling of 45 clusters selected according to PPS over four catchment areas, 25 households systematically selected in each. One woman of reproductive age selected in each household using Kish table **Population Enrolled:** 1005 households at baseline with total of 905 respondents. 880 households selected at endline with total of 873 respondents **Statistics:** Logistic regression to calculate odds ratios (OR), adjusted for population demographic variables	**Knowledge of modern FP:** increased from 83.3% to 94.0% (adjusted OR 3.00 [95%CI 1.92-4.67]) **Current use of modern FP methods:** increased from 7.1% to 22.6% (adjusted OR 3.34 [95%CI 2.27-4.92]) **Unmet contraceptive need:** decreased from 52.1% to 35.7% (adjusted OR 0.47 [95%CI 0.3- 0.60]) **Quality:** Moderate	This study identified statistically significant improvements in knowledge and use of modern FP, after adjustments for age, marital status, number of children and education; this study identified statistically significant decreased unmet contraceptive need This appears to be a useful intervention for improving FP provision, although no causative inference can be drawn
Dolan et al (1993) [28]	**Population:** IDP **Country:** Thailand **Crisis Type:** Armed	**Intervention Category:** Maternal and infant health improvement services **Intervention Type:** Permethrin impregnated	**Health Outcome Category:** Improving maternal/newborn health including obstetric care **Measurement:** Incidence of malaria; incidence of anaemia; pregnancy outcomes (still birth; prematurity; low birth weight; placenta weight;	**Design:** Randomised controlled trial **Sampling:** Sample size to detect reduction in malaria incidence from 37% in control group to 15% in the permethrin impregnated bed net group with 90% power and 95% confidence. Pregnant women enrolled attending antenatal visits in three camps. Random allocation to	**Incidence of malaria:** in one camp, relative risk of malaria was 1.67 (95% CI 1.07-2.61;p=0.03) times higher for women who did not use permethrin impregnated net (from study) or their own impregnated net; in other camps there was no statistically significant difference **Incidence of anaemia:** relative risk of anaemia in no net groups versus	This intervention achieved statistically significant decreases in incidence of malaria and anaemia in pregnant women using impregnated bed nets suggesting a causative association This intervention did not

	conflict **Stage:** Stabilised	bed net provision in pregnancy	infant death at 3 and 12 months) **Definitions:** Incidence of anaemia - proportion of women with haematocrits <30%, 25% and 20% for respective categories Incidence of malaria - proportion of women with at least one episode of falciparum or vivax malaria or falciparum episodes per 1000 person weeks of exposure to risk	one of the three groups **Population Enrolled:** 341 pregnant women enrolled. 34 delivered within 2 weeks or lost to follow up. 103 given impregnated bed net; 100 given non-impregnated bed net; 104 in control group **Statistics:** Relative risk; one-way analysis of variance or Student's t-test; Kruskall Wallis one-way analysis of variance and Mann Whitney U Test	permethrin impregnated bed net group was 2.00 (95% CI 1.18-3.42;p=0.03) **Pregnancy outcomes:** no statistically significant difference between any groups **Quality:** High	achieve statistically significant improvements in pregnancy outcomes
Larsen et al (2004) [24]	**Population:** General population **Country:** Sierra Leone **Crisis Type:** Armed conflict **Stage:** Early recovery	**Intervention Category:** HIV/AIDS and/or STI prevention and/or management **Intervention Type:** HIV/AIDS prevention amongst high risk populations (Commercial sex workers (CSW)/military personnel)	**Health Outcome:** Prevention, treatment and care for HIV/AIDS and STIs **Measurement:** Self-reported condom use **Definition:** Condom use - used a condom at last sexual intercourse	**Design:** Case series **Sampling:** Purposive quota-sampling for 200 CSW and 200 military participants at each stage; participants informally identified by appearance and location **Population Enrolled:** 201 CSW at baseline; 205 at endline; 202 military personnel at baseline; 205 at endline **Statistics:** Proportions	**Condom use:** CSW condom use at last sexual intercourse increased from 38% to 68% (no statistical association); Military personnel condom use at last sexual intercourse increased from 39% to 68% (no statistical association) **Quality:** Moderate	This study identified increased condom use amongst CSW and military personnel following the intervention No statistical association can be identified This appears to be a useful intervention for improving condom use amongst CSW and military personnel although no causal inference can be drawn
Leigh et al (1997)	**Population:** General	**Intervention Category:**	**Health Outcome:** Improving	**Design:** Case series	**CFR:** Decrease from 32% (year 2) to	This study identified a decrease in CFR during

[33]	population	Health system strengthening and/or capacity building	maternal/newborn health including obstetric care	**Sampling:** All records included for all obstetric patients in study unit in study time period	5% (year 6)	the study period
	Country: Sierra Leone		**Measurement:** Case fatality rate (CFR)	**Population Enrolled:** 140 admissions in year 2, 296 admissions in year 6	**Quality:** Low	No statistical association can be identified
	Crisis Type: Armed conflict	**Intervention Type:** Public hospital facility recruitment, training, equipment upgrade, waiver of up-front payments, incentivisation	**Definition:** CFR - incidence of maternal death per incidence of major obstetric complication (haemorrhage, obstructed labour, ruptured uterus, sepsis, pre-eclampsia/eclampsia, complications of induced abortion and ectopic pregnancy)	**Statistics:** Proportions, ratios		The range of interventions appear to have been useful for improving maternal mortality although no causal inference can be drawn
	Stage: Early recovery					
Mayaud (2001) [26]	**Population:** Refugee	**Intervention Category:** HIV/AIDS and/or STI prevention and/or management	**Health Outcome:** Prevention, treatment and care for HIV/AIDS and STIs	**Design:** Case series	**Condom demand:** increased (not quantified) **STI syndrome treatment rates:** >11,000 STI syndromes treated in first 12 months; >18,000 by end of programme (no baseline given)	This study identified an increase in condom demand, decreased prevalence of RTI and a substantial rate of treatment of STIs
	Country: Tanzania		**Measurement:** Condom demand; STI syndrome treatment rates; prevalence of reproductive tract infections (RTI); changes in sexual behaviour	**Sampling:** Random samples of female antenatal clinic (ANC) attenders, men attending outpatient clinics, and men in the community were interviewed, examined and they provided samples. Cluster sampling techniques used to identify representative samples of men and women in the community for surveys. Detailed methods reported elsewhere.	**Prevalence of RTI:** decreased overall from 60% to 45% **Changes in sexual behaviour:** no apparent change (not quantified)	This study did not identify any changes in sexual behaviour
	Crisis Type: Armed conflict	**Intervention Type:** HIV/AIDS information, education and communication campaign; peer education; condom distribution;	**Definitions:** STI syndrome - WHO syndromic approach	**Population Enrolled:** Not detailed	**Quality:** Low	No statistical association can be identified
	Stage: Stabilised			**Statistics:** Proportions, absolute numbers		This intervention appears to have increased demand for and utilisation of STI services, although no

		provision of STI treatment services				causative inferences can be drawn
McGinn and Allen (2006) [18]	**Population:** Refugee **Country:** Guinea **Crisis Type:** Armed conflict **Stage:** Early recovery	**Intervention Category:** Literacy and health education **Intervention Type:** Reproductive health based literacy classes	**Health Outcome:** Improving maternal/newborn health including obstetric care **Measurement:** Self-reported modern FP and condom use; safe motherhood behaviours; self-reported 'boldness' **Definition:** Safe motherhood behaviours - at least three antenatal visits	**Design:** Cross-sectional interviews **Sampling:** All women who undertook the intervention course over a three year period **Population Enrolled:** 549 women **Statistics:** Proportions, Pearsons/McNemar chi-square, stratification by prior schooling	**FP and condom use:** 40% of current FP users (50% of sample population) new since intervention; 24% reported using condom at last sexual intercourse (no statistical association) **Safe motherhood behaviour:** 92% of those who had been pregnant since the intervention made at least 3 antenatal visits (no statistical association) **Boldness:** 81% reported being more bold than other women (McNemar chi square p=<0.001) **Quality:** Moderate	This study identified increased use of modern FP since intervention without statistical association Other outcomes were not successfully compared to a baseline This intervention appears to have increased literacy, health knowledge and behaviours although no causal inferences can be drawn
McPherson et al (2006) [30]	**Population:** General population **Country:** Nepal **Crisis Type:** Armed conflict **Stage:** Early recovery	**Intervention Category:** Maternal and infant health improvement services **Intervention Type:** Provision of birth preparedness package	**Health Outcome:** Improving maternal/newborn health including obstetric care **Measurement:** Self-reported pregnancy and newborn care practices; birth preparedness index (BPI) **Definition:** BPI - percentage of components regarding most recent pregnancy/delivery: received antenatal care at least once from trained provider; names prolonged	**Design:** Case series **Sampling:** Multistage cluster sampling identified 30 clusters (wards) using PPS (estimated) for 300 participants; identical at baseline and endline. Households divided into segments and starting point randomly sampled according to constructed frame, then next closest household until 10 eligible respondents were identified **Population Enrolled:** 300 mothers of live infants aged <1 **Statistics:** Odds ratios (OR) and confidence	**Pregnancy and newborn care practices:** breastfeeding within 1 hour after birth increased from 21% to 40% (non-significant except for those exposed to messages [OR 4.2,p=<0.001]); placed nothing on cord, wiped immediately, wrapped immediately and bathed immediately all increased significantly (p<0.05); >2 antenatal care visits increased from 49% to 73% (p=0.001); use of postnatal care within 1 week increased from 11% to 25% (p=0.01) within 6 weeks from 17% to 34% (p=0.02); use of iron,	This study identified statistically significant improvements in newborn care practices; obstetric health behaviours; and birth preparedness following the intervention. It did not identify statistically significant improvements in immediate breastfeeding; use of iron, postpartum vitamin a or tetanus toxoid vaccine; or use of health facilities in

			labour as danger sign; names excessive bleeding as danger sign; made financial preparations for emergencies; made preparations for emergency transportation; delivery attended by SBA; received postpartum care from trained provider within 6 weeks of delivery	intervals calculated from logistic regression, Pearson chi-square, stratified by exposure and various demographic factors	postpartum vitamin A and tetanus toxoid vaccine did not change significantly; use of health facilities in emergencies did not change significantly **Birth preparedness index:** Increased from 33% to 54% (statistically significant (p=<0.05) in 6 of 7 domains - p=0.55 in use of skilled birth attendant) **Quality:** Moderate	emergencies This intervention appears to have improved maternal and newborn care practices although no causal inference can be drawn
Mullany et al (2010) [23]	**Population:** IDP **Country:** Burma **Crisis Type:** Armed conflict **Stage:** Stabilised	**Intervention Category:** Health system strengthening and/or capacity building **Intervention Type:** Implementation of MOM project - tiered system of community health provision and training	**Health Outcome:** Improving maternal/newborn health including obstetric care **Measurement:** Use of antenatal care; labour, delivery and post-natal care; unmet contraceptive need **Definition:** Use of antenatal care - women receiving >1 antenatal visit during last pregnancy. Labour, delivery and post-natal care - skilled birth attendance (doctor or maternal health worker). Unmet contraceptive need - number of non-pregnant women not using modern FP method to delay conception and did not want more children or wanted to delay	**Design:** Case series **Sampling:** Combined methods - in two states, two stage cluster sampling of 2000 village based clusters according to PPS, followed by proximate sampling of 10 households in each cluster with at least one eligible participant. In other states, simple interval sampling used based on total population divided by required sample size. Total sample size calculated as 2,800 **Population Enrolled:** 2,889 ever-married women of reproductive age (15-45 years) at baseline; 2,442 at endline **Statistics:** Proportions, chi-square or binomial regression, prevalence rate ratio (PRR)	**Use of antenatal care:** proportion of women receiving >1 antenatal visit increased from 39.3% to 71.8% (PRR=1.83 [95% CI 1.64–2.04]) **Labour, delivery and post-natal care:** 48.7% reported skilled birth attendant (PRR = 9.55 [95% CI7.21–12.64]) **Unmet contraceptive need:** decreased from 61.7% to 40.5%, a relative reduction of 35% (95%CI 28%–40%). **Quality:** High	This study identified improvements in antenatal care use (with associated increases in coverage of various interventions); skilled birth attendants; and decreased unmet contraceptive need This intervention appears to have improved maternal health and FP, although no causal inference can be drawn

			beyond 2 years or women who desired current pregnancy was avoided/delayed			
Orach et al (2007) [32]	**Population:** Refugee and General population **Country:** Uganda **Crisis Type:** Armed conflict **Stage:** Stabilised	**Intervention Category:** Health system strengthening and/or capacity building **Intervention Type:** Refugee and host population reproductive health services	**Health Outcome:** Improving maternal/newborn health including obstetric care **Measurement:** Costs of reproductive health interventions; rate of major obstetric intervention (MOI) for absolute maternal indication (AMI) **Definition:** Cost of reproductive health interventions - average unit cost for antenatal care, vaginal delivery, provision of condoms, Depo-Provera, oral pills, STI syndromic treatment, syphilis treatment in refugee and host population level II and III health centres	**Design:** Cross-sectional study **Sampling:** Combined purposive and random sampling. All public hospitals in the region were purposively sampled, 3 of 7 level IV HC were selected, 12 of 28 public level III HC were selected using PPS, 12 of 38 public level II HC were selected using PPS, all 4 refugee level III HC were purposively selected and 4 of 20 refugee level II HC were randomly selected. Clients who had clinical consultations were systematically sampled (every 2nd client) for exit interview, all who had family planning consultation and received modern contraception were included, hospital records were systematically sampled for 10 patients, 5-10 in HC **Statistics:** Proportions, chi-square test	**Cost of reproductive health interventions:** from 2003-2004 average cost per reproductive health intervention was US$3.02 for refugees compared to US$2.73 for host population **Rate of MOI for AMI:** from 2003-2004 significantly higher for refugees than hosts during 2003–2004, 1.02% (95%CI 0.79–1.25) compared to 0.85% (95%CI 0.80–0.90) p<0.05 **Quality:** Moderate	This study identified costs of reproductive health interventions were on average greater than those for host populations; rates of MOI for AMI were higher for refugees than for hosts
Purdin et al (2007) [29]	**Population:** Refugee **Country:** Pakistan **Crisis Type:**	**Intervention Category:** Maternal and infant health improvement services	**Health Outcome:** Improving maternal/newborn health including obstetric care **Measurement:** Maternal mortality ratio	**Design:** Ecological **Sampling:** All patients recorded in emergency obstetric care unit in study period on health information system	**Maternal mortality ratio:** decreased from 291 per 100,000 live births to 102 per 100,000 live births from year 1 to year 5 (95% CI, 181–400) **Neonatal mortality rate:** decreased from 25 per 1,000 to 20.7 per 1,000 from year 1 to	This study identified decreased maternal mortality ratio and neonatal mortality rate during the study period The range of

	Armed conflict **Stage:** Stabilised	**Intervention Type:** Community awareness raising of emergency obstetric care and training	(MMR); neonatal mortality rate **Definition:** MMR - mortality per 100,000 live births. Neonatal mortality rate - neonate mortality per 1,000 births	**Population Enrolled:** Not detailed **Statistics:** Ratios, confidence intervals	year 7 (no statistical association) **Quality:** Low	interventions appear to have been useful for improving maternal and newborn mortality, although no causal inference can be drawn
Raheel et al (2012) [21]	**Population:** Refugee **Country:** Pakistan **Crisis Type:** Armed conflict **Stage:** Stabilised	**Intervention Category:** Family planning **Intervention Type:** Subsidised health care services	**Health Outcome:** Family planning **Measurement:** Use of family planning **Definition:** Use of family planning - current use of any of: pill, IUD, condoms, injections, tubal ligation, traditional methods	**Design:** Cross-sectional survey comparison of subsidised and non-subsidised groups **Sampling:** Systematic random sampling to identify households from pre-determined list, every 6th or 5th (subsidised or non-subsidised) household selected and one eligible women selected from each household for interview (otherwise used first right household) **Population Enrolled:** 650 currently married women aged 15-49 with at least one previous pregnancy (325 in subsidised group; 325 in non-subsidised group) **Statistics:** Means, proportions, binary logistic regression, independent variables with p<0.025 retained in multivariate analysis, adjusted odds ratios (OR)	**Use of family planning:** 54.5% of women in subsidised group compared to 24.9% in non-subsidised group (p=<0.001); significant OR for greater education, nuclear family type, heard of FP, approved of FP, friends approve of FP, intends future use, has discussed no of children with husband, husband approves, but not age under 25 or over 35 **Quality:** High	This study identified a significant increase in use of family planning methods (modern and traditional) in the group receiving subsidised health care compared to those receiving non-subsidised health care This intervention appears to have been useful for improving family planning, although no causal inference can be drawn
Reid et	**Population:**	**Intervention**	**Health Outcome:**	**Design:**	**Delayed or lost to follow up**	This study identified a

al (2008) [27]	General population **Country:** Kenya **Crisis Type:** Armed conflict **Stage:** Acute	**Category:** Health system strengthening and/or capacity building **Intervention Type:** HIV/AIDS emergency preparedness plan	Prevention, treatment and care for HIV/AIDS and STIs **Measurement:** Rate of delayed or lost to follow up HIV/AIDS care **Definition:** Delayed follow up - missing an assigned appointment by more than 7 days Lost to follow up - missing an appointment by more than one month	Cohort **Sampling:** Records of all HAART consultations conducted during the study period were included **Population Enrolled:** Not detailed **Statistics:** Absolute numbers, proportions	**HIV/AIDS care:** proportion of delayed appointments increased from 6.4% at retrospective baseline (1 year previously) to 13.1% in first month of intervention, 7.2% in second month and 4.2% in third month (no statistical association); lost to follow up appointments did not change substantially **Quality:** Moderate	substantial increase in delayed appointments despite the intervention There is insufficient data or statistical analysis to determine the impact of the intervention
Samai and Sengeh (1997) [31]	**Population:** General population **Country:** Sierra Leone **Crisis Type:** Armed conflict **Stage:** Acute	**Intervention Category:** Health system strengthening and/or capacity building **Intervention Type:** Motorised referral system for obstetric emergencies	**Health Outcome:** Improving maternal/newborn health including obstetric care **Measurement:** Case fatality rate (CFR) **Definition:** CFR - incidence of maternal death per incidence of major obstetric complication (anti and post partum haemorrhage, obstructed/prolonged labour, pre-eclampsia/eclampsia, post partum sepsis, complications of induced abortion, ruptured uterus and ectopic pregnancy	**Design:** Cohort **Sampling:** All patients who used referral vehicle during study period and all admissions to emergency obstetric care unit with major obstetric complications or maternal death **Population Enrolled:** 15 women admitted in 16 month pre-intervention period; 41 admitted in 16 month post-intervention period (21 with referral vehicle, 20 without) **Statistics:** Proportions, ratios	**CFR:** decreased from 20% in pre-intervention period to 10% in post intervention period (no statistical association) **Quality:** Moderate	This study identified a decrease in CFR during the study period No statistical association can be identified The intervention appears to have been useful for improving access to emergency obstetric care and improving maternal health although no causal inference can be drawn
Viswanathan et al (2012)	**Population:** Entrapped and General	**Intervention Category:** Health system	**Health Outcome:** Improving maternal/newborn health	**Design:** Case control surveys	**Use of modern contraceptive:** increased in presence of female CHW compared to no CHW OR	This study identified a statistical association between presence of a

22	population **Country:** Afghanistan **Crisis Type:** Armed conflict **Stage:** Stabilised	strengthening and/or capacity building **Intervention Type:** Community health worker (CHW) presence	including obstetric care **Measurement:** Use of modern contraceptive; use of antenatal care; use of skilled birth attendant **Definition:** Use of modern contraceptive - use of female sterilisation, intra-uterine device, contraceptive pill, contraceptive injection and condom amongst currently married non-pregnant women Use of antenatal care - receipt >=1 visit by doctor, nurse, midwife or CHW during most recent delivery for women aged 10-49 who delivered live birth in 2 years before survey Use of skilled birth attendant - last delivery assisted by doctor, nurse or midwife	**Sampling:** Two stage cluster sampling, 425 clusters selected from over 45,000 using PPS, compact segment method used to select compound and all households in a compound were sampled with a response rate of 99% giving 8,278 households, all ever married women aged 10-49 were surveyed **Population Enrolled:** 8281 ever married women aged 10-49 women **Statistics:** Proportions, two level logistic regression model for individual, household and community level variables	1.61 (95%CI 1.21-2.15; p<0.01) non-significant compared to male CHW modelled for all levels of variables **Use of antenatal care:** increased in presence of female CHW compared to no CHW OR 2.71 (95%CI (1.87-3.92); p<0.001) non-significant compared to male CHW modelled for all levels of variables **Use of skilled birth attendant:** increased in presence of female CHW compared to no CHW OR 1.75 (95%CI 1.18-2.58; p<0.01) non-significant compared to male CHW modelled for all levels of variables **Quality:** High	female CHW in the community and increased use of modern contraception, antenatal care and skilled birth attendants; presence of a male CHW is not associated The intervention appears to have improved maternal health behaviours compared to control (no CHW present) although no causal inference can be drawn
Woodward et al (2011) [25]	**Population:** Refugee **Country:** Guinea **Crisis Type:** Armed conflict	**Intervention Category:** Literacy and health education **Intervention Type:** Reproductive health peer-	**Health Outcome:** Prevention, treatment and care for HIV/AIDS and STIs **Measurement:** Self-reported HIV/AIDS related practices **Definition:** HIV/AIDS related practices	**Design:** Cross-sectional survey (with comparison between self-reported exposure/non-exposure) **Sampling:** 45 clusters of households randomly selected from 23 camps using PPS, stratified sample of 10 men and 10 women randomly selected from	**HIV/AIDS related practices:** Self-reported exposed compared to unexposed: staying faithful to one partner decreased OR 0.59 (95%CI 0.41-0.87; p<=0.05); having fewer sexual partners increased OR 1.73 (95%CI 1.05-2.85; p<=0.05); using condoms with casual partners, abstaining and always using condoms did not	This study identified one increase in HIV-avoidant behaviour; many did not change significantly and one decreased This intervention appears to have limited use, although no causal inference can be drawn

| | **Stage:** Stabilised | education program | - avoidant changes: staying faithful; having fewer sexual partners; using condoms with casual partners; abstaining; always using condoms | cluster using random sampling from household lists, sample size was calculated to detect a difference of 10% versus 20% between strata of equal size with 80% power and 95% confidence interval accounting for clustering

Population Enrolled:
839 (445 men; 444 women) participants aged 15-49 from 23 camps

Statistics:
Proportions, logistic regression to calculate odds ratios (OR), confounders retained in multivariate model based on chi-square association tests and if they changed ORs by 10% or more | change significantly

Quality: Moderate | |