WHO recommendations on

home-based records

for maternal, newborn and child health*

Web annex A. Evidence base (GRADE and CERQual profiles)

* The full guideline document is available at:
http://apps.who.int/iris/bitstream/handle/10665/274277/9789241550352-eng.pdf

World Health Organization

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Contents

Acronyms and abbreviations

ANC	antenatal care
CI	confidence interval
cRCT	cluster randomized controlled trial
DTP3	diphtheria-tetanus-pertussis immunization 3 doses
PICO	population (P), intervention (I), comparator (C), outcome (O)
RCT	randomized controlled trial
SBA	skilled birth attendant
TT2	tetanus toxoid 2 doses
VitA	vitamin A

1. For women during pregnancy and after birth, and for newborns, children and caregivers (P), does use of any home-based records (I), compared with no use of any home-based records (C), improve maternal, newborn and child health outcomes (O)?

1.1 Maternal health

a. Maternal care-seeking

Source: Magwood O, Kpade V, Thavron K, Oliver S, Mayhew A, Pottie K. Effectiveness of home-based records on maternal, newborn and child health outcomes: a systematic review and meta-analysis. 2018b (submitted for publication)

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute (95% CI)		
Antenatal care visits: average number of visits Studies: Mori et al., 2015 (Mongolia); Osaki et al., 2018 (Indonesia)												
2	cRCTs	Serious[a]	Not serious	Serious[b]	Not serious	None	Mori et al. (2015): mean 6.62 (± 1.53) Osaki et al. (2018): mean 6.3 (± 2.5)	Mori et al. (2015): mean 6.41 (± 1.77) Osaki et al. (2018): mean 5.6 (± 3.1)	Mori (2015): mean difference 0.21 (–0.71 to 1.13)	Not calculated	LOW	
Antenatal care visits: 6 or more visits Studies: Mori et al., 2015 (Mongolia); Osaki et al., 2018 (Indonesia)												
2	cRCTs	Serious[a]	Serious[c]	Serious[b]	None	None	306/436	285/519	OR 1.93 (1.48 to 2.53)	152 more per 1000 (from 94 more to 206 more)	VERY LOW	
Antenatal care visits: 4 visits Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Not serious	None	133/183	185/271	OR 1.25 (0.81 to 1.95)	Not calculated	MODERATE	
Care-seeking for pregnancy complications Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Very serious[d]	None	11/13	36/53	OR 2.60 (0.52 to 13.04)	Not calculated	VERY LOW	

continued...

a. Maternal care-seeking - continued

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute (95% CI)		
Maternal immunization: 2 doses of tetanus toxoid vaccination (TT2) Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Not serious	None	139/183	162/271	OR 1.98 (1.29 to 3.04)	Not calculated	MODERATE	
Childbirth with a skilled birth attendant (SBA) at a health facility Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Serious[e]	None	79/183	106/271	OR 1.14 (0.75 to 1.74)	Not calculated	LOW	
Care-seeking for postpartum complications Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Very serious[f]	None	4/6	8/28	OR 5.00 (0.76 to 32.93)	Not calculated	VERY LOW	

[a] Allocation concealment and attrition bias.
[b] Differences in comparison groups (sporadic availability of home-based records versus delay of seven months).
[c] Mori et al. (2015) report no effect on outcome; Osaki et al. (2018) report significant effect.
[d] Very low number of events (< 100) and wide CIs.
[e] Low number of events (< 300).
[f] Low number of events (< 300) and wide CIs.

b. Maternal self-care practices

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative	Absolute		
Healthy pregnancy behaviours: smoking during pregnancy Studies: Mori et al., 2015 (Mongolia)												
1	cRCT	Serious[a]	Not serious	Not serious	Very serious[b]	12 control participants received the intervention	5/253	7/247	RR 1.01[c] (0.90 to 1.04)	Not calculated	VERY LOW	
Healthy pregnancy behaviours: drinking during pregnancy Studies: Mori et al., 2015 (Mongolia)												
1	cRCT	Serious[a]	Not serious	Not serious	Very serious[b]	12 control participants received the intervention	20/251	35/248	RR 1.07 (0.97 to 1.18)	Not calculated	VERY LOW	
Healthy household environment: smoking among family members Studies: Mori et al., 2015 (Mongolia)												
1	cRCT	Serious[a]	Not serious	Not serious	Serious[d]	12 control participants received the intervention	129/252	151/247	RR 0.84 (0.70 to 0.99)	97 fewer per 1000 (from 6 to 177 fewer)	LOW	
Improved communication within the household: husband's support (proxy) Studies: Osaki, 2018 (Indonesia)												
1	cRCT	Serious[e]	Not serious	Serious[f]	Serious[d]	None	109/183	119/271	OR 1.82 (1.20 to 2.76)	157 more per 1000 (from 64 to 249 more)	LOW	

[a] Serious concerns regarding confounding.
[b] Very low number of events (< 100).
[c] In Mori et al. (2015) 12 control participants received the intervention.
[d] Low number of events (< 300).
[e] Allocation concealment and attrition bias in Osaki et al. (2018).
[f] Proxy outcome (indirect evidence).

c. Maternal mortality and morbidity

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative	Absolute		
Postnatal depression Studies: Mori et al., 2015 (Mongolia)												
1	cRCT	Serious[a]	Not serious	Not serious	Very serious[b]	12 control participants received the intervention	15/253	11/248	RR 0.99 (0.94 to 1.04)	Not calculated	VERY LOW	

[a] Serious concerns regarding confounding.
[b] Very low number of events (< 100).

1.2 Newborn health

a. Newborn care-seeking

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative	Absolute		
Care-seeking for newborn illness Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Very serious[b]	None	10/14	17/29	OR 1.76 (0.45 to 6.98)	Not calculated	VERY LOW	

[a] Allocation concealment and attrition bias in Osaki et al. (2018).
[b] Very low number of events (< 100).

b. Newborn care practices

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative	Absolute		
Immediate breastfeeding Studies: Mori et al., 2015 (Mongolia)												
1	cRCT	Serious[a]	Not serious	Not serious	Not serious	12 control participants received the intervention	252/253	244/246	RR 1.07 (0.97 to 1.18)	Not calculated	MODERATE	
Improved communication within the household: husband's support (proxy) Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[b]	Not serious	Serious[c]	Serious[d]	None	65/183	72/271	OR 1.58 (1.02 to 2.46)	89 more per 1000 (from 3 to 176 more)	VERY LOW	

[a] Serious concerns regarding confounding.
[b] Allocation concealment and attrition bias in Osaki et al. (2018).
[c] Proxy outcome (indirect evidence).
[d] Low number of events (< 300).

c. Perinatal mortality and morbidity

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative	Absolute		
Neonatal deaths Studies: Mori et al., 2015 (Mongolia)												
1	cRCT	Serious[a]	Not serious	Not serious	Very serious[b]	12 control participants received the intervention	1/253	2/248	RR 1.00 (0.99 to 1.02)	Not calculated	VERY LOW	
APGAR score Studies: Mori et al., 2015 (Mongolia)												
1	cRCT	Serious[a]	Not serious	Not serious	Not serious	12 control participants received the intervention	Mean: 7.55 (± 0.89)	Mean: 7.34 (± 1.25)	Mean difference: 0.21 (0.21 to 0.63)	Not calculated	MODERATE	

[a] Serious concerns regarding confounding.
[b] Very low number of events (< 100).

1.3 Child health

a. Vaccination use

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute (95% CI)		
3 doses of diphtheria–tetanus–pertussis (DTP3) completion Studies: Lakhani et al., 1984 (United Kingdom); Stille et al., 2001 (United States of America [USA])												
2	RCT (1) Non-RCT (1)	Very serious[a]	Not serious	Serious[b]	Not serious	None	126/313	136/301	OR 0.82 (0.52 to 1.30)	Not calculated	VERY LOW	

[a] Stille et al. (2001) non-randomized design and selection bias.
[b] Differences in DTP completion measurement and differences in intervention design.

b. Child care-seeking

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute (95% CI)		
Care-seeking for childhood illness Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Very serious[b]	None	Not reported	Not reported	Not reported	Care-seeking from health personnel was similarly observed in both areas	VERY LOW	
Care-seeking for childhood illness: frequency of contact with health services Studies: Bjerkeli Grøvdal, Grimsmo & Nilsen, 2006 (Norway)												
1	RCT	Serious[c]	Not serious	Not serious	Very serious[d]	None	Children with more encounters with health care services Non-routine child health centre: 35/155 Doctor outside child health centre: 30/155 Specialist or hospital: 13/155	Children with more encounters with health care services Non-routine child health centre: 35/154 Doctor outside child health centre: 28/154 Specialist or hospital: 16/154	Non-routine child health centre: OR 0.99 (0.58 to 1.69) Doctor outside child health centre: OR 1.08 (0.61 to 1.91) Specialist or hospital: OR 1.25 (0.37 to 1.70)	Not calculated	VERY LOW	
Care-seeking for childhood illness: children with chronic disease Studies: Bjerkeli Grøvdal, Grimsmo & Nilsen, 2006 (Norway)												
1	RCT	Serious[c]	Not serious	Serious[e]	Very serious[f]	None	Not reported	Not reported	Not reported	17% more parents in the control group visited the child health centre	VERY LOW	

[a] Allocation concealment and attrition bias.
[b] Data not reported.
[c] High risk for selection bias.
[d] Unable to assess number of events as outcome data are ordinal.
[e] Population is children with chronic illness for this outcome.
[f] Unable to assess number of events as not reported.

c. Child care practices

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative	Absolute		
Exclusive breastfeeding Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Serious[b]	None	79/183	132/271	OR 0.76 (0.51 to 1.14)	Not calculated	LOW	
Complementary feeding Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Serious[b]	Large effect noted in a positive direction	113/183	74/271	OR 4.35 (2.85 to 6.65)	344 more per 1000 (from 256 to 433 more)	MODERATE	
Continued breastfeeding Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Not serious	None	167/183	224/271	OR 2.31 (1.22 to 4.39)	86 more per 1000 (from 25 to 146 more)	MODERATE	
Infant and child illness management: vitamin A (VitA) use Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Not serious	None	160/183	205/271	OR 2.00 (1.16 to 3.47)	118 more per 1000 (from 47 to 188 more)	MODERATE	
Infant and child illness management: home care – cough Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Very serious[c]	Large effect noted in a positive direction	36/45	32/60	OR 3.50 (1.44 to 8.52)	267 more per 1000 (from 89 more to 374 more)	LOW	
Infant and child illness management: home care – diarrhoea Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Serious[d]	Very serious[c]	None	20/24	25/27	Not reported	Not calculated	VERY LOW	

continued...

c. Child care practices - continued

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative	Absolute		
Improved communication within the household: husband's support (proxy) Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Serious[e]	Serious[b]	None	78/183	86/271	OR 1.62 (1.06 to 2.48)	109 more per 1000 (from 18 to 200 more)	VERY LOW	

[a] Allocation concealment and attrition bias in Osaki (2018).
[b] Low number of events (< 300).
[c] Very low number of events (< 100).
[d] Diarrhoea only one of many possibly illnesses.
[e] Proxy outcome (indirect evidence).

d. Child mortality and morbidity

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative	Absolute		
Underweight children Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Very serious[b]	None	7/135	35/250	OR 0.33 (0.12 to 0.94)	88 fewer per 1000 (from 31 to 145 fewer)	VERY LOW	
Stunted growth Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Serious[c]	None	35/133	100/248	OR 0.53 (0.30 to 0.92)	140 fewer per 1000 (from 44 to 237 fewer)	LOW	
Wasting Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Very serious[b]	None	10/133	30/248	OR 0.59 (0.24 to 1.47)	Not calculated	VERY LOW	
Risk of cognitive delay Studies: Dagvadorj et al., 2017 (Mongolia)												
1	cRCT	Very serious[d]	Not serious	Not serious	Very serious[b]	None	17/214	24/172	OR 0.32 (0.14 to 0.73)	90 fewer per 1000 (from 34 to 117 fewer)	VERY LOW	

[a] Allocation concealment and attrition bias.
[b] Very low number of events (< 100).
[c] Low number of events (< 300).
[d] High risk for performance, detection and attrition bias; participants were not blinded to intervention.

1.4 Care-seeking across the maternal newborn and child health continuum

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative	Absolute		
Maternal: TT2, antenatal care (4 visits) (ANC4), SBA Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Serious[b]	None	53/183	50/271	OR 1.46 (0.89 to 2.40)	Not calculated	LOW	
Maternal and newborn: TT2, ANC4, SBA, VitA, exclusive breastfeeding (ExBF) Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Very serious[c]	None	31/183	22/271	OR 2.38 (1.22 to 4.64)	88 more per 1000 (from 24 to 151 more)	VERY LOW	
Maternal, newborn and child: TT2, ANC4, SBA, VitA, ExBF, practised complementary feeding after six months Studies: Osaki, 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Very serious[c]	Large effect noted in a positive direction; however, wide CIs	22/183	5/271	OR 7.13 (2.43 to 20.90)	100 more per 1000 (from 25 to 264 more)	LOW	

[a] Allocation concealment and attrition bias.
[b] Low number of events (< 300).
[c] Very low number of events (< 100) and wide CIs.

2. For women during pregnancy and after birth, and for newborns, children and caregivers (P), does use of any home-based records (I), compared with inconsistent use (low use) of any home-based records (C), improve maternal, newborn and child health outcomes (O)?

No studies.

3. For women during pregnancy and after birth, and for newborns, children and caregivers (P), does use of different types of home-based records (I and C), improve maternal, newborn and child health outcomes (O)?

3.1 Maternal health

a. Maternal care-seeking

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute (95% CI)		
Antenatal care (ANC) visits: percentage of women attending 4 or more ANC visits (ANC4) Studies: Yanagisawa et al., 2015 (Cambodia)												
1	Non-RCT	Serious[a]	Not serious	Not serious	Not serious	None	Pre-intervention survey: 33.1% Post-intervention survey: 45.3% Difference: 12.3%	Pre-intervention survey: 29.4% Post-intervention survey: 39.7% Difference: 10.3%	Difference-in-differences: 1.9% Adjusted OR (intervention): 1.55 (1.09 to 2.20) Adjusted OR (control): 1.28 (0.90 to 1.81)	Not calculated	VERY LOW	
Missed ANC appointments: Studies: Lovell et al., 1987 (United Kingdom)												
1	RCT	Serious[b]	Not serious	Not serious	Serious[c]	Mothers in the control group also had access to their notes while waiting in antenatal clinic	73/98	65/105	OR 1.80 (0.99 to 3.28)	Not calculated	LOW	
Childbirth with an SBA Studies: Yanagisawa et al., 2015 (Cambodia)												
1	Non-RCT	Serious[a]	Not serious	Not serious	Not serious	None	Pre-intervention survey: 53.8% Post-intervention survey: 77.2% Difference: 23.4%	Pre-intervention survey: 56.6% Post-intervention survey: 67.8% Difference: 11.2%	Difference-in-differences: 12.2% Adjusted OR (intervention): 2.61 (1.81 to 3.78) Adjusted OR (control): 1.09 (0.76 to 1.56)	Not calculated	VERY LOW	

[a] High risk for selection, performance and detection bias.
[b] High risk for selection, performance, detection and attrition bias.
[c] Low number of events (< 300).

b. Maternal care practices

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute (95% CI)		
Healthy pregnancy behaviours: smoking at 8–16 and 32–34 weeks Studies: Lovell et al., 1987 (United Kingdom)												
1	RCT	Serious[a]	Not serious	Not serious	Serious[b]	Mothers in the control group also had access to their notes while waiting in antenatal clinic	8–16 weeks: 74/98 32–34 weeks: 73/98	8–16 weeks: 79/105 32–34 weeks: 77/105	8–16 weeks: OR 1.01 (0.54 to 1.92) 32–34 weeks: OR 1.06 (0.57 to 1.99)	Not calculated	LOW	
Healthy pregnancy behaviours: number of cigarettes smoked Studies: Elbourne et al., 1987 (United Kingdom)												
1	RCT	Serious[a]	Not serious	Not serious	Very serious[c]	None	Not reported	Not reported	Not reported	Clinical outcomes and women's health-related behaviour did not exhibit statistically significant differences either between the two groups overall, or in terms of "within-person" changes over the time period in the number of cigarettes smoked	VERY LOW	
Healthy pregnancy behaviours: drinking at 8–16 and 32–34 weeks Studies: Lovell et al., 1987 (United Kingdom)												
1	RCT	Serious[a]	Not serious	Not serious	Serious[b]	Mothers in the control group also had access to their notes while waiting in antenatal clinic	8–16 weeks: 65/98 32–34 weeks: 59/98	8–16 weeks: 77/105 32–34 weeks: 72/105	OR 0.72 (0.39 to 1.31) OR 0.69 (0.39 to 1.24)	Not calculated	LOW	

[a] High risk for selection, concealment, detection and attrition bias.
[b] Low number of events (< 300).
[c] No data reported.

c. Maternal mortality and morbidity

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute (95% CI)		
Clinical outcomes of the mother Studies: Lovell et al., 1987 (United Kingdom)												
1	RCT	Serious[a]	Not serious	Serious[b]	Serious[c]	None	55/104	69/108	OR 0.63 (0.37 to 1.10)	Not calculated	VERY LOW	

[a] High risk for selection, performance, detection and attrition bias.
[b] Study population included a high proportion of one-parent families and of unemployed people; 25% of sample included West Indian and other groups disproportionately affected by social deprivation.
[c] Small sample size (< 300).

3.2 Newborn health

a. Newborn care practices

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative	Absolute		
Early breastfeeding: percentage of participants who initiated early breastfeeding Studies: Yanagisawa et al., 2015 (Cambodia)												
1	Non-RCT	Serious[a]	Not serious	Not serious	Serious[b]	None	Pre-intervention survey: 23.8% Post-intervention survey: 40.0% Difference: 16.2%	Pre-intervention survey: 30.0% Post-intervention survey: 40.0% Difference: 10.0%	Difference-in-differences: 6.2% OR not reported	Not calculated	VERY LOW	
Immediate breastfeeding Studies: Lovell et al., 1987 (United Kingdom)												
1	Non-RCT	Serious[a]	Not serious	Serious[c]	Serious[d]	None	77/98	81/105	OR 1.09 (0.56 to 2.11)	Not calculated	VERY LOW	

[a] High risk for selection, performance, detection and attrition bias.
[b] Sample size and event numbers not available.
[c] Study population included a high proportion of one-parent families and of unemployed people; 25% of sample included West Indian and other groups disproportionately affected by social deprivation.
[d] Small sample sizes (< 300).

b. Improved communication within the household

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative	Absolute		
Improved communication within the household: husband support (proxy) Studies: Elbourne et al., 1987 (United Kingdom)												
1	RCT	Serious[a]	Not serious	Serious[b]	Very serious[c]	None	Not reported	Not reported	Not reported	Not calculated	VERY LOW	

[a] High risk for selection, performance, detection and attrition bias.
[b] Proxy outcome (indirect evidence).
[c] Unable to assess number of events as not reported.

c. Perinatal mortality and morbidity

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative	Absolute		
Neonatal deaths or stillbirths Studies: Lovell et al., 1987 (United Kingdom)												
1	RCT	Serious[a]	Not serious	Serious[b]	Very serious[c]	None	2/104	2/108	OR 1.04 (0.1 to 7.52)	Not calculated	VERY LOW	
Newborn outcomes (complications in the baby and stillborn or newborn death) Studies: Lovell et al., 1987 (United Kingdom)												
1	RCT	Serious[a]	Not serious	Serious[b]	Very serious[d]	None	Major antenatal complication, complications with the baby, miscarriage, stillborn or neonatal death: 49/104	Major antenatal complication, complications with the baby, miscarriage, stillborn or neonatal death: 39/108	OR 1.58 (0.91 to 2.73)	Not calculated	VERY LOW	

[a] High risk for selection, performance, detection and attrition bias.
[b] Study population included a high proportion of one-parent families and of unemployed people; 25% of sample included West Indian and other groups disproportionately affected by social deprivation.
[c] Wide CI and small number of events.
[d] Fewer than 100 events.

3.3 Child health

a. Vaccination uptake

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative	Absolute		
DTP3 completion Studies: Usman et al., 2009 (Pakistan); Usman et al., 2011 (Pakistan)												
2	RCTs	Not serious	Serious[a]	Not serious	Not serious	None	511/753	354/753	OR 2.39 (1.45 to 3.92)	209 more per 1000 (from 93 to 307 more)	MODERATE	

[a] I^2 value of 82% suggests high heterogeneity between studies.

4. For women during pregnancy and after birth, and for caregivers (P), does any use of home-based records (I), compared with no use of any home-based records (C), improve health service outcomes (O)?

4.1 Quality of care

a. Communication between women/caregivers and health providers

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute (95% CI)		
Communication: difficulty talking to health personnel (proxy) Studies: Bjerkeli Grøvdal, Grimsmo & Nilsen, 2006 (Norway)												
1	RCT	Serious[a]	Not serious	Serious[b]	Very serious[c]	None	Parents with more difficulty talking to health personnel: Nurse 8/119 Doctor 19/118 Other doctors 16/89 Other health personnel 1/24	Parents with more difficulty talking to health personnel: Nurse 11/115 Doctor 17/122 Other doctors 12/104 Other 6/47	Ordinal outcome measure: Nurse: P = 0.86 Doctor: P = 0.78 Other doctors: P = 0.39 Other: P = 0.60	Not calculated	VERY LOW	
Communication: influence on communication (proxy) Studies: Moore et al., 2000 (United Kingdom)												
1	RCT	Very serious[d]	Not serious	Serious[b,e]	Very serious[f]	None	Not reported	Not reported	Not reported	With one exception there was no indication of a change [in communication] after using the record	VERY LOW	

continued...

a. Communication between women/caregivers and health providers - continued

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute (95% CI)		
Communication: received explanation from health personnel (proxy) Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[g]	Not serious	Serious[b]	Serious[h]	Serious concern[i]	Improvement from baseline: 131/183	Improvement from baseline: 31/271	Difference in differences: 60.1%	There was a 60.1% higher increase in the people who had ever received explanation in the intervention arm compared with the control; no statistics reported comparing the two groups	VERY LOW	

[a] High risk for selection bias.
[b] Proxy outcome (indirect evidence).
[c] Unable to assess number of events as outcome data are ordinal.
[d] High risk for selection, attrition and other bias.
[e] Population is children with disabilities.
[f] Number of cases not reported.
[g] Allocation concealment and attrition bias in Osaki et al. (2018).
[h] Low number of events (< 300).
[i] Comparison group had higher values at baseline.

b. Satisfaction with services

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute (95% CI)		
Satisfaction with information provided (proxy) Studies: Bjerkeli Grøvdal, Grimsmo & Nilsen, 2006 (Norway)												
1	RCT	Serious[a]	Not serious	Serious[b]	Very serious[c]	None	Not reported	Not reported	Not reported	Parental satisfaction with information provided about their child's health from different professionals was the same in both groups	VERY LOW	

[a] High risk for selection bias.
[b] Proxy outcome (indirect evidence).
[c] Number of cases not reported.

c. Continuity of care

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute (95% CI)		
Continuity of care after a 2-year follow-up: Maternal and child health (MCH) handbook brought to more than 2 facilities Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Serious[b]	Serious concern[c]	Improvement from baseline: 94/183	Improvement from baseline: 17/271	Difference in differences 45%	Not calculated	VERY LOW	
Continuity of care after a 2-year follow-up: MCH handbook brought to more than 2 occasions Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Serious[b]	Serious concern[c]	Improvement from baseline: 95/183	Improvement from baseline: 36/271	Difference in differences 38.6%	Not calculated	VERY LOW	
Continuity of care after a 2-year follow-up: MCH handbook filled in by more than 2 personnel Studies: Osaki et al., 2018 (Indonesia)												
1	cRCT	Serious[a]	Not serious	Not serious	Serious[b]	Serious concern[c]	Improvement from baseline: 76/183	Improvement from baseline: 24/271	Difference in differences 33.7%	Not calculated	VERY LOW	

[a] Allocation concealment and attrition bias.
[b] Low number of events (< 300).
[c] Comparison group had higher values at baseline.

d. Identification of pregnancy complications

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute (95% CI)		
Identification of pregnancy complications Studies: Mori et al., 2015 (Mongolia)												
1	cRCT	Serious[a]	Not serious	Not serious	Very serious[b]	12 control participants received the intervention	31/252	14/247	OR 2.33 (1.21 to 4.51)	66 more per 1000 (from 11 to 157 more)	VERY LOW	

[a] Serious concerns regarding confounding.
[b] Very low number of events (< 100).

5. For women during pregnancy and after birth, and for caregivers (P), does any use of home-based records (I), compared with inconsistent use (low use) of any home-based records (C), improve health service outcomes (O)?

(No studies)

6. For women during pregnancy and after birth, and for caregivers (P), does use of different types of home-based records (I and C) improve health service outcomes (O)?

6.1 Quality of care

a. Communication between women/caregivers and health providers

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute (95% CI)		
Communication: providers explained everything to them Studies: Homer, Davis & Everitt 1999 (Australia)												
1	RCT	Serious[a]	Not serious	Not serious	Very serious[b]	None	Not reported	Not reported	Not reported	Statistically significant effect on outcome (P = 0.03)	VERY LOW	
Communication: records helped talk with doctors Studies: Homer, Davis & Everitt 1999 (Australia)												
1	RCT	Serious[a]	Not serious	Not serious	Very serious[c]	None	60/65	58/62	OR 0.83 (0.21 to 3.24)	Not calculated	VERY LOW	
Communication: easier to talk with doctors Studies: Elbourne et al., 1987 (United Kingdom)												
1	RCT	Serious[d]	Not serious	Not serious	Very serious[e]	None	48/132	25/119	Rate ratio 1.73 (1.16 to 2.59) OR 2.15 (1.22 to 3.78)	154 more per 1000 (from 35 to 291 more)	VERY LOW	

[a] High risk for selection, performance and attrition bias.
[b] Unable to assess number of events as not reported.
[c] Small sample size (< 300 events).
[d] High risk for selection, performance, detection and attrition bias.
[e] Very low number of events (< 100).

b. Satisfaction with services

Source: Systematic review of effects

Quality assessment							No. of participants		Effect		Certainty (GRADE)	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute (95% CI)		
Satisfaction with services: satisfaction Studies: Lovell et al., 1987 (United Kingdom); Elbourne et al., 1987 (United Kingdom)												
2	RCTs	Very serious[a]	Serious[b]	Serious[c]	Not serious	None	66/95 (Lovell et al., 1987) No data provided (Elbourne et al., 1987)	58/102 (Lovell et al., 1987) No data provided (Elbourne et al., 1987)	OR 1.73 (0.96 to 3.10) (Lovell et al., 1987) No data provided (Elbourne et al., 1987)	Not calculated	VERY LOW	
Satisfaction with services: feeling in control during ANC Study: Elbourne et al., 1987 (United Kingdom)												
1	RCT	Serious[a]	Not serious	Not serious	Very serious[d]	None	Enhanced feeling of control: 66/132	Enhanced feeling of control: 41/119	Rate ratio 1.45 (1.08 to 1.95)	155 more per 1000 (from 28 to 327 more)	VERY LOW	
Satisfaction with services: positive comments included a sense of control Study: Homer, Davis & Everitt 1999 (Australia)												
1	RCT	Serious[e]	Not serious	Serious[f]	Serious[g]	None	Positive comments, including a sense of control: 58/65	Positive comments, including a sense of control: 55/62	OR 1.05 (0.35 to 3.2)	Not calculated	VERY LOW	

[a] High risk for selection, performance, detection and attrition bias.
[b] Satisfaction was measured at 32 weeks and postnatally (elements of labour and delivery, including pan relief, position of delivery, induction, episiotomy and the companion during labour). The notes group were more frequently satisfied with these aspects of their care, and significantly more of the notes group reported that they were able to have a companion during labour (Lovell et al., 1987).
[c] Study population included a high proportion of one-parent families and of unemployed people; 25% of sample included West Indian and other groups disproportionately affected by social deprivation.
[d] Small number of events.
[e] High risk for selection, performance and attrition bias.
[f] Proxy measure of outcome (indirect evidence).
[g] Small sample size.

CERQual assessment: Key findings from the qualitative evidence synthesis

Source: Magwood O, Kpade V, Afza R, Oraka C, McWhirter J, Oliver S, et al. Understanding women's, caregivers', and providers' experiences with home-based records: a WHO systematic review of qualitative studies. 2018a (submitted for publication).

Key finding	Contributing studies	Overall CERQual assessment	Explanation for assessment
Health care providers valued the educational and logistical aspect of home-based records	Harrison et al., 1998 (South Africa); Phipps, 2001 (Australia); Grippo & Fracolli, 2008 (Brazil); Hagiwara et al., 2013 (Palestine); Lee et al., 2016 (United States of America [USA]); King et al., 2017 (Canada)	**Low confidence**	Moderate concerns about methodological limitations. Major concerns about coherence as most studies consistently report about providers valuing the records, but one suggested they did not. Moderate concerns about adequacy as most studies did not show rich data, saturation or member checking.
Women, caregivers' and providers' preference for home-based records	Harrison et al., 1998 (South Africa); Kitayama et al., 2014 (USA); Yanagisawa et al., 2015 (Cambodia)	**Low confidence**	Moderate concerns about methodological limitations. Studies consistently reported patient and provider values but for different record types. Major concerns about relevance of the finding to the question; moderate concerns about coherence and adequacy as most studies did not show rich data, saturation or member checking.
Home-based records improved the knowledge of mothers and helped them share in pregnancy decision-making, and improved caregivers' knowledge about their children's health status	Phipps, 2001 (Australia); Byczkowski, Munafo & Britto, 2014 (USA); Kitayama et al., 2014 (USA); Yanagisawa et al., 2015 (Cambodia); Lee et al., 2016 (USA); Kelly, Hoonakker & Dean, 2017 (USA)	**Moderate confidence**	Moderate concerns about methodological limitations. Studies consistently reported benefit of records even across a range of record types. Major concerns about adequacy as many studies did not show rich data, saturation or member checking.
The use of home-based records for maternal and child health facilitated communication between mothers/caregivers and health care professionals, and improved person-centred care	Hully & Hyne, 1993 (United Kingdom); Phipps, 2001 (Australia); Grippo & Fracolli, 2008 (Brazil); Hunter et al., 2008 (United Kingdom); Clendon & Dignam, 2010 (New Zealand); Hamilton & Wyver, 2012 (Australia); Hagiwara et al., 2013 (Palestine); Byczkowski, Munafo & Britto, 2014 (USA); Quinlivan, Lyons & Peterson, 2014 (Australia); Sharp et al., 2014 (USA); Lee et al., 2016 (USA); King et al., 2017 (Canada)	**Low confidence**	Moderate concerns about methodological limitations. Moderate concerns about relevance of the finding to the question, and about adequacy because of the limited number of participants in studies.

Key finding	Contributing studies	Overall CERQual assessment	Explanation for assessment
The use of home-based records for maternal and child health decreased fear during patient–provider interactions among users and improved confidence and feelings of empowerment	Hully & Hyne, 1993 (United Kingdom); Grippo & Fracolli, 2008 (Brazil); Clendon & Dignam, 2010 (New Zealand); Hamilton & Wyver, 2012 (Australia); Quinlivan, Lyons & Peterson, 2014 (Australia); Sharp et al., 2014 (USA); Lee et al., 2016 (USA)	**Low confidence**	Moderate concerns about methodological limitations. Across a variety of record types, increase in confidence and decrease in fear were consistently reported. Major concerns about relevance as low-income countries were not represented; moderate concerns about richness of data.
Mothers and caregivers had concerns about the privacy of online or electronic health records	Byczkowski, Munafo & Britto, 2014 (USA); Kitayama et al., 2014 (USA); Quinlivan, Lyons & Peterson, 2014 (Australia); Sharp et al., 2014 (USA); O'Connor et al., 2016 (United Kingdom)	**Low confidence**	Moderate concerns about methodological limitations. Major concerns about relevance as low-income countries not represented. Major concerns with coherence as fear of privacy reported consistently except in one study.
Mothers who shared home-based records for maternal health with partners or husbands increased partners' or husbands' involvement with pregnancies and helped deal with misconceptions about pregnancy held by other family members	Phipps, 2001 (Australia); Hagiwara et al., 2013 (Palestine); Yanagisawa et al., 2015 (Cambodia)	**Low confidence**	Moderate concerns about methodological limitations. Moderate concerns about relevance of the finding to the research question, adequacy due to limited number of studies, and overall richness of data.
The use of home-based records for child health improved family engagement with child care	Grippo & Fracolli, 2008 (Brazil); Clendon & Dignam, 2010 (New Zealand); King et al., 2017 (Canada)	**Low confidence**	Moderate concerns about methodological limitations. Moderate concerns about relevance to the research question, major concern about relevance as low-income countries not represented.
Home-based records acted as a point of commonality between caregivers/mothers and nurses, and allowed nurses to provide more comprehensive/tailored health education	Clendon & Dignam, 2010 (New Zealand); Hamilton & Wyver, 2012 (Australia); Hagiwara et al., 2013 (Palestine); Yanagisawa et al., 2015 (Cambodia); Lee et al, 2016 (USA)	**Low confidence**	Moderate concerns about methodological limitations. Moderate concerns about relevance of the finding to the research question and about adequacy because of the limited number of studies.
The use of home-based records for maternal and child health facilitated continuity of care	Hully & Hyne, 1993 (United Kingdom); Hamilton & Wyver, 2012 (Australia); Quinlivan, Lyons & Peterson, 2014 (Australia); King et al., 2017 (Canada)	**Very low confidence**	Moderate concerns about methodological limitations. Moderate concerns about relevance of the finding to the research question; major concerns about relevance as low-income countries not represented; moderate concerns about adequacy because of limited number of studies and participants.

IMMUNIZATION PASSPORT

carnet de santé

pregnancy case notes

MATERNAL AND CHILD HEALTH BOOK

child health and development passport

cartillas nacionales de salud

CARTÃO DE SAÚDE INFANTILE

family health book

road to health booklet

carte de vaccination

CHILD HEALTH RECORD

infant immunization card

CHILD HEALTH PROFILE BOOK

BABY BOOK

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