Author and year RCTs/participants R-AMSTAR Disease group	**Intervention** TH intervention SM focus and components	**Results** Meta-reviews report summary statistics Narrative syntheses: denominator is number of RCTs reporting outcome	**Harvest plot decision** *Any important quality concerns ([SR] = Systematc review author, [MR] = Meta-review author)*
Diabetes Reviews			
* **Baron 2012** 12 RCTs, n=1303 R-AMSTAR = 28 T1DM and T2DM	**TH:** Mobile TM of blood glucose **Implied SM:** Focus of SR was monitoring and provision of action plan	T1DM: 0/2 RCTS showed a significant improvement in HbA1c T2DM: 6/10 RCTs showed a significant improvement in HbA1c	**T1DM:** illustrated as neutral **T2DM:** Illustrated as positive (hatched) *Evidence inconsistent.[SR]* *Publication bias not assessed [MR]*
*** **Beatty 2013** 5 RCTs, n=1627 R-AMSTAR = 31 T2DM	**TH:** Internet based SM **Explicit SM:** Focus of SR was lifestyle advice/support	0/4 RCTs showed a significant improvement in HbA1c Intermediate outcomes reported as improved: diet in 2/5; activity in 1/5; self-efficacy in 1/5	**T2DM:** illustrated as neutral *Effect size of primary outcomes not assessed [MR]*
* **Beratarrechea 2014** 3 RCTs R-AMSTAR = 31 DM 1and2	**TH:** Mobile interventions in developing countries **Implied SM**: Information and education (n=2), monitoring and action plan (n=1)	2/3 RCTs showed a significant improvement in 'glycaemic control', but unclear how this was measured	**Excluded –** unclear if HbA1c *Publication bias not assessed [MR]*
** **Cassimatis 2012** 13 RCTs R-AMSTAR = 26 DM 1and2	**TH:** Behavioural support via video/telephone support **Explicit SM:** Focus of SR was lifestyle advice/support; Adherence support (n=8)	4/13 RCTs showed a significant improvement in HbA1c Intermediate outcomes reported as improved: diet in 5/8; activity in 5/8; self-care in 3/13; medication adherence in 3/8	**T1/2DM:** illustrated as neutral *2/13 reported relationships between intervention intensity and outcomes; both showed greater improvement with more substantial intervention [SR]*
* **Currell 2000** 2 RCTs,n=148 R-AMSTAR = 38 T1DM	**TH:** Internet and telephone interventions **Implied SM:** Focus of SR was monitoring and provision of action plan	1/2 RCTs showed significant improvement in HbA1c Intermediate outcomes reported as decreased family problem-solving in 1 RCT	**T1DM:** illustrated as neutral *Relatively old review – interventions in early stages and in development. Evidence likely to have been superseded.[MR]*
** **De Jongh 2012** 2 RCTs, n = 130 R-AMSTAR = 36 T1DM	**TH:** Mobile phone messaging for SM support **Explicit SM:** Information and education (n=1), Adherence support (n=2)	Meta-analysis of HbA1c: no significant improvement vs control (MD -0.15%, 95%CI -0.77 to 0.47) Intermediate outcomes: No change in complications in 1 RCT, no change in healthcare utilisation in 1 RCT	**T1DM:** illustrated as neutral *Most studies provided insufficient information to assess the risk of bias.[SR]*
*** **Farmer 2005** 12 RCTs, n=1038 R-AMSTAR = 36 DM 1 and 2	**TH:** TM supporting blood glucose self-monitoring **Explicit SM:** Focus of SR was monitoring and provision of action plan	Meta-analysis of HbA1c (9RCTs): No signficiant reduction in HbA1c vs control (MD -0.1%, 95%CI -0.4% to 0.04) Intermediate outcomes: no difference in healthcare utilisation	**T1/2DM:** illustrated as neutral *Review authors highlight poor description of trial methodologies [SR]*
*** **Farmer 2016** 11 RCTs, n=4820 R-AMSTAR = 37 T2DM	**TH:** Messaging and/or monitoring **Explicit SM:** Focus of SR was adherence support	Meta-analysis of impact on adherence (5RCTs): 'moderate' effect, not statistically significant Narrative synthesis: improved adherence in 6/15 interventions	**Excluded –** no control outcomes *Self-reported measures of adherence may not be reliable. High risk of bias in "the majority of" included studies. [SR]*
** **Flodgren 2015** 21 RCTs, n=3412 R-AMSTAR = 44 DM 1 and 2	**TH:** Interactive TH excluding telephone-only interventions **Implied SM:** Focus of SR was clinical review and advice; information and education (n=11)	Meta-analysis of HbA1c (16RCTs): Significant reduction vs usual care (MD -0.31, 95%CI -0.37 to -0.24) Intermediate outcomes reported as improved: healthcare usage in 1/5	**T1/2DM:** illustrated as positive
** **Garzia-Lizana 2007** 7 RCTs, n=1044 R-AMSTAR = 22 DM 1 and 2	**TH:** TH intervention excluding telephone-only **Explicit SM:** Information and education (n=3); Monitoring and action plan (n=4)	1/7 RCTs showed significant reduction in HbA1c	**T1/2DM:** illustrated as neutral *High degree of heterogeneity. Reduction in intensity of interventions if used in clinical practice may change efficacy.[SR]* *Publication bias not assessed [MR]*

**** Graziano 2009** 8 RCTs, n=2105 R-AMSTAR = 23 T2DM	**TH:** Isolated telephone interventions **Explicit SM:** Focus of SR was information and education and clinical review with advice	3/8 RCTs showed significant reduction in HbA1c	**T2DM:** illustrated as neutral *Authors acknowledge that the mediating role of self-management is not assessed in their review.[SR] Publication bias not assessed [MR]*
**** Greenwood 2014** 15 RCTs R-AMSTAR = 21 T2DM	**TH:** Remote TM to support self-monitoring of glucose **Explicit SM:** Focus of SR was information and education; monitoring and action plan; clinical review and advice; and lifestyle advice/support	HbA1c was improved in those RCTs incorporating at least 5 of 7 pre-specified SM components. Greater reductions were seen in those with 6 of 7 components.	**T2DM:** illustrated as positive (hatched) *Included participants with T2DM using insulin, for whom effects of titration may not truly reflect behaviour change. [SR] No quality assessment used.[MR]*
**** Hamine 2015** 26 RCTs R-AMSTAR = 23 DM 1 and 2	**TH:** Mobile interventions **Explicit SM:** Focus of SR was medication adherence support	11/26 RCTs showed improved glycaemic control Intermediate outcomes reported as improved adherence in 7/13 RCTs	**T1/2DM:** illustrated as neutral *Limitation of self-reported measures of adherence. Little evidence of theoretical frameworks. [SR]* *Publication bias not assessed [MR]*
*** Holtz 2012** 7 RCTs, n=417 R-AMSTAR = 22 DM 1 and 2	**TH:** Mobile interventions **Explicit SM:** Information and education (n=3); monitoring and action plan (n=6)	2/7 RCTs showed a significant improvement in HbA1c Intermediate outcomes reported as 'modest' improvements in knowledge and self-efficacy in a 'small proportion' of RCTs	**T1/2DM:** illustrated as neutral *Small sample sizes.[SR] Diversity of outcomes considered at a general level without further analysis of some specific outcomes. Publication bias not assessed [MR]*
**** Huang 2015** 18 RCTs, n=3798 R-AMSTAR = 33 T2DM	**TH:** Transmission of self-monitored blood glucose **Implied SM:** Focus of SR was monitoring with action plan	Meta-analysis of HbA1c: significant reduction vs control (MD -0.54%, 95%CI -0.75 to -0.34)	**T2DM:** illustrated as positive *Limited detail provided of included studied [MR]*
*** Jaana 2007** 13 RCTs, n-889 R-AMSTAR = 20 DM 1 and 2	**TH:** Home telemonitoring **Implied SM:** Focus of SR was monitoring and action plan; lifestyle advice/support (n=3)	7/13 showed significant improvements in HbA1c Intermediate outcomes reported as improved knowledge or self-care in 6/13	**T1/2DM:** illustrated as positive (hatched) *Heterogeneity of patient populations and outcomes measures limit generalisability [SR] No quality assessment, Publication bias not assessed [MR]*
**** Kok 2011** 9 RCTs, n-2223 R-AMSTAR = 28 DM 1 and 2	**TH:** TH intervention for SM education **Explicit SM:** Focus of SR was information and education; monitoring and action plan (n=4)	8/9 showed significant improvement in HbA1c (5 were intervention plus usual care, 4 were intervention in place of usual care)	**T1/2DM:** illustrated as positive *"evidence not fully convincing because of limited number of studies available and the methodological limitations"[SR]. Publication bias not assessed [MR]*
*** Krishna 2008** 8 RCTs, n=271 R-AMSTAR = 21 DM 1 and 2	**TH:** Mobile phone SM support **Explicit SM:** Focus of SR was information and education support and monitoring with action plan	5/6 showed significant improvement in HbA1c Intermediate outcomes reported as improved self-efficacy in 1/1 RCT	**T1/2DM:** illustrated as positive *Study heterogeneity. Concern about reliability of patient entered data. Small short-term statistically significant, changes in HbA1c may not be clinically significance [SR]. No quality assessment. Publication bias not assessed [MR]*
*** Krishna 2009** 9 RCTs, n=331 R-AMSTAR = 19 DM 1 and 2	**TH:** Mobile phone SM support and education **Explicit SM:** Focus of SR was information and education; monitoring and action plan (n=7); adherence support (n=7); and lifestyle	7/8 RCTs showed significant improvement in HbA1c Intermediate outcomes reported as improved insulin adherence in 1/1 RCT	**T1/2DM:** illustrated as positive *Small sample sizes. Lack of cost information [SR]. No quality assessment. Publication bias not assessed [MR]*

	advice (n=7)		
***** Kujipers 2012** 11 RCTs R-AMSTAR = 31 DM 1 and 2	**TH:** Web based intervention	3/6 RCTs showed significant improvement in self-efficacy	**Excluded:** no control outcome *Limited description of methods in primary studies including randomisation process [SR].* *Publication bias not assessed [MR]*
***** Liang 2011** 11 RCTs n-1060 R-AMSTAR = 34 DM 1 and 2	**TH:** Mobile phone interventions **Explicit SM:** Focus of SR was lifestyle advice/support; "most studies" included monitoring and action plan	Meta-analysis of HbA1c: significant reduction vs usual care (MD -0.5%, 95% CI -0.2 to -0.8%) Effect more marked for T2DM than T1DM	**T1/2DM:** illustrated as positive *Smaller trials showed greater effect – possible publication bias.[SR]*
*** Lieber 2014** 5 RCTs R-AMSTAR = 22 DM 1 and 2	**TH:** TM of self-monitored blood glucose **Implied SM:** Focus of SR was monitoring with action plan	1/5 RCTs showed significant improvement in HbA1c	**T1/2DM:**illustrated as neutral *Considerable heterogeneity between studies.[SR] No quality assessment. Publication bias not assessed [MR]*
**** Marcolino 2013** 13 RCTs, n=4207 R-AMSTAR = 39 DM 1 and 2	**TH:** TH facilitated communication with professional **Implied SM:** Focus of SR was information and education and clinical review with advice	Meta-analysis of HbA1c: significant reduction versus control (MD -0.44%, 95%CI -0.61 to -0.26%). Effect more marked for T1DM Secondary outcomes reported as significant reductions in blood pressure (systolic and diastolic) and LDL cholesterol	**T1/2DM:** illustrated as positive *May reflect different self-management strategies, or be confounded by age of participants and design/acceptability of telehealth intervention [SR]*
Montori 2004 8 RCTs, n=391 R-AMSTAR = 24 T1DM	**TH:** TH facilitated communication with professional **Implied SM:** Focus of SR was monitoring with action plan	Meta-analysis of HbA1c: no significant difference vs usual care (MD 0.2%, 95%CI -0.2 to 0.6%)	**T1DM:** illustrated as neutral *Early meta-analysis: few participants in the included studies. Conclusions assume 'telecare' is a single homogenous intervention [MR].*
**** Medical Advisory Secretariat 2009** 8 RCTs, n=2269 R-AMSTAR = 36 T2DM	**TH:** Home telemonitoring **Implied SM:** Focus of SR was monitoring and action plan; lifestyle advice/support (n=7)	Meta-analysis of HbA1c: significant reduction vs usual care (MD -0.48%, 95%CI -0.70 to -0.26)	**T2DM:** illustrated as positive *Possible confounding as content of intervention group training not clear. Significant heterogeneity between studies.[SR]* *Publication bias not assessed [MR]*
*** Mushcab 2015** 9 RCTs R-AMSTAR = 25 T2DM	**TH:** Web-based transmission of self-monitored blood glucose **Explicit SM:** Focus of SR was monitoring and action plan	4/9 RCTs showed significant reduction in HbA1c	**T2DM:** illustrated as neutral *Publication bias not assessed [MR]*
**** Polisena 2009** 16 RCTs, n-1671 R-AMSTAR = 38 DM 1 and 2	**TH:** Home TH (subdivided telemonitoring and telephone support) **Implied SM:** Information and education (n=5), monitoring and action plan (n=13), lifestyle advice/support (n=4)	Meta-analysis of HbA1c in home telemonitoring: significant reduction vs usual care (MD -0.21%, 95%CI -0.35% to -0.08%)	**T1/2DM:** illustrated as positive *Poor methodological quality of included studies [SR].* *Publication bias not assessed [MR]*
**** Saffari 2014** 10 RCTs, n=960 R-AMSTAR = 36 T2DM	**TH:** Mobile text-messaging **Explicit SM:** Focus of SR was information and education	Meta-analysis of HbA1c: significant reduction vs control (MD -0.595%, 95% CI -0.833 to -0.356)	**T2DM:** illustrated as positive *Egger's analysis suggests high chance of publication bias[SR]*
***** Small 2013** 7 RCTs, n=1807 R-AMSTAR = 34 DM 1 and 2	**TH:** Telephone interventions using peer support or "lay health workers" **Explicit SM:** Focus of SR was information and	Meta-analysis of HbA1c: significant reduction vs control (MD -0.26, 95%CI -0.41 to -0.11) Intermediate outcomes reported as improved self-care behaviours in 4/4 RCTs	**T1/2DM:** illustrated as positive *Publication bias not assessed [MR]*

	education; psychological support (n=3), lifestyle advice/support (n=4)		
*** Suksomboon 2014** 5 RCTs, n=953 R-AMSTAR = 36 DM 1 and 2	**TH:** Telephone-only interventions **Implied SM:** Information and education (n=2), Clinical review and advice (n=3), Adherence support (n=3)	Meta-analysis of HbA1c: no significant improvement vs usual care (MD -0.38%, 95%CI -0.91 to 0.16)	**T1/2DM:** illustrated as neutral *Variation in the contents and description of standard care in 5 trials. [SR] Studies in which active self-monitoring or medication adjustment by patients was part of the trial were excluded.[MR]*
*** Sutcliffe 2011** 9 RCTs R-AMSTAR = 36 T1DM	**TH:** TH aimed at improving access and management of young people with T1DM **Implied SM:** Focus of SR was clinical review and advice; psychological support (n=2)	2/10 RCTs showed significant improvement in HbA1c Intermediate outcomes reported as improved self-care in 2 RCTs	**T1DM:** illustrated as neutral *Breadth of study designs make magnitude of effects and effects on health difficult to determine. Little large scale high quality evidence identified. [SR]* *Publication bias not assessed [MR]*
**** Viana 2016** 6 RCTs, n=494 R-AMSTAR = 35 T1DM	**TH:** Telemonitoring of blood glucose and telephone support **Explicit SM:** Focus of SR was adherence support; information and education (n=2); monitoring and action plan (n=4)	Meta-analysis of HbA1c: no significant difference vs usual care (MD -0.124, 95%CI -0.268 to 0.020)	**T1DM:** illustrated as neutral *Publication bias not assessed [MR]*
*** Verhoeven 2007** 11 RCTs R-AMSTAR = 31 DM 1 and 2	**TH:** Teleconsultation and videoconferencing **Implied SM:** Focus of SR was clinical review and advice	Meta-analysis of HbA1c: no significant reduction vs usual care (MD 0.03%, 95%CI -0.31 to 0.24%)	**T1/2DM:** illustrated as neutral *Publication bias not assessed [MR]*
**** Verhoeven 2010** 28 RCTs R-AMSTAR = 35 T1/2DM	**TH:** Synchronous and Asynchronous teleconsultation **Implied SM:** Focus of SR was clinical review and advice	Meta-analysis of HbA1c: no significant reduction vs controls (MD -0.10%, 95%CI -0.39 to 0.18%)	**T1/2DM:** illustrated as neutral *Publication bias not assessed [MR]*
**** Wens 2008** 2 RCTs R-AMSTAR = 34 T2DM	**TH:** TH mediated education interventions **Explicit SM:** Focus of review was information and education and adherence support	1/2 showed a significant reduction in HbA1c	**T2DM:** illustrated as neutral *Search completed in 2002 as was subgroup analysis of previous Cochrane review.[MR]*
***** Wu 2010** 7 RCTs, n=1764 R-AMSTAR = 38 T2DM	**TH:** Telephone follow-up **Explicit SM:** Monitoring and action plan (n=5); clinical review and advice (n=5); psychological support (n=2); lifestyle advice/support (n=2)	Meta-analysis of HbA1c: no significant difference vs usual care (MD -0.44%, 95%CI -0.93 to 0.06). Planned subgroup analysis of more intensive interventions showed significant improvement (MD -0.84% 95%CI -1.67 to 0.0) Intermediate outcomes reported improved: BMI in 0/2, BP in 0/1, healthcare utilisation in 2/4, dietician attendance in ¼, podiatrist attendance in 1/4, self-efficacy in 2/3	**T2DM:** illustrated as neutral *Only analysed studies which reported mean difference in HbA1c. Secondary outcome analysis limited by differences in data availability.[SR]*
**** Zhai 2014** 35 RCTs R-AMSTAR = 38 T2DM	**TH:** Home telemonitoring **Implied SM:** Focus of SR was monitoring and action plan	Meta-analysis of HbA1c: significant reduction vs control (MD -0.37%, 95%CI -0.49% to -0.25%)	**T2DM:** illustrated as positive *Heterogeneity in length of follow-up. Lack of blinding in included studies.[SR]*
Heart Failure Reviews			
*** Beratarrechea 2014**	**TH:** Mobile phone interventions in developing	Improved 6 minute walk test in 1 RCT	**Excluded:** no control outcome *Publication bias not assessed [MR]*

1 RCT R-AMSTAR = 31 Heart failure	countries **Implied SM:** information and education (n=1), lifestyle advice/support (n=1)		
**** Chaudhry 2007** 5 RCTs, n=2623 R-AMSTAR = 34 Heart failure	**TH:** any telemonitoring or telephone intervention **Implied SM:** Focus of SR was information and education and adherence support	0/5 showed reduced mortality vs control 3/5 showed reduced heart failure hospitalisation 2/5 showed reduced all-cause hospitalisation	**HF:** illustrated as neutral *Poor quality of data reporting in primary studies. High heterogeneity of interventions and technologies. [SR]* *Publication bias not assessed [MR]*
***** Ciere 2012** 11 RCTs R-AMSTAR = 31 Heart failure	**TH:** telehealth interventions excluding telephone-only **Explicit SM:** Focus of SR was information and education and monitoring with action plans	Authors analysed evidence linking interventions to knowledge, self-care behaviours, and self-efficacy. Evidence was either lacking or too ambiguous to draw conclusions.	**Excluded:** no control outcome *Included study quality was generally poor with concerns relating to study power and blinding of assessors [SR]. Publication bias not assessed [MR]*
*** Clarke 2011** 13 RCTs, n=3480 R-AMSTAR = 27 Heart failure	**TH:** telemonitoring using specialised equipment **Implied SM:** Focus of SR was monitoring with action plan and adherence support	Meta-analyses: significant reduction vs control in: mortality (RR 0.77 (95% CI 0.61 to 0.97)) – primary outcome, heart failure specific hospital admission (RR 0.73 (95% CI 0.62-0.87)) No significant reduction in: all-cause hospital admission (RR 0.99 (95% CI 0.88-1.11)), emergency dept. visits (RR1.04 (95% CI 0.86-1.26))	**HF:** illustrated as positive *Significant heterogeneity of studies. [SR] Little analysis of the role of self-management despite this being highlighted. No quality assessment. Publication bias not assessed [MR]*
**** Garcia-Lizana 2007** 6 RCTs, n=1086 R-AMSTAR = 22 Heart failure	**TH:** TH intervention excluding telephone-only **Explicit SM:** information and education (n=1), monitoring and action plan (n=1), clinical review and advice (n=4)	2/3 showed reduced mortality 1/2 showed reduced hospitalisations 2/2 showed reduced emergency dept. visits 2/3 showed improved treatment adherence	**HF:** illustrated as positive *Heterogeneity between interventions and technologies. Reduction in intensity of interventions if used in clinical practice may change efficacy.[SR]* *Publication bias not assessed [MR]*
**** Inglis 2015** 41 RCTs, n=13192 R-AMSTAR = 42 Heart failure	**TH:** structured telephone support and physiological telemonitoring **Implied SM:** Focus of SR was monitoring and action plan and clinical review with advice; information and education (n=4)	Meta-analyses: both telemonitoring and telephone support reduced all-cause mortality (RR 0.80, 95%CI 0.68 to 0.94 and RR 0.87, 95% CI 0.77 to 0.98, respectively) and heart-failure hospitalisations (RR 0.71, 95% CI 0.60 to 0.83 and RR 0.87, 95% CI 0.77 to 0.98, respectively) but not all-cause hospitalisations (RR 0.95, 95% CI 0.90 to 1.00 and RR 0.95, 95% CI 0.89 to 1.01, respectively)	**HF:** illustrated as positive *Difficulty identifying outcomes from multiple publications[SR]*
**** Kuijpers 2012** 3 RCTs, n=165 R-AMSTAR = 31 Heart failure	**TH:** Web-based interventions **Explicit SM:** Focus of SR was lifestyle advice and support	1/1 RCT showed improved self-care in both intervention and control groups, but with no significant difference 0/1 RCT showed improved self-efficacy	**Excluded:** no control outcomes *Limited description of methods in primary studies including randomisation process.[SR]* *Publication bias not assessed [MR]*
*** Radhakrishnan 2012** 8 RCTs, n=835 R-AMSTAR = 25 Heart failure	**TH:** Interactive telemonitoring or educational interventions **Explicit SM:** information and education (n=4), clinical review and advice (n=4)	No sustained improvements in self-care in RCT data	**Excluded:** no control outcomes *Conclusion based on results of trials lacking control groups. No quality assessment. Publication bias not assessed [MR]*
*** Schmidt 2010** 19 RCTs R-AMSTAR = 24 Heart failure	**TH:** Home telemonitoring **Implied SM:** Focus of SR was monitoring with action plans	3/3 reported improved medication compliance with telemonitoring	**Excluded:** no control outcomes *High heterogeneity in telemonitoring definitions and in nature of interventions.[SR]* *Publication bias not assessed [MR]*
Asthma Reviews			
*** Beratarrechea**	**TH:** Mobile phone	1/1 RCT reported improved FEV1 and	**Asthma:** illustrated as positive

2014 2 RCTs R-AMSTAR = 31 Asthma	interventions in developing countries **Implied SM:** Monitoring and action plan (n=2)	symptoms scores 1/1 RCT reported reduced hospitalisation and emergency dept. visits	*Publication bias not assessed [MR]*
** **De Jongh 2012** 1 RCT, n-16 R-AMSTAR = 36 Asthma	**TH:** Mobile phone messaging interventions **Explicit SM:** Monitoring and action plan (n=1), adherence support (n=1)	1 RCT reported improvements in symptom score, hospital admissions and PEF variability. Clinic visits higher in intervention group	**Asthma:** illustrated as positive *"Extremely small sample size". Most studies provided insufficient information to assess the risk of bias.[SR]*
** **Flodgren 2015** 5 RCTs, n=825 R-AMSTAR = 44 Asthma	**TH:** Interactive TH excluding telephone-only interventions **Explicit SM:** Focus of SR was clinical review and advice; information and education (n=5)	0/4 showed improved symptom scores 0/3 showed improved spirometry tests 1/4 showed increased clinic visits in intervention group	**Asthma:** illustrated as neutral
* **Garcia-Lizana 2007** 5RCTs, n=733 R-AMSTAR = 22 Asthma	**TH:** TH interventions excluding telephone-only **Explicit SM:** Information and education (n=5)	2/5 reported improved symptom scores 2/4 reported reduced unscheduled healthcare utilisation	**Asthma:** illustrated as neutral *High degree of heterogeneity between interventions and technologies. Reduction in intensity of interventions if used in clinical practice may change efficacy.[SR]* *Publication bias not assessed [MR]*
* **Jaana 2009** 7 RCTs R-AMSTAR = 22 Asthma	**TH:** Home telemonitoring **Explicit SM:** Monitoring and action plan (n=6); clinical review and advice (n=7); adherence support (n=3)	5/7 reported improved symptoms No consistent evidence of reduced healthcare utilisation (all respiratory conditions)	**Asthma:** illustrated as positive *Limited detail on systematic review methodology. Publication bias not assessed [MR]*
* **Krishna 2009** 1 RCT, n=16 R-AMSTAR = 21 Asthma	**TH:** Mobile phone messaging with educational focus **Explicit SM:** Focus of SR was clinical review and advice; education and information	1/1 reported improved symptoms and reduced medication use	**Asthma:** illustrated as positive *Only one RCT, very small sample size. Publication bias not assessed [MR]*
** **Marcano Belisario 2013** 2 RCTs, n-408 R-AMSTAR = 39 Asthma	**TH:** Smartphone applications **Explicit SM:** Focus of review was monitoring and action plans	0/1 reported improved symptoms 1/2 reported improved health-related QOL 1/2 reported reduced emergency dept. visits 0/2 showed reduced hospital admissions	**Asthma:** illustrated as neutral *Inadequate information for one study to assess risk of bias [SR]*
** **McLean 2010** 21 RCTs, n=12038 R-AMSTAR = 42 Asthma	**TH:** Home-based TH including telemonitoring and structured telephone support **Implied SM:** Focus of SR was monitoring and action plans and information and education	Meta-analyses: significant reduction versus control in hospitalisation after 12 months (OR 0.21 (95%CI 0.0 to 0.61)). No significant reduction in emergency department visits or hospitalisation after 3 months (OR 1.16 (95%CI 0.52 to 2.58) and 0.47 (95%CI 0.01 to 36.46), respectively). Improvement in health-related QOL was below clinically significant threshold.	**Asthma:** illustrated as neutral *Poor randomisation procedure and overall variable quality of primary studies.[SR]*
COPD Reviews			
* **Bolton 2011** 2 RCTs, n=139 R-AMSTAR = 32 COPD	**TH:** Interactive physiological telemonitoring **Implied SM:** Focus of SR was monitoring and action plan; information and education (n=1)	1/1 reported improved QOL (St George's Respiratory Questionnaire) 1/1 reported fewer hospital admissions and emergency dept. visits No significant reduction in exacerbation frequency	**COPD:** illustrated as positive (hatched) *High risk of bias in quality assessment within review. [SR]* *RCTs: small sample sizes; only one including SM component.* *Publication bias not assessed [MR]*
* **Cruz 2014** 7 RCTs, n=392 R-AMSTAR = 36 COPD	**TH:** Home telemonitoring **Implied SM:** Focus of SR was monitoring with action plan	Meta analyses: statistically significant improvement vs control in hospitalisation rate (– RR 0.72 (95%CI 0.53 to 0.98)) and QOL using SGRQ (SMD -0.53 (95%CI -0.97 to -0.09)**)**	**COPD:** illustrated as neutral *Small sample sizes of RCTs (although good quality). Unable to incorporate data from some studies as it was not comparable.*

		No significant difference in mean number of hospitalisations (SMD -0.06 (95%CI -0.32 to 0.19)) emergency dept. visits (RR 0.68 (95%CI 0.38 to 1.18)) and mortality (RR=1.43, 95%CI 0.40-5.03)	*Exclusion of non-English studies (Portuguese and Spanish accepted). Unable to assess for publication bias.[SR]*
**** Flodgren 2015** 3 RCTs, n=130 R-AMSTAR = 44 COPD	**TH:** Interactive TH excluding telephone-only interventions **Explicit SM:** Focus of SR was clinical review and advice; information and education (n=3)	1/1 reported no difference in healthcare utilisation 1/1 reported no difference in symptom score 1/1 reported improved health related QOL	**COPD:** illustrated as neutral
*** Franek 2012** 6 RCTs, n=310 R-AMSTAR = 33 COPD	**TH:** Home telemonitoring and telephone-only support **Implied SM:** Focus of SR was monitoring and action plan; information and education (n=2)	2/6 reported reduced hospitalisation 1/3 reported reduced emergency dept. visits 2/2 reported improved health related QOL 0/1 reported improved mortality 0/1 reported reduced exacerbations 1/1 reported improved self-efficacy	**COPD:** illustrated as neutral *Definitions of hospitalisation differed between studies. Low quality of evidence according to quality assessment. High level of heterogeneity limiting conclusions. [SR]*
**** Kuijpers 2012** 2 RCTs R-AMSTAR = 31 COPD	**TH:** Internet-based interventions **Explicit SM:** Focus of SR was lifestyle advice/support; psychological support (n=1)	1/2 reported significant improvement in self-efficacy	**Excluded:** no control outcomes *Limited description of methods in primary studies including randomisation process.[SR]. Publication bias not assessed [MR]*
**** Lundell 2015** 9 RCTs, n=982 R-AMSTAR = 39 COPD	**TH:** Interactive telemonitoring or councelling **Explicit SM:** Focus of SR was clinical review and advice	Meta-analyses: significant improvement vs control in time spent physically active (MD 64.7mins, 95%CI 54.4 to74.9) No significant difference in exercise tolerance (MD 1.3 m (95% CI -8.1 to 5.5)) and dyspnoea score (MD 0.088 (95% CI 0.056 to 0.233))	**COPD:** illustrated as neutral
**** McLean 2011** 10 RCTs, n=1004 R-AMSTAR = 43 COPD	**TH:** Home-based TH including telemonitoring and structured telephone support **Implied SM:** Focus of SR was monitoring and action plan; information and education (n=4)	Meta-analyses: significant reduction vs control in hospitalisations (OR 0.27 (95% CI 0.11 to 0.66) and emergency dept. visits OR 0.46 (95%CI 0.33 to 0.65) No significant difference in mortality (OR 1.05 (95%CI 0.63 to 1.75)) or QOL (MD in SGRQ. -6.57 (95%CI -13.62 to 0.48))	**COPD:** illustrated as positive (hatched) *Heterogeneity in definitions of COPD and interventions evaluated. Theoretical work and modelling of complex interventions unclear[SR]*
*** Polisena 2010** 7 RCTs, n=697 R-AMSTAR = 35 COPD	**TH:** Home telemonitoring and telephone support **Implied SM:** Focus of SR was monitoring with action plan	Meta-analysis: no significant difference in mortality between telephone support and control (RR 1.07 (95% CI 0.70 to 1.62))* No overall improvement in QOL with home telemonitoring With telephone support 5/5 reported fewer hospitalisations and 4/4 reported fewer emergency dept. visits	**COPD:** illustrated as neutral *Clinical heterogeneity due to diverse study populations and study design. Insufficient number of studies to assess publication bias. [SR]*
Cancer Reviews			
**** Beatty 2013** 1 RCT, n=62 R-AMSTAR=31 Breast cancer	**TH:** Moderated internet-based self-help **Explicit SM:** Focus of SR was lifestyle advice/support; psychological support (n=1)	0/1 showed improvements in QOL or 'emotional wellbeing'	**Cancer:** illustrated as neutral *Level of professional input is unclear – may not truly qualify as telehealth. [MR]*
****Kuijpers 2012** 1 RCT, n=325 R-AMSTAR=31 Breast cancer and prostate cancer	**TH:** Internet-based interventions **Explicit SM:** Focus of SR was lifestyle advice/support	No significant improvement in patient empowerment	**Excluded:** no control outcomes *Little evidence directed at cancer specifically. Limited description of methods in primary studies including randomisation process. [SR]*
*** McAlpine 2015**	**TH:** Online education	0/2 reported improved QOL	**Cancer:** illustrated as neutral

4 RCTs R-AMSTAR= 29 Cancer (lung n=1, breast n=1, various n=2)	programmes linking patient with clinician **Explicit SM:** Focus of SR was information and education	1/2 reported improved symptom scores	*No quality assessment [MR].*
Abbreviations CI – confidence interval; COPD – Chronic Obstructive Pulmonary Disease; DM- diabetes mellitus; HF – heart failure; MD – mean difference; PEF – Peak expiratory flow; RCT – randomised controlled trial; RR – Relative risk; SGRQ - St George's Respiratory Questionnaire; SR – Systematic review; T1DM – type 1 diabetes mellitus; T2DM – type 2 diabetes mellitus; TH – Telehealth			
*The risk ratio was originally published as 1.21 (95%CI 0.84 to 1.75), however this was shown to have been the result of an error which was subsequently identified (ref) and corrected (ref).			