

E.1.1 Admission avoidance

Study	Aimonino-Ricauda 2008 ⁹			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
<p>Economic analysis: CCA (health outcome: various outcomes)</p> <p>Study design: RCT</p> <p>Approach to analysis: within-trial analysis of individual patient level cost and outcome data on Intention-to-treat basis.</p> <p>Perspective: Italian health care provider</p> <p>Follow-up: 6 months</p> <p>Discounting: Costs: n/a; Outcomes: n/a</p>	<p>Population: (n=104) Elderly patients aged > 75 years, with exacerbation of COPD who were assessed in the ED for at least 12 to 24 hours and with stable clinical condition.</p> <p>Cohort settings: Mean age: Intervention 1: 79.2 years (SD=3.1) Intervention 2: 80.1 years (SD=3.2)</p> <p>Male: Intervention 1: 75% Intervention 2: 56%</p> <p>Intervention 1: (n=52) Admission to general medical ward</p>	<p>Total costs (mean per patient): Intervention 1: £1,302 Intervention 2:£1,100 Incremental (2–1): -£202 (95% CI: NR; p=0.38)</p> <p>Cost per day (mean per patient) Intervention 1: £142 Intervention 2:£95 Incremental (2–1): -£47 (95% CI: NR; p=0.002)</p> <p>Currency & cost year: 2005 euros converted to 2005 US dollars using currency exchange rate (presented here as 2005 UK pounds^(a))</p> <p>Cost components incorporated:</p>	<p>From clinical review</p> <p>Mortality (mean per patient): Intervention 1: 23% Intervention 2: 17% Incremental (2–1): -6% (95% CI: NR; p=0.72)</p> <p>Hospital admission (reported as re-admission) Intervention 1: 87% Intervention 2: 42% Incremental (2–1): -45% (95% CI: NR; p=0.001)</p> <p>Days between discharge and re-admission Intervention 1: 37 days Intervention 2: 78 days Incremental (2–1):41 days (95% CI: NR; p=0.005)</p>	<p>ICER (Intervention 2 versus Intervention 1): n/a</p> <p>Analysis of uncertainty: No sensitivity analysis reported</p>

Study	Aimonino-Ricauda 2008 ⁹			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
	<p>Intervention 2: (n=52) Admission to a physician-led, substitutive clinical unit model at a geriatric home under the care of a team of geriatricians, nurses, physiotherapists, social workers and counsellors (hospital-at-home). Hospital-at-home patients are considered hospital patients and the hospital, which retains legal and financial responsibility, provides all services.</p>	<p>Staff time (geriatricians, nurses, counsellors, dieticians, social workers) Hospital stay (beds, staff, examinations, medications, rehabilitation, miscellaneous expenses) ED visits</p>	<p>Change in geriatric depression scale Intervention 1: 0.7 Intervention 2: -3.1 Incremental (2-1): -2.6 (95% CI: NR; p=0.00)</p> <p>Change in Nottingham health profile score Intervention 1: 0.8 Intervention 2: 3.6 Incremental (2-1): 2.8 (95% CI: NR; p=0.04)</p> <p>Change in activities of daily living score Intervention 1: -0.6 Intervention 2: -1.4 Incremental (2-1): -0.8 (95% CI: NR; p=0.10)</p> <p>Change in mini mental state examination score Intervention 1: -0.5 Intervention 2: -0.4 Incremental (2-1): 0.1 (95% CI: NR; p=0.88)</p> <p>Change in mini-nutritional assessment score Intervention 1:-1.2 Intervention 2:-1.7 Incremental (2-1): -0.5</p>	

Study	Aimonino-Ricauda 2008 ⁹			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
			(95% CI: NR; p=0.59) Change in relatives' stress scale score Intervention 1:2.6 Intervention 2:4.6 Incremental (2-1):2.0 (95% CI: NR; p=0.16) Satisfaction very good/excellent at discharge Intervention 1:88% Intervention 2: 94% Incremental (2-1): 6% (95% CI: NR; p=0..83)	
Data sources				
Health outcomes: RCT study with baseline characteristics ascertained at randomisation. Follow-up visit at 6 months with health outcomes recorded. Data were also collected from the hospital medical records for hospitalisation, mortality, resource use and costs. Quality-of-life weights: not used (CCA). Cost sources: Resource use and unit costs were based on the hospital medical records data.				
Comments				
Source of funding: Public funding Applicability and limitations: QALYs are not used as an outcome measure. Some uncertainty regarding the applicability of Italian resource use (2005) and unit costs (2005) to the NHS context. Within-trial analysis; so does not reflect all the evidence available for this comparison. Local unit costs from hospital records were used; so may not reflect the National unit costs. Uncertainty was not appropriately addressed and no sensitivity analysis undertaken.				
Overall applicability^(b): partially applicable Overall quality^(c): potentially serious limitations				

Abbreviations: CCA: cost-consequence analysis; 95% CI: 95% confidence interval; COPD: chronic obstructive pulmonary disease; ED: emergency department; ICER: incremental cost-effectiveness ratio; NA: not applicable; NR: not reported; QALYs: quality-adjusted life years.

(a) Converted using 2005 purchasing power parities.²²³

(b) Directly applicable/Partially applicable/Not applicable.

(c) Minor limitations/Potentially serious limitations/Very serious limitations.

Study	Mendoza 2009 ²⁰²			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
<p>Economic analysis: CCA (health outcome: various health outcomes)</p> <p>Study design: RCT</p> <p>Approach to analysis: Analysis of individual level data for health outcomes and resource use. Unit costs applied.</p> <p>Perspective: Spain direct medical costs</p> <p>Follow-up 12 months</p> <p>Discounting: Costs: n/a; Outcomes: n/a</p>	<p>Population: elderly patients (>65 years) presenting to the ED with decompensated heart failure (HF)</p> <p>Cohort: (n=71) Mean age (SD): Intervention 1: 79.9 (6.3) Intervention 2: 78.1 (6.2) Male: 29.8%</p> <p>Intervention 1: (n=34) Inpatient hospital care (IHC)</p> <p>Intervention 2: (n=37) Hospital at home (HaH)</p>	<p>Total costs (mean per patient): Index episode Intervention 1: £4,096 Intervention 2: £2,297 Incremental (2-1): -£1,772 (95% CI: NR; p<0.001)</p> <p>Follow-up (12 months) Intervention 1: £4,175 Intervention 2: £3,095 Incremental (2-1): -£1,080 (95% CI: NR; p<0.001)</p> <p>Currency & cost year: 2008 Euros (presented here as 2008 UK pounds^(a))</p> <p>Cost components incorporated: Hospital stay for index episode Medications Diagnostic tests Consumables Transport Visits to HF clinic Visits to primary care physician</p>	<p>Mortality: Intervention 1: 3 (8.8%) Intervention 2: 2 (5.4%) Incremental (2-1): -3.4% (95% CI: NR; p=0.67)</p> <p>Readmission for HF: Intervention 1: 17 (50%) Intervention 2: 15 (40.5%) Incremental (2-1): -9.5% (95% CI: NR; p=0.42)</p> <p>Combined clinical outcome: Intervention 1: 19 (55.9%) Intervention 2: 20 (54.1%) Incremental (2-1): -4.8% (95% CI: NR; p=0.88)</p> <p>Functional status (variation in BI): Intervention 1: 4.7 (95% CI: -2.2; 11.5) Intervention 2: 4.0 (95% CI: -0.9; 8.9) Incremental (2-1): -0.7 (95% CI: NR; p=0.21)</p> <p>health-related quality of life (HRQoL) [Idem SF-36 physical component] Intervention 1: 2.2 (95% CI: -1.9; 6.4) Intervention 2: 3.6 (95% CI: -0.5; 7.7) Incremental (2-1): 1.4 (95% CI: NR; p=0.47)</p>	<p>ICER (Intervention 2 versus Intervention 1): NA</p> <p>Analysis of uncertainty: No sensitivity analysis conducted.</p>

Study	Mendoza 2009 ²⁰²			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
		Visits to ED Re-admissions	HRQoL [Idem SF-36 mental component] Intervention 1: 2.8 (95% CI: -2.4; 8.0) Intervention 2: 4.0 (95% CI: -0.9; 8.9) Incremental (2–1): 1.2 (95% CI: NR; p=0.38)	
Data sources				
Health outcomes: Baseline: nursing and clinical evaluation, laboratory tests and ECG undertaken and functional status (BI) and HRQoL (SF-36) data collected. Follow-up: clinical data collected from patients at months 1, 3, 6 and 12, blood tests, functional status (BI) and HRQoL (SF-36) re-assessed at 12 months. Cost sources: using data collected from hospital records and using questionnaires administered during follow-up. Unit costs were based on compensation charged by Basque Health Service-Osakidetza (for hospital stays, visits and diagnostic tests) and hospital pharmacy reference prices (medications).				
Comments				
Source of funding: Grant from Caja Vital Kutxa (financial institution). Applicability and limitations: QALYs are not used as outcome measure. Spanish resource use data (2006–2007) and unit costs (2008), so some uncertainty about the applicability of resource use and costs to current NHS context. RCT-based analysis, so from one study by definition therefore not reflecting all evidence in area. Some local costs used; so there is uncertainty as to whether these will reflect national costs. Some uncertainty about whether time horizon is sufficient to capture all benefits and costs.				
Overall applicability^(b): partially applicable Overall quality^(c): potentially serious limitations				

Abbreviations: CCA: cost–consequences analysis; 95% CI: 95% confidence interval; da: deterministic analysis; ED: emergency department; HF: Heart failure; HRQoL: Health-Related quality of life; ICER: incremental cost-effectiveness ratio; NA: not applicable; NR: not reported; pa: probabilistic analysis; QALYs: quality-adjusted life years; SF-36: Short-Form 36.

(a) Converted using 2008 purchasing power parities.²²³

(b) Directly applicable/Partially applicable/Not applicable

(c) Minor limitations/Potentially serious limitations/Very serious limitations.

Study	Richards 2005 ²⁴²			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
Economic analysis: CCA (health outcome: various outcomes)	Population: Patients presenting to the ED at Christchurch Hospital, New Zealand with a clinical	Total costs (mean per patient): Intervention 1: £665 Intervention 2: £495	From clinical review: Duration until discharge: Intervention 1: 2 days (range 0–10)	ICER (Intervention 2 versus Intervention 1): NA Analysis of uncertainty: No sensitivity

Study	Richards 2005 ²⁴²			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
<p>Study design: RCT</p> <p>Approach to analysis: Within-trial analysis with individual patient data on both costs and outcomes collected and analysed using univariate analysis.</p> <p>Perspective: New Zealand funder's perspective (direct medical costs)</p> <p>Follow-up: 6 weeks</p> <p>Discounting: Costs: n/a; Outcomes: n/a</p>	<p>diagnosis of community acquired pneumonia (CAP) that is mild to moderately severe and who has been assessed as low risk (CURB-65 score of 0-2, corresponding to mortality risk of 0.7-9.2%).</p> <p>Cohort settings: (n=55 (ITT), 49 (PP)) Mean age: Intervention 1: 49.8 years Intervention 2: 50.1 years</p> <p>Male: Intervention 1: 13/25 (52%) Intervention 2: 13/24 (54.2%)</p> <p>Intervention 1: (n=25) Standard treatment with antibiotics in hospital following initiation of treatment at the ED.</p> <p>Intervention 2: (n=24) Treatment at home delivered by primary care teams under the Extended Care @Home (EC@H) program which provides extended medical</p>	<p>Incremental (2-1): -£171 (95% CI: NR; p=NR)</p> <p>Currency & cost year: 2003 New Zealand Dollars (presented here as 2003 UK pounds^(a))</p> <p>Cost components incorporated: Staff time Transport Equipment Pharmaceuticals Support services (such as home help) Administration Laboratory tests Radiological examinations</p>	<p>Intervention 2: 4 days (range 1-14) Incremental (2-1): 2 days (95% CI: NR; p=0.004)</p> <p>Duration of IV antibiotic administration: Intervention 1: 2 days Intervention 2: 3 days Incremental (2-1): 1 day (95% CI: NR; p=0.22)</p> <p>Duration of oral antibiotic administration: Intervention 1: 7 days Intervention 2: 9 days Incremental (2-1): 2 days (95% CI: NR; p=0.22)</p> <p>Functional outcomes (SF-12 mental component): At 2 weeks Intervention 1: 48.6 Intervention 2: 48.3 Incremental (2-1): -0.3 (95% CI: NR; p=0.91) At 6 weeks Intervention 1: 51 Intervention 2: 50.4</p>	<p>analysis reported</p> <p>No significant difference was observed in patient rated symptoms at 2 weeks. There was significant difference in sleep disturbance in favour of hospital treatment (p<0.001) at two weeks which did not persist at 6 weeks. There was also no significant difference in time to resolution of fever, tachycardia and tachypnoea.</p>

Study	Richards 2005 ²⁴²			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
	<p>and nursing care to patients in their home. The team provides IV antibiotic service using standard cannula, home support service, short-term home nursing and mobile diagnostic testing. The patients had a daily visit from the GP and at least twice daily visit from a nurse. Patients' Chest X-ray was reviewed initially by a respiratory physician. Patients were given a 24-hour telephone number to contact in case of emergency.</p>		<p>Incremental (2-1): -0.6 (95% CI: NR; p=0.81)</p> <p>Functional outcomes (SF-12 physical component):</p> <p>At 2 weeks</p> <p>Intervention 1: 40.2 Intervention 2: 38.1 Incremental (2-1): -2.1 (95% CI: NR; p=0.45)</p> <p>At 6 weeks</p> <p>Intervention 1: 45.8 Intervention 2: 42.2 Incremental (2-1): -3.6 (95% CI: NR; p=0.18)</p> <p>Adverse events: See clinical review</p> <p>Patient satisfaction:</p> <p>Intervention 1: 60% "very happy" with their care Intervention 2: 100% "very happy" with their care Incremental (2-1): 40% (95% CI: NR; p=0.001)</p>	
Data sources				
<p>Health outcomes: Randomised controlled trials with baseline data collected at trial entry. Outcome measures included general functioning (SF-12 score), duration to</p>				

Study	Richards 2005 ²⁴²			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
discharge, duration of IV antibiotics and subsequent oral antibiotics administration, self-rated symptom severity, complications and patient satisfaction. Data on self-rated symptom severity, general functioning and adverse events were recorded daily. Data on duration of admission and antibiotics were extracted from the case records. Patients were contacted by telephone at 2 and 6 weeks after presentation to record satisfaction, self-rated symptom severity, and functional outcome (SF-12). Quality-of-life weights: SF-12 utility data were collected from patients but not combined with costs in a full cost-utility analysis. Cost sources: resource use data were collected from the EC@H data for the home care group patients. Victorian DRG costs were used for the hospital treatment group.				
Comments				
Source of funding: NR. Applicability and limitations: There is uncertainty about the applicability of resource use (2002-2003) and unit costs (2003) from New Zealand to the NHS context. QALYs were not used as an outcome measure. Within-trial analysis so does not reflect all the evidence available for this comparison. The short time horizon (6 weeks) may not reflect all potential differences in costs and outcomes. Unit costs from EC@H service records were used to calculate the costs for patients in the home treatment group. It is not clear whether these costs are national level. Univariate analysis was used in the comparison and no sensitivity analysis was undertaken.				
Overall applicability^(b): partially applicable Overall quality^(c): potentially serious limitations				

Abbreviations: CCA: cost-consequence analysis; 95% CI: 95% confidence interval; ED: emergency department; ICER: incremental cost-effectiveness ratio; NR: not reported; QALYs: quality-adjusted life years; SF-12: short form-12.

(a) Converted using 2003 purchasing power parities.²²³

(b) Directly applicable/Partially applicable/Not applicable.

(c) Minor limitations/Potentially serious limitations/Very serious limitations.

Study	Tibaldi 2009 ²⁹⁶			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
<p>Economic analysis: CCA (health outcome: various including mortality, quality of life, depression, functional, nutritional and cognitive status)</p> <p>Study design: RCT</p> <p>Approach to analysis: Within-trial analysis of costs and outcomes.</p>	<p>Population: Patients, 75 years or older, with a pre-existing diagnosis of CHF and persistent functional impairment indicative of New York Heart Association (NYHA) class III or IV.</p> <p>Cohort settings: n=101</p> <p>Mean age:</p>	<p>Total costs (mean per patient):</p> <p>Intervention 1: £1,554</p> <p>Intervention 2: £1,337</p> <p>Incremental (2-1): -£217 (95% CI: NR; p<0.001)</p> <p>Cost per day (mean per patient):</p> <p>Intervention 1: £206</p> <p>Intervention 2: £81</p>	<p>Mortality (6-months):</p> <p>Intervention 1: 15%</p> <p>Intervention 2: 15%</p> <p>Incremental (2-1): 0 (95% CI: NR; p=0.83)</p> <p><i>See clinical review for the other health outcomes</i></p>	<p>ICER (Intervention 2 versus Intervention 1): n/a</p> <p>Analysis of uncertainty: No sensitivity analysis is reported. The authors reported that a proportion of patients in the GMW arm were institutionalised on discharge (16%) for an average of 26 days at a mean cost per day of £115. Adding this cost to the GHHS arm</p>

<p>Parametric tests (paired and unpaired t-test was used for analysing costs.</p> <p>Perspective: Italian Healthcare system</p> <p>Follow-up: 6 months</p> <p>Treatment effect duration^(a): 6 months</p> <p>Discounting: Costs: n/a; Outcomes: n/a</p>	<p>Intervention 1: 80.1 years Intervention 2: 82.2 years</p> <p>Male:</p> <p>Intervention 1: 57% Intervention 2: 46%</p> <p>Intervention 1: (n=53) Routine hospital care in a general medical ward (GMW)</p> <p>Intervention 2: (n=48) Hospital-led geriatric hospital-at-home service (GHHS) provided by a multidisciplinary team (4 geriatricians, 13 nurses, 3 physiotherapists, 1 social worker, 1 counsellor).</p>	<p>Incremental (2–1): -£125 (95% CI: NR; p=NR)</p> <p>Currency & cost year: 2005 Euros (presented here as 2005 UK pounds^(b))</p> <p>Cost components incorporated: Hospital costs (including costs for beds, staff time, examinations, medications and rehabilitation, non-sanitary and administrative costs were also included. GHHS costs included the cost of staff time, transportation of equipment and patients to and from hospital and administrative costs</p>		<p>would increase the saving in mean total cost per patient from £217 to £226.</p>
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Data sources

Health outcomes: Within trial analysis with data on quality of life, depression, functional and nutritional status and clinical symptoms collected at baseline and at 6 months follow-up. Six-month mortality was also reported. **Quality-of-life weights:** n/a. **Cost sources:** hospital cost data were collected from the official hospital medical cost database.

Comments

Source of funding: NR. **Applicability and limitations:** Cost-consequences analysis, so QALYs are not used as outcome. Some uncertainty about the applicability of resource use and unit costs from Italy in 2005 to the current NHS context. RCT-based analysis so from one study by definition therefore not reflecting all evidence in area. There is also some uncertainty about whether time horizon is sufficient to reflect all the possible downstream differences in costs and outcomes. The sources of unit costs are not clearly described, so not clear whether they are local or national unit costs. No sensitivity analysis is reported.

Overall applicability^(c): Partially applicable **Overall quality^(d):** Potentially serious limitations

Abbreviations: CCA: cost–consequence analysis; CHF: Chronic heart failure; 95% CI: 95% confidence interval; ICER: incremental cost-effectiveness ratio; NR: not reported; QALYs: quality-adjusted life years.

(a) For studies where the time horizon is longer than the treatment duration, an assumption needs to be made about the continuation of the study effect. For example, does a difference in utility between groups during treatment continue beyond the end of treatment and if so for how long.

(b) Converted using 2005 purchasing power parities.²²³

(c) Directly applicable/Partially applicable/Not applicable.

(d) Minor limitations/Potentially serious limitations/Very serious limitations.

Study	Thornton 2005 ²⁹² and Elliott 2005 ¹⁰²			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
<p>Economic analysis: CEA (health outcome: proportion of patients with $\leq 0\%$ decline in FEV₁)</p> <p>Study design: Retrospective observational study</p> <p>Approach to analysis: Individual patient data analysis for both costs and outcomes.</p> <p>Perspective: UK NHS Trust (secondary care provider)</p> <p>Time horizon/Follow-up: one year</p> <p>Treatment effect duration^(a): one year</p> <p>Discounting: Costs: n/a; Outcomes: n/a</p>	<p>Population: Adults (≥ 16 years) with confirmed cystic fibrosis (CF) who experienced at least one respiratory exacerbation during the study period, identified from Manchester Adult CF Centre.</p> <p>Cohort settings: (n=116) Mean age: Intervention 1: 26 years Intervention 2: 26 years Intervention 3: 25 years Male: Intervention 1: 58.8% Intervention 2: 36.2% Intervention 3: 61.1%</p> <p>Intervention 1: (n=51) Hospital treatment with intravenous (IV) antibiotics, where the patient received $>60\%$ of the treatment courses at hospital</p> <p>Intervention 2: (n=47) Home treatment with IV antibiotics, where the patient received $>60\%$ of</p>	<p>Total costs (mean per patient): Intervention 1: £22,609 Intervention 2: £13,528 Intervention 3: £19,927</p> <p>Incremental (2–1): -£9,081 (95% CI: NR; p=NR)</p> <p>Currency & cost year: 2002 UK pounds.</p> <p>Cost components incorporated: Hospital stay, clinic appointments, laboratory tests, standard home kits, staff time, IV antibiotics</p>	<p>proportion of patients with $\leq 0\%$ decline in FEV₁: Intervention 1: 58.8% Intervention 2: 42.6% Intervention 3: 50%</p> <p>Incremental (2–1): -16.2% (95% CI: NR; p=NR)</p> <p>proportion of patients with $\leq 2\%$ decline in FEV₁: Intervention 1: 62.7% Intervention 2: 42.6% Intervention 3: 55.6%</p> <p>Incremental (2–1): -20.1% (95% CI: NR; p=0.045)</p>	<p>ICER (Intervention 2 versus Intervention 1): £46,098 per extra patient with $\leq 0\%$ decline in FEV₁ 95% CI: -£362,472 to £374,044</p> <p>£37,885 per extra patient with $\leq 2\%$ decline in FEV₁ 95% CI: £1,236 to £269,023</p> <p>Analysis of uncertainty: Bootstrapping of cost data was used to calculate CIs and represent uncertainty</p>

Study	Thornton 2005 ²⁹² and Elliott 2005 ¹⁰²			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
	<p>the treatment courses at home.</p> <p>Intervention 3: (n=18) Both home and hospital treatment with IV antibiotics, where the patient received almost equal amounts of home and hospital treatment</p>			

Data sources

Health outcomes: Observational data analysis using univariate tests (independent samples t-test, ANOVA and Chi-Square). **Quality-of-life weights:** NA. **Cost sources:** resource use data collected from hospital records, ward diaries and a time and motion study. Unit costs were based on both national and local sources including BNF, hospital supplies catalogue and hospital finance records.

Comments

Source of funding: institutional funding. **Applicability and limitations:** CEA, so QALYs are not used as outcome. The perspective is that of an NHS trust only and does not include personal and social services. Some uncertainty about the applicability of resource use and unit costs from 2002 to the current NHS context. Retrospective observational study, so by definition not reflecting all evidence in this area. Univariate analysis was used, so results subject to confounding. Some uncertainty about whether time horizon is sufficient to reflect all differences in costs and outcomes. Both local and National unit costs used, so some uncertainty regarding whether the local costs reflect national averages. Limited sensitivity analysis presented. **Other:**

Overall applicability^(b): partially applicable **Overall quality^(c):** potentially serious limitations

Abbreviations: CEA: cost-effectiveness analysis; 95% CI: 95% confidence interval; CF: cystic fibrosis; EV₁: Fixed expiratory volume in 1 second; ICER: incremental cost-effectiveness ratio; IV: Intravenous; NHS: National Health Service; NR: not reported; QALYs: quality-adjusted life years.

(a) For studies where the time horizon is longer than the treatment duration, an assumption needs to be made about the continuation of the study effect. For example, does a difference in utility between groups during treatment continue beyond the end of treatment and if so for how long.

(b) Directly applicable/Partially applicable/Not applicable.

(c) Minor limitations/Potentially serious limitations/Very serious limitations.

Study	Vianello 2013 ³⁰⁴			
Study details	Population & interventions	Costs	Health outcomes	Cost effectiveness
Economic analysis: CCA	Population:	Total costs (mean per	Mortality-3months:	ICER (Intervention 2 versus Intervention 1):

<p>(health outcome: mortality, treatment failure, time to recovery)</p> <p>Study design: RCT</p> <p>Approach to analysis: within trial analysis of health outcomes and resource use. Unpaired t-test was used to compare costs in both arms.</p> <p>Perspective: Italian health care provider</p> <p>Follow-up: 3 months</p> <p>Treatment effect duration^(a): 3 months</p> <p>Discounting: Costs: n/a; Outcomes: n/a</p>	<p>Adult neuromuscular patients with respiratory tract infection requiring hospital admission</p> <p>Cohort settings: (n=59)</p> <p>Mean age: Intervention 1: 46.7 years Intervention 2: 44.6 years</p> <p>Male: Intervention 1: 88.9% Intervention 2: 65.4%</p> <p>Intervention 1: (n=27) Admission to hospital for inpatient treatment of respiratory tract infection</p> <p>Intervention 2: (n=26) Treatment at home under the care of a Hospital-at-home service. The service was delivered primarily by a district nurse with follow-up from a pulmonologist and respiratory therapist.</p>	<p>patient):</p> <p>Intervention 1: £7,875 Intervention 2: £480 Incremental (2-1): £7,395 (95% CI: NR; p<0.001)</p> <p>Currency & cost year: 2010 Euros (presented here as 2010 UK pounds^(b))</p> <p>Cost components incorporated: Home visits by pulmonologist, district nurse and respiratory therapist. Daily rental costs for mechanical cough assist and portable ventilator, antibiotic prescriptions and telephone calls. Hospital stays</p>	<p>Intervention 1: 14.8% Intervention 2: 11.5 % Incremental (2-1):- 3.3% (95% CI: NR; p=0.42)</p>	<p>n/a</p> <p>Analysis of uncertainty: no sensitivity analysis reported</p>
Data sources				
<p>Health outcomes: Within trial analysis with baseline data collected using clinical and functional measure. Data on mortality were collected 3 months. Quality-of-life weights: n/a. Cost sources: both local and national unit cost sources were used.</p>				
Comments				
<p>Source of funding: NR. Applicability and limitations: Cost-consequences analysis, so QALYs are not used as outcome. Some uncertainty about the applicability of resource use and unit costs from Italy in 2010 to the current NHS context. RCT-based analysis so from one study by definition therefore not reflecting all evidence in area. It is not clear whether the cost of hospitalisation is included for those patients in the hospital at home arm who failed treatment and required hospitalisation. Unit</p>				

costs from both local and national sources so may not be completely reflective of national unit costs. No sensitivity analysis is reported.

Overall applicability^(c): partially applicable **Overall quality^(d):** potentially serious limitations

Abbreviations: CCA: cost–consequence analysis; 95% CI: 95% confidence interval; ICER: incremental cost-effectiveness ratio; NR: not reported; QALYs: quality-adjusted life years.

(a) For studies where the time horizon is longer than the treatment duration, an assumption needs to be made about the continuation of the study effect. For example, does a difference in utility between groups during treatment continue beyond the end of treatment and if so for how long.

(b) Converted using 2010 purchasing power parities.²²³

(c) Directly applicable/Partially applicable/Not applicable.

(d) Minor limitations/Potentially serious limitations/Very serious limitations.