

TABLE S1: Clinical effectiveness of outpatient parenteral antibiotic treatment

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings
COMPARATOR STUDIES						
20	Bedi et al (UK)	Cohort	SA	Home therapy (domiciliary IV); 52 patients (median age 61); 58% male Home therapy (early supported discharge); 23 patients (median age 65); 35% male	Inpatient therapy; 36 patients (median age 71); 36% male	There was resolution of infection in 76% of the inpatient group, 80% of the ESD group and 80% of the domiciliary IV group. Within group comparisons showed significant ($p < 0.05$) improvements in FEV ₁ , FVC, incremental shuttle walking test, 24-h sputum volume, sputum bacterial clearance, and parameters of inflammation in all groups.
23	Bradley et al (UK)	Observational (retrospective)	SA	Home therapy; 8 patients (mean age 26); 50% male	Combined therapy; 14 patients (mean age 24); 57% male Inpatient therapy; 29 patients (mean age 24); 83% male	On completion of therapy, there was no significant difference between the groups in FEV ₁ (51 vs. 66 vs. 60), FVC (63 vs. 73 vs. 71) or FEF ₂₅₋₇₅ (32 vs. 43 vs. 29). PEFR was significantly greater in the OPAT and Combined groups than in the Hospital group (84 vs. 73 vs. 67; $p < 0.05$). When change was expressed as a percentage of the baseline value, FEF ₂₅₋₇₅ showed a large improvement in each group (approx. 15-48%). There was a significantly greater improvement in FVC, FEV ₁ and FEF ₂₅₋₇₅ in the Hospital group than in the other two groups.
30	Corwin et al (New Zealand)	RCT	GN	Home therapy; 98 patients (mean age 55); 62% male	Inpatient therapy; 96 patients (mean age 48); 73% male	There was no significant difference in mean days to no advancement of cellulitis between Home and Hospital groups (1.50 days vs. 1.49 days; 95% CI -0.3 to 0.28). This was also the case for days on IV antibiotics (HR 0.84, 95% CI 0.63-1.12; $p = 0.23$), and days to discharge (HR 0.93, 95% CI 0.70-1.23; $p = 0.60$).
32	Dall et al (USA)	Before and after	SN	Home therapy; 92 pneumonia patients (97% aged >50 years); 44% male / 64 cellulitis patients (mean age 51); 70% male	Inpatient therapy; 10728 pneumonia patients (83% aged >50 years); 51% male / cellulitis patients (no numbers provided)	Most OPAT cellulitis patients (45/64; 70%) required only two day's treatment (range 2-6d). Among pneumonia patients, 58% (53/92) required ≤ 3 days of treatment (range 2-9d). Median length of stay was shorter for OPAT pneumonia patients than for historical comparators (0.07-1.07 days vs. 2-4 days vs. 6-9 days; $p < 0.05$). This was also the case for SSTI patients ((0.1 day vs. 1.3 days; $p < .001$).
39	Escalante et al (USA)	Clinical trial (unspecified)	Not specified	IV therapy; 43 patients (median age 39); 42% male	Oral therapy; 40 patients (median age 52); 50% male	There was a response in 41/43 (95%) patients receiving IV therapy compared with 35/40 (88%) patients receiving oral treatment ($p = 0.19$). Preliminary results of a second trial (altered oral regime) showed a response rate of 87% (78/90 patients) in the IV arm and 90% (80/89 patients) in the oral arm.

SUPPLEMENTARY TABLES

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40	Esmond et al (UK)	Controlled trial	SA	Home therapy; 15 patients (mean age 27); 40% male	Inpatient therapy; 15 patients (mean age 23); 60% male	<p>There was no significant difference between groups in mean duration of treatment: Home group 14 days (range 10-18d), Hospital group 15 days (range 10-25d).</p> <p>Improved lung function was significantly greater in the Hospital group than in the Home group (FEV₁ 2.0 vs. 5.2; p=0.05 and FVC 2.1 vs. 12.3; p=0.01). When change in the groups was directly compared, only the difference in FVC was significant (p=0.01).</p>
44	Fernandez-Aviles et al (Spain)	Case-control	SN	Home therapy; 50 patients (mean age 47); 62% male	Inpatient therapy; 50 patients (median age 50); 54% male	<p>There was no significant difference between Home and Hospital patients in relation to median duration of treatment (8 days vs. 9 days).</p> <p>Median duration of fever was significantly shorter in Home patients (2 days vs. 5 days; p=0.00003).</p>
75	Martone et al (USA)	Observational (retrospective)	Not specified	OPAT; 539 patients (57% aged >50 years); 56% male	Inpatient therapy; 410 patients (63% aged >50 years); 45% male	<p>Median duration of OPAT only treatment was 17 days (range 3-144d). Median duration of hospital treatment was 7 days (range 1-153d).</p> <p>Success rates were higher in OPAT (510/539) than in hospital (354/41) patients (94.6% vs. 86.3%; p<0.001).</p>
81	Montalto & Dunt (Australia)	Observational (retrospective)	SN (HHU)	HHU therapy; 55 cellulitis patients (mean age 52); 60% male / 14 pyelonephritis patients (mean age 30); 0% male	Inpatient therapy; 22 cellulitis patients (mean age 51); 73% male / 10 pyelonephritis patients (mean age 35); 30% male	<p>Mean duration of stay was lower for HHU cellulitis patients (6.00 days vs. 8.55 days; 95% CI 0.24-4.85) but not for pyelonephritis patients (4.57 days vs. 4.00 days; 95% CI -1.86-0.72).</p> <p>Full recovery was expected in 51/55 HHU cellulitis patients (93%); the remaining four showed recovery back to a stable pre-existent condition. Recovery was expected in all 22 Hospital patients.</p> <p>Recovery was expected in 13/14 HHU pyelonephritis patients (93%), and in 9/10 Hospital patients (90%). The remaining patient in each group was expected to return to a stable pre-existent condition.</p> <p>Mean time to febrifuge was lower for HHU cellulitis (1.96 days vs. 2.00 days) and pyelonephritis patients (1.79 days vs. 2.40 days), although the difference was not statistically significant.</p>
98	Pond et al (UK)	Case-control (retrospective)	SA	Home therapy; 25 patients (mean age 21); 56% male	Inpatient therapy; 25 patients (mean age 22); 56% male	<p>Mean duration of treatment was similar in the two groups (OPAT 14.1 days vs. Hospital 16.7 days).</p> <p>There was no difference between the OPAT and Hospital groups in relation to adjusted mean improvement in FVC (0.567 vs. 0.644), FEV₁ (0.456 vs. 0.403), PEFR (66.1 vs. 57.5) or other outcome variables. The only variable to show a significant difference was total white cell count (-3.64 vs. -4.72; p<0.05).</p>

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101	Rapoport et al (Multinational)	RCT	OP	Outpatient therapy; 40 patients (median age 45); 52% male	Inpatient therapy; 44 patients (median age 48); 32% male	Median duration of treatment was similar for both OPAT and inpatients groups (6.0 days vs. 6.3 days). Treatment was successful in 34/38 OPAT patients (89%) and 40/42 inpatients (95%).
102	Rehm et al (USA)	RCT	SA; SN; (also skilled nursing facility; assisted-living; nursing home; rehab centre)	Home therapy; 103 patients (median age 50); 58% male	Inpatient therapy; 97 patients (median age 54); 61% male	OPAT patients received longer courses of antibiotics than hospital patients (mean 25.4 days vs. 13.5 days; p<0.001). OPAT patients received a mean of 14.9 days of therapy outside the hospital setting. There was a higher rate of clinical success among OPAT patients (89/103; 86.4%) than hospital patients (54/97; 55.7%) (p<0.001).
103	Richards et al (New Zealand)	RCT	GN	Home therapy; 24 patients (mean age 50); 54% male	Inpatient therapy; 25 patients (mean age 50); 52% male	Median time to discharge was 4 days (range 1-14d) in the Home group and 2 days (range 0-10d) in the Hospital group (p=0.004). There was no difference in the number of days on IV antibiotics (3 days vs. 2 days; p=0.22). At 2 weeks, there was no difference in patient-rated symptoms. There was a significant difference in sleep disturbance (Home median "occasional"; Hospital median "never"; p<0.01), but this did not persist at 6 weeks. There was no difference in time to resolution of fever, tachycardia or tachypnoea.
109	Seaton et al (UK)	Before and after	SN	Standard OPAT; 230 patients (median age 49); 52% male	Nurse-led OPAT; 112 patients (median age 50); 61% male	Total median duration of IV therapy was reduced from 5 days (range 1-37d) to 4 days (range 1-23d) (p=0.01) Median duration of outpatient therapy was reduced from 4 days (range 1-37d) to 3 days (range 1-22d) (p=0.02). Cure or improvement was similar for pre (225/228) and post-protocol (106/108) patients (99% vs. 97%).
111	Sebban et al (France)	RCT	OP	IV therapy; 47 patients (mean age 52); 40% male	Oral therapy; 49 patients (mean age 52); 31% male	Success was observed for 34/46 (73.9%) patients in the IV group and 38/48 (79.2%) patients in the Oral group (calculated risk difference was 5.3%; 95% CI 11.9 to 22.4%).
116	Stein et al (USA)	RCT	OP	IV therapy; 10 patients (mean age 54); 60% male	Oral therapy; 10 patients (mean age 53); 40% male	Average number of OPAT doses was eight (range 1-30). Average number of Oral doses was 19 (range 9-40). Cure and improvement rates were higher for Oral group patients (10/10; 100%) than for OPAT patients (6/10; 60%), although this was not statistically significant (p=0.09).
122	Thornton et al (UK)	Observational (retrospective)	Not specified	Home therapy; 47 patients (mean age 26); 36% male	Combined therapy; 18 patients (mean age 25); 61% male Inpatient therapy; 51 patients (mean age 26); 59% male	Mean treatment duration was 63 days for Home patients 54 days for Hospital patients and 66 days for Combined patients. Mean FEV ₁ improvement from baseline "best" was significantly higher for Hospital patients (mean diff. 4.6%, 95% CI 1.8-7.4; p=0.001).

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						<p>More Hospital (41/236; 17%) than Home courses (18/199; 9%) were classified as effective ($p=0.001$).</p> <p>At the $\leq 0\%$ level, there was a mean decline in FEV₁ for Home patients after 1 year, but an improvement for Hospital patients (mean diff. 10.1%, 95% CI 2.9-17.2; $p=0.003$). The number of patients in whom treatment was classified as effective was higher in the Hospital ($n=30$; 59%) than Home group ($n=20$; 43%). When effectiveness was defined as an FEV₁ decline of $\leq 2\%$, the difference became statistically significant (43% vs. 63%; $p=0.045$).</p>
131	Wolter et al (Australia)	RCT	SA	Home care; 13 admissions (median age 22); 28% male	Inpatient therapy; 18 admissions (median age 22); 39% male	<p>There were no significant differences in the duration of treatment or use of antibiotics. Median duration of treatment was 12 days (range 10-24d) in the Home group and 11 days (range 7-26d) in the Hospital group ($p=0.2$).</p> <p>Home patients had fewer investigations performed than inpatients ($p=0.002$).</p> <p>There was no significant difference between groups in improved lung function (FEV₁ $p=0.27$; FVC $p=0.30$).</p> <p>There was no significant difference in time to next admission between the groups ($p=0.68$).</p>
132	Wolter et al (Australia)	RCT	Not specified	Home care; 44 admissions (median patient age 43); 45% male	Inpatient therapy; 38 admissions (median patient age 49); 34% male	<p>Median duration of treatment was similar between the groups (Home 11.5 days, range 3-57d; Hospital 11.0 days, range 4-126d; $p=0.002$).</p> <p>Median number of investigations was significantly lower in the Home group (12.5 vs. 19.0; $p<0.001$).</p> <p>There was no difference in numbers with an "Improved" outcome following treatment (Home 84.1% vs. Hospital 92.1%; $p=0.32$).</p> <p>Average time to the next admission was longer in the Hospital group (12 days vs. 32 days; $p=0.006$).</p>
136	Yang et al (Canada)	Case-control	Not specified	OPAT; 21 patients (mean age 59); 57% male	Previous standard care; 21 patients (mean age 59); 57% male	<p>There was a better overall cure rate in the OPAT group (61.9% vs. 57.1%, $p=0.1$),</p> <p>For a composite end point of clinical success (i.e. combined cures and controlled/improved cases) the results were 95% in the OPAT group and 86% in the previous care group ($p=0.62$). There were three (14.3%) treatment failures in the control group and one (4.8%) in the OPAT group</p>
137	Yong et al (Singapore)	Case-control (retrospective)	OP; SA	OPAT ; 69 patients (mean age 53); 53% male	Inpatient therapy; 93 patients (mean age 56); 51% male	<p>Average length of OPAT only care was 24.3 days (range 4-93d). Mean duration of treatment for OPAT patients was 42.5 days (range 4-145d), significantly longer than for hospital patients (mean 19 days; range 4-183d) ($p<0.001$).</p> <p>At the end of the 4-month follow-up period, 59/72 OPAT</p>

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						episodes (81.9%) were considered cured compared with 75/93 hospital patients (80.6%).
OPAT ONLY STUDIES						
11	Al Ansari et al (Bahrain)	Case-series (retrospective)	OP	101 patients; 57% male	—	Average duration of treatment ranged from three to 10 days. Total cure was achieved in 97 (96%) treated patients. Two patients were lost to follow-up with the OPAT clinic.
14	Anand et al (USA)	Case-series	Home IV therapy (unspecified)	52 patients	—	Patients showed a significant improvement in all symptoms post-treatment (p<0.001).
15	Angel (USA)	RCT	SA	62 patients (mean age 71); 53% male	—	Mean length of inpatient treatment was 3.6 days less than expected from DRGs. Documented cure was seen in 35/50 evaluable patients (70%), while 14 (28%) had improved. There was one clinical failure. Bacteriologic eradication was seen in 16/28 (57%) evaluable patients; 10 others (36%) were clinically improved (no culture could be obtained). Two patients had persistent pathogens.
18	Barr et al (UK)	Observational (retrospective)	OP; SA; SN; GN	2233 patients (median age 51); 58% male	—	Median duration of treatment was 5 days (range <1-328d). Most patients were cured (1,501/2233; 67%) or improved (n=562; 25%). Small numbers showed no change (n=52; 2%) or deteriorated (n=91; 4%).
21	Berman & Johnson (USA)	Case-series (retrospective)	SA	221 patients (median age 41); 66% male	—	Median duration of treatment was 18 days (range 3-307d). OPAT was successful in 283/302 episodes (94%). Treatment failed in 19 episodes (6%) of which 16 (84%) required hospitalisation.
22	Bernard et al (France)	Observational (?)	SA; SN;	39 patients (mean age 44); 64% male	—	Mean duration of treatment was four months (range 1.5 to 12m). Twenty-eight of 30 patients (93%) available for follow-up were considered cured with a mean delay of 24 months after completion of therapy. There was one clinical failure and one relapse within one month after treatment.
27	Chan et al (Singapore)	Observational	Not specified	109 patients (mean age 57); 66% male	—	Average duration of IV therapy was 32 days (range 11-98d). Mean length of OPAT was 16 days (range 2-54d). Eighty of 109 patients (74%) achieved a clinical response at four weeks. All patients achieved cure.

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28	Chapman et al (UK)	Observational (retrospective)	SA; Infusion centre	334 treatment courses (mean patient age 46); 59% male	—	<p>Mean duration of treatment for SSTI (n=198) was 4.9 days (range 1-46d). Mean duration of treatment for other infections (n=136) was 22.5 days (range 1-163d).</p> <p>A total of 291/334 patients (87%) were cured or improved on completion of therapy; 11 were recorded as "no change".</p> <p>Sixty two records of SSTI patients were selected at random for follow-up data. Mean duration of follow-up was 27.8 days (range 4-122d); 61 (98.4%) were cured or improved.</p>
31	Cox et al (USA)	Observational (retrospective)	SA	205 patients (mean age 59); 99% male	—	<p>Median duration of treatment was 22 days (range 2-105d) for older adults (≥60 years) and 29.5 days (range 4-450d) for younger adults.</p> <p>A total of 54/231 (23%) courses resulted in cure at the end of home IV treatment, while 159 courses (69%) were deemed to have stable or improved infection. In 16 courses (7%) treatment was considered a failure (in all cases attributed to a difficult-to-treat infection rather than adverse effects).</p>
33	Dalovisio et al (USA)	Observational (retrospective)	SA; SN	62 patients (mean age 69)	—	<p>Average duration of treatment was 23.4 days.</p> <p>Average number of home care visits per course was 18.8.</p> <p>The majority of treatment courses (60/66; 91%) met the goals of therapy.</p>
34	Dargan et al (Canada)	Case-series (retrospective)	OP; Home therapy (unspecified)	66 patients (mean age 57); 50% male	—	<p>Mean total duration of therapy was 32.8 days (range 3-169d). Mean duration of OPAT treatment was 27.3 days (range 2-169d).</p> <p>Most patients (56/66; 85%) had a successful outcome; 10 patients experienced treatment failure.</p>
36	Donald et al (Australia)	Case-series (retrospective)	SN	124 patients (aged 16-97); 60% male	—	<p>Mean duration of treatment was 6.24 days.</p> <p>The majority of patients were treated successfully (105/124; 85%).</p>
38	Duncan et al (UK)	Observational (retrospective)	Not specified	55 completed OPAT patients (median age 59); 80% male / 25 failed OPAT patients (median age 67); 60% male	—	<p>Median duration of OPAT was 28 days (IQR 20-38 days); all patients had a prior period of inpatient management (median 22 days, IQR 14-30 days).</p> <p>OPAT failure occurred in 25/80 (31.3%) episodes. Increased probability of failure was associated with co-existing cardiac or renal failure (OR 7.29, 95% CI 1.84-29.66, p=0.005), specialist referral (OR 0.25, 95% CI 2.01-37.47, p=0.00), and use of Teicoplanin (OR 8.69, 95% CI 0.06-1.11, p=0.068).</p>
41	Esposito et al (Multinational)	Observational (retrospective)	OP; SA; SN; GN; Emergency room; Infusion centre	9826 US registry patients (aged 1-80+); 57% male / 981 UK registry patients (aged 11-80+); 63% male / 620 Italian registry	—	<p>Mean duration of treatment was longer in Italy (56.0 days) compared with the USA (22.5 days) and UK (19.9 days).</p> <p>Most patients (10629/11427; 93%) achieved clinical cure or improvement (USA 93%; UK 97%; Italy 95%).</p>

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				patients (aged 1-80+); 57% male		
42	Esposito et al (Italy)	Observational (retrospective)	OP; SA; Visit by doctor or nurse (also care facility)	239 patients (aged 11-80+); 62% male	—	Mean duration of treatment was 71.2 days (SD 39.3d). Clinical results were satisfactory, with only 20 failures observed at the end of therapy (8.4%). Of 120 patients available for follow-up (30 days after end of therapy), 72 (60%) were cured and 35 (29%) were improved.
43	Esposito et al (Italy)	Observational	OP; SA; Visit by doctor or nurse (also care facility)	176 patients (aged >65 years); 47% male	—	At the end of therapy, almost 90% of cases were as cured or improved (156/176). Seventy one of 176 patients were available for follow-up (30 days after the end of therapy); cure or improvement was recorded in 81% (56/71).
45	Goodwin et al (Canada)	Case-series	SN; GN	2405 patients (mean age 46); 55% male	—	Duration of treatment ranged from one to >42 days (longest was 209 days). Five patients had a resolution of their infection earlier than expected
47	Graninger et al (Austria)	Case-series	OP	54 patients	—	Mean duration of treatment for osteomyelitis was 62 days (range 28-150d). Cure was achieved in 18 (41%) and improvement in 19 (43%) of 44 patients. Seven patients failed to respond even after the minimum treatment period of 1 month (range 25-84d). Average duration of treatment for endocarditis was 49 days (range 28-88d). Eight of 10 patients were cured (80%), and there were two treatment failures.
48	Grayson et al (Australia)	Case-series	GN	20 patients (mean age 58)	—	Mean duration of treatment was 26 days (range 11-44d). Eighteen of 20 patients (90%) were clinically and microbiologically cured after therapy.
49	Gross et al (USA)	Case-series (retrospective)	Home IV therapy (unspecified)	13 patients (mean age 38); 100% male	—	There were no treatment failures.
51	Hindes et al (USA)	Case-series	SA	48 patients (mean age 65)	—	Mean duration of therapy was 22 days. All patients (48/48) had eradication or arrest of their infection.

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52	Hitchcock et al (UK)	Case-series	OP; SA; GN; Private home healthcare company	273 patients (mean age 60); 54% male	—	Mean length of treatment was 24 days (range 1-165d). In 278/303 episodes (92%), patients were successfully treated as per plan.
53	Ho et al (Singapore)	Case-series	OP	29 patients (median age 41); 90% male	—	Median length of hospital stay prior to OPAT was 15 days (range 2-48d). Median duration of treatment was 18 days (range 1-85d). All but one patient (28/29; 96.6%) completed the intended duration of OPAT therapy.
54	Htin et al (Australia)	Case-series (retrospective)	SN	68 patients (median age 68); 87% male	—	Median duration of antimicrobial therapy was 24 days (range 4 to 42 days). Treatment success rate was 94% (64/68). There were two relapses.
55	Huminer et al (Israel)	Case-series	SA; SN (also nursing home; kibbutz)	37 patients (mean age 64); 57% male	—	Mean duration of treatment was 26.2 days (range 14-49d). Cure after a first course of treatment was documented in 34/37 patients (92%).
56	Johansson et al (Sweden)	Case-series	SA	11 patients (mean age 51); 73% male	—	Median duration of OPAT was 4 days (range 1-12 days). Patients received therapy during 16 episodes of neutropenic fever. None of the patients developed recurrent fever.
59	Kieran et al (Ireland)	Case-series (retrospective)	SA; Nurses attached to commercial company	56 patients (median age 50); 57% male	—	Median duration of treatment was 16 days (range 2-84d). Clinical cure was documented in 52/56 patients (93%). There was no significant difference in outcomes between self-administered courses (n=48) and those given by a nurse (n=12); (p=0.61).
60	Krauth et al (Worldwide)	Literature review	Not specified	11 studies	—	Only one of seven studies evaluating efficacy of home IV therapy for CF found significant differences between home and inpatient care with regard to short-term outcomes such as VC% and FEV ₁ % etc. The only randomised study supported the (short-term) equivalence of home care and inpatient therapy. One trial performed under everyday conditions found that home care therapy produced significantly poorer VC and FEV ₁ results.
62	Lai et al (USA)	Case-series (retrospective)	SA; SN	333 patients (mean age 62); 98% male	—	Mean duration of treatment was 21.1 days (range, 0-88 days; interquartile ratio, 9-30 days). Overall completion rate was 79.6% (313/393 courses). Factors associated with non-completion were bacteraemia (OR 1.82; p=0.040), concomitant CHF (OR 1.64; p=0.051), and concomitant end stage renal disease (ESRD) (OR 2.59; p=0.015). Only ESRD remained significant when the three variables were combined in a multivariable model (OR 2.20;

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						p=0.047).
64	Larioza et al (USA)	Case-series (retrospective)	Home infusion company	43 patients (56% aged >50 years); 67% male	—	Patients were treated for 4-8 weeks; duration of OPAT was 70% for patients with surgery and 80% for patients without (p=0.0561). All patients survived for one year following therapy without infective endocarditis relapse (43/43).
65	Larioza et al (USA)	Case-series (retrospective)	Home infusion company	33 patients (76% aged ≥50 years); 61% male	—	Mean duration of treatment was 29 days. Thirty one of 33 patients (94%) were successfully treated.
69	Lillie et al (UK)	Case-series	SN	98 patients (mean age 55); 61% male	—	Average duration of treatment was 6.3 days. Elevated baseline CRP (p=0.002), male sex (p=0.004), prolonged duration of symptoms prior to OPAT (p=0.001) and higher antibiotic dose (p=0.006) were associated with prolonged treatment via OPAT.
71	Lopardo (Argentina)	Case-series (retrospective)	OP; SA; SN	48 patients (median age 55); 62% male	—	Clinical and microbiologic cure was achieved in 100% of cases (48/48).
72	Mackintosh et al (UK)	Case-series (retrospective)	OP; SA; SN	198 patients (aged <40-89); 64% male	—	Success rate following initial OPAT was 86.4% (171/198), ranging from 71.8% for diabetic foot or stump infection to 100% for metalwork-related infection. Median duration of follow-up was 60 weeks (range 6-104w). A total of 59/198 patients (29.8%) failed initial treatment, re-presented with a recurrence or relapse of their infection, or died during the follow-up period. Of those who failed, 55 (93%) did so within 12 months.
77	Mauceri (USA)	RCT	SA	27 patients	—	Mean duration of OPAT treatment was 30.50 days. Mean duration of prior hospitalisation was 12.17 days (1.77 days longer than allotted by DRGs). Cure was achieved in 11/18 evaluable patients (61%) and improvement in four patients (22%). Bacteriologic success rate was 79% (11/14 patients).
79	McMahon et al (Australia)	Observational	SN	40 patients (mean age 59 (M), 49 (F)); 75% male	—	Mean duration of treatment was 47.7 days, with the mean inpatient treatment duration being 23.5 days (range 8-75d), and the mean HITH treatment duration being 24.2 days (range 2-63d). Cure was achieved in 37/40 (93%) patients, with the three remaining patients considered as failures.

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80	Mohammadi et al (USA)	Case-series (retrospective)	SA; SN	190 patients (mean age 63); 98% male	—	Median duration of OPAT was 30 days (range 5-56 days). The overall cure rate for all infections treated was 78% at end of treatment, decreasing to 58% at 90 days post-OPAT (p<0.001).
83	Montalto (Australia)	Case-series (retrospective)	SN (HHU)	133 patients (mean age 46); 52% male	—	Mean duration of HHU stay was 4.8 days (range 1-28d). Full recovery was expected in 132/133 patients (99%).
85	Morales & von Behren (Puerto Rico)	Case-series	SA	22 patients (mean age 33-41); 82% male	—	Mean length of inpatient treatment was 4.5-6.5 days shorter than allotted by DRGs. On completion of treatment, 19/20 evaluable patients (95%) were cured or improved. Bacteriologic eradication was seen in 15/17 (88%) evaluable patients. There were no super infections or reinfections.
88	Murray et al (Canada)	Observational	Emergency department	75 patients (mean age 48); 57% male	—	Two of 29 patients in the oral group failed treatment (6.8%), compared with 12/46 patients in the IV group (26%).
89	Nathwani et al (UK)	Case-series	OP; SA	101 patients	—	Most patients were cured or improved (95/101; 94%), while two patients were unchanged (4%), and the remaining four were worse (4%).
90	Nathwani (UK)	Case-series	OP; SA; SN	125 patients	—	Mean duration of treatment was 5.32 days. The majority of patients (123/125; 98%) were cured or improved. Two patients were worse and required surgery.
91	Nathwani et al (UK)	Observational (retrospective)	OP; SA	50 patients	—	Mean duration treatment was 37.7 days. All patients 50/50 were deemed improved or cured at the end of treatment.
93	Parker et al (UK)	Observational	OP; SA	29 patients; 38 GP practices	—	Of the 29 enrolled patients, 23 (79%) had complete resolution of their symptoms. The remaining six were indeterminate.
94	Partridge et al (UK)	Case-series (retrospective)	OP; SA	34 patients (mean age 55); 79% male	—	Median duration of treatment was 27 days (range 7-65d). Most episodes (34/36; 94%) were treated successfully, with no evidence of recurrence at a median of 30 months following completion of OPAT (range 6-57m).

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings
95	Patanwala et al (USA)	Decision tree analysis	SN	41 patients (mean age 53); 44% male	—	Cure was documented in 18/41 patients (44%) and presumed in 11/41 patients (27%). Twelve patients were treatment failures.
96	Perez-Lopez et al (Spain)	Observational	SN	145 patients (mean age 68); 48% male	—	Mean duration of treatment was 8.8 days (range 2-60d). Definitive discharge was given to 83/90 (92%) elderly group patients (≥70 years) due to satisfactory clinical evolution (no data reported for younger patients).
99	Poretz (USA)	RCT	SA	238 patients (mean age 45-52); 57% male†	—	Of 211 evaluable patients, 158 (75%) were cured and 43 (20%) were improvement. Response was unsatisfactory in the remaining 10 patients (5%). Bacteriologic eradication was seen in 125/134 (93%) evaluable patients. There was persistence in 8 patients (6%).
100	Poretz (USA)	RCT	SA	130 patients (mean age 45); 59% male†	—	For patients with initial inpatient treatment, length of stay was 2.4 days shorter than allotted by DRGs. Mean duration of treatment completed entirely at home was 10.4 days. Clinical cure or improvement was seen in 115/118 (98%) evaluable patients. Bacteriologic eradication was noted in 78 (94%) of the 83 evaluable patients.
104	Rodriguez-Cerrillo et al (Spain)	Case-series	SN (HHU)	24 patients (mean age 73)	—	Mean duration of Hospital at Home Unit (HHU) stay was 9 days. All patients had a favourable clinical outcome (24/24).
105	Rodriguez-Cerrillo et al (Spain)	Case-series	SN (HHU)	25 patients (mean age 59); 48% male	—	Mean duration of HHU stay was 11 days. All patients (25/25) had a favourable clinical outcome.
106	Seaton & MacConnachie (UK)	Case-series (retrospective)	SA; Other (unspecified)	19 patients (mean age 55); 53% male	—	Average duration of OPAT was 34 days (range 3-128d). Twelve of 19 patients (63%) were cured, while four (21%) were improved).
110	Seaton et al (UK)	Observational (retrospective)	OP	963 patients (median age 48); 59% male	—	Median duration of treatment was 3 days (IQR 2-5d). The success rate (no progression of infection, no re-admission and no significant adverse events) was 87.1% (839/963 patients). Progression of infection was seen in 27/963 patients (2.8%).

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings
112	Seetoh et al (Singapore)	Cohort	OP; SA; SN	2,229 patients (median age 56); 64% male	—	Treatment was completed as planned in 1,874 (84.1%) of 2,229 episodes. Median time to treatment completion was 16 days (IQR 8-27 days).
113	Sims et al (UK)	Case-series (retrospective)	OP	14 patients (mean age 63); 71% male	—	Average duration of OPAT treatment was 58 days. Overall, 11/14 joints (79%) were salvaged. Of the three failures, one patient improved initially but had a recurrence 5-months later (different organism identified recurrence), one had an excellent initial response but infection recurred 18-months later, and one developed infection with an atypical organism 3-years after primary surgery.
115	South (UK)	Case-series (retrospective)	OP; SA; Nurse (unspecified)	57 patients (mean age 41); 77% male	—	Median duration of non-inpatient treatment was 5 days (range 1-14d) for haematological malignancies, and 24 days (range 9-78d) for bone and joint infections. Cure or improvement was achieved in 60/64 evaluable episodes (94.8%; 95% CI 88.2-99.8). There were two clinical failures (both Hickman line infections). Bacteriological success was achieved in 33/40 evaluable episodes (82.5%; 95% CI 71.4-94.6).
117	Subedi et al (Australia)	Case-series	SA; SN	144 patients (median age 55); 74% male	—	Median duration of OPAT treatment was 22 days (range 4-106 days). Overall cure rate was 93% (140 episodes).
118	Talcott et al (USA)	Observational (pilot)	SA; SN	30 patients (median age 38); 43% male	—	Median duration of treatment was 3.5 days (range 1-24d). Twenty-one of 30 patients (70%) completed home therapy without complication or readmission. Medically eligible patients who did not enrol in the trial had a shorter duration of neutropenia (median 4 days vs. 6 days; p<0.005) than enrolled patients.
121	Theocharis et al (Greece)	Case-series (retrospective)	SN	91 patients (mean age 85); 31% male	—	Cure rate was 72.5% (66/91). Mean duration of treatment was 4.7 days (range 1-18d).
123	Tice (USA)	Case-series	OP; SA; SN	538 patients (mean age 45); 52% male	—	Clinical improvement was recorded in 484/491 patients who could be evaluated, (98.6%); failure was recorded in seven patients. Eradication was reported in 244/265 cases (92%) where bacteriological outcome could be assessed. There was persistence in 17 cases (6.4%) and superinfection in four (1.5%).

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings
124	Tice (USA)	Observational (retrospective)	OP; SA; SN; Infusion centre.	500 patients	—	<p>Most patients (269/424; 56%) were treated for at least four weeks, although treatment duration varied from <1 week to 11 weeks.</p> <p>Most patients assessed for clinical outcome were improved (259/266; 97%). There were failures in three patients and no change in four others. Most failures occurred in the first few months (65% in ≤3m); the majority (95%) in the first year.</p>
126	Upton et al (New Zealand)	Case-series	SA	100 patients (mean age 51); 59% male	—	<p>Median duration of treatment was 22 days (range 3-160d).</p> <p>Cure was achieved in 94/107 treatment courses in 88 patients (88%). Ten patients relapsed, one did not respond, and one died.</p>
127	Walton et al (Australia)	Case-series	SN	35 patients (mean age 50); 71% male	—	<p>Mean duration of treatment was 24 days (range 6-47d).</p> <p>Of 31 patients who were assessable after treatment completion, all were clinically and bacteriologically cured (31/31).</p> <p>Twenty of 31 patients (65%) were reviewed ≥2 months after completion of treatment (median 6.5m; range 2-21m), and all remained free of relapse for the duration of follow-up.</p>
128	White et al (Australia)	Case-series (retrospective)	OP; SN; GN	55 patients (mean age 50); 65% male	—	<p>Median duration of IV therapy, inc. time spent as an inpatient, was 42 days (range 4-79d).</p> <p>Median duration of treatment was 22 days (range 3-56d).</p> <p>Forty six of 55 patients (84%) were considered to have had a successful outcome at completion of IV OPAT.</p>
129	White et al (UK)	Case-series (retrospective)	SA	72 patients (mean age 42); 42% male	—	<p>Median duration of treatment was 21 days (range 1-43d).</p> <p>Definite improvement was seen in 20/72 patients (28%), modest/slight/transient improvement in 24 patients (33%), and no improvement was seen in 26 patients (36%).</p>
133	Wynn et al (USA)	Observational (retrospective)	Physician-based program; Home health organisation; Hospital-based program (no other details)	1252 patients (mean age 52); 65% male	—	<p>A total of 1202/1252 patients (96%) were treated successfully for their condition.</p>
134	Yadlapalli et al (USA)	Case-series (retrospective)	Not specified	58 patients (mean age 60); 83% male	—	<p>Mean duration of antibiotic therapy was 40.3 days (range 19-90d).</p> <p>At the end of 12-months follow-up, 46/58 patients (79.3%) were cured (mean healing time 15.4 weeks). Three of the 12 patients (5.2%) who failed to heal had an amputation, and nine (15.5%) had persistence of ulceration after a year.</p>

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings
135	Yan et al (UK)	Case-series (retrospective)	OP; GN	140 patients (aged 17-89); 64% male	—	<p>Mean duration of treatment for patients with cellulitis (n=128) was 4.4 days.</p> <p>Duration of treatment ranged from 0 to >15 days. Around 60% of patients received IV antibiotics for ≤3 days.</p> <p>The failure/complication rate among patients was low (8/140; 5.7%).</p>

OP: outpatient; SA: self-administered; SN: specialist nurse; GN: General nurse.

† Age and gender details relate only to those patients who were clinically evaluable or provided questionnaire data.

TABLE S2 Safety associated with outpatient parenteral antibiotic treatment

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
COMPARATOR STUDIES							
20	Bedi et al (UK)	Cohort	SA	Home therapy (domiciliary IV); 52 patients (median age 61); 58% male Home therapy (early supported discharge); 23 patients (median age 65); 35% male	Inpatient therapy; 36 patients (median age 71); 36% male	Thirty-day re-admission rates were similar across groups (inpatient 13.8%; ESD 12.5%; domiciliary IV 14.2%). Antibiotic side effects developed in four inpatients (5%), two ESD patients (6.3%) and four domiciliary IV patients (4.7%). There were no IV access-related complications in the inpatient group, two (6.3%) in the ESD group, and three (3.6%) in the domiciliary IV group. No deaths were recorded in any group.	Reasons for admission were: exacerbation of bronchiectasis (all). Access-related complications were: line blockage (3), line fell out (2), and line sepsis (1).
30	Corwin et al (New Zealand)	RCT	GN	Home therapy; 98 patients (mean age 55); 62% male	Inpatient therapy; 96 patients (mean age 48); 73% male	Eleven of 98 patients in the Home group (12%) were admitted to hospital. Three of 96 hospital patients (3%) required re-admission within one month.	Reasons for admission were: unsatisfactory clinical improvement (4), surgical drainage (1), PICC line insertion (2), ischaemic toe (1), rash (1), nausea/vomiting on starting post-discharge oral antibiotics (1), and not coping at home (1).
32	Dall et al (USA)	Before and after	SN	Home therapy; 92 pneumonia patients (97% aged >50 years); 44% male / 64 cellulitis patients (mean age 51); 70% male	Inpatient therapy; 10728 pneumonia patients (83% aged >50 years); 51% male / cellulitis patients (no numbers provided)	Two of 92 patients with pneumonia were re-admitted (rate over 30-day period, 2%). The re-admission rate for comparator patients was 7.4% (69/933 patients). Six cellulitis patients were hospitalised briefly (9.4%). One treatment failure resulted in re-admission (for MRSA). There were no deaths among OPAT patients.	
39	Escalante et al (USA)	Clinical trial (unspecified)	Not specified	IV therapy; 43 patients (median age 39); 42% male	Oral therapy; 40 patients (median age 52); 50% male	Three of 40 patients receiving oral treatment had an adverse drug reaction. Six patients receiving oral treatment (15%) were admitted to	Adverse drug reactions were: renal toxicity (3). Reasons for admission were: renal toxicity (3), and persistent fever (3).

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
						hospital; there were no admissions in patients receiving IV treatment. There were no infection-related complications or deaths.	
40	Esmond et al (UK)	Controlled trial	SA	Home therapy; 15 patients (mean age 27); 40% male	Inpatient therapy; 15 patients (mean age 23); 60% male	There were no drug reactions, IV line problems or sepsis reported in either group.	
44	Fernandez-Aviles et al (Spain)	Case-control	SN	Home therapy; 50 patients (mean age 47); 62% male	Inpatient therapy; 50 patients (median age 50); 54% male	<p>There was no significant difference in mucositis (Home 24% vs. 34%), diarrhoea (35% vs. 39%) or bacteraemia between the two groups.</p> <p>In 40% of Home patients' day unit consultations, physician intervention was required.</p> <p>Four Home patients (8%) were re-admitted. The median number of admitted days was 8 days for Home patients and 25 days for Hospital patients (p<.00001).</p> <p>No patients in either group died.</p>	<p>Reasons for intervention were: fever (75%), catheter-related complication (10%), and mucositis, bleeding, diarrhoea, or chemotherapy related exanthema (15%).</p> <p>Reasons for re-admission were: fever with hemodynamic instability (3), and pneumonia (1).</p>
58	Keller et al (USA)	Before and after	Home agency; skilled nursing facility; other (not specified)	<p>Pre-infectious disease transition service; 215 patients (mean age 56); 60% male</p> <p>Standard OPAT (pre); 70 patients (mean age 58); 69% male</p>	<p>Post-IDTS; 147 patients (mean age 57); 54% male</p> <p>Standard OPAT (post); 56 patients (mean age 55); 68% male</p>	<p>Overall, 199 patients (40.8%) experienced either a re-admission and/or ED visit within 60 days of discharge (IDTS arm: pre n=82, 38.1%; post n=41, 27.9%; standard OPAT arm: pre n=35, 50.0%; post n=16, 28.6%).</p> <p>There was no relationship between the presence of the IDTS and re-admission and/or ED visit at 60 days (adjusted OR 0.48; 95% C, 0.13-1.79). Similar results were observed for 7-day and 30-day re-admissions and/or ED visits.</p> <p>The IDTS was associated with decreased antimicrobial prescribing errors (OR 0.062; 95% CI, 0.015–0.262), increased receipt of laboratory test results (OR 27.85; 95% CI, 12.93–59.99), and increased follow-up (OR 2.44; 95%</p>	

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
						<p>CI, 1.50–3.97).</p> <p>During the 60-day period after discharge, drug-related adverse events, catheter complications, and infection relapse were common.</p>	
61	Lacroix et al (France)	Observational (retrospective)	Not specified	OPAT; 18 patients (mean age 60); 61% male	Inpatient therapy; 21 patients (mean age 68); 67% male	<p>During OPAT, three patients (16.7%) presented with severe adverse events requiring re-hospitalization; none were attributed to OPAT.</p> <p>Following OPAT, three patients (16.7%) presented with severe adverse events, including one death. This compares with seven re-admitted patients (33.3%) and one death (4.8%) in the hospital group.</p>	<p>Reasons for re-admission were: haemorrhagic stroke with subdural haematoma (1); fever due to beta-lactams requiring re-hospitalization for a switch to vancomycin (1); cardiac failure (1).</p> <p>Adverse events were: death from pneumonia with severe hypoxemia (1), relapse of IE (1), and progressive mitral regurgitation requiring mitral surgery after IE cure (1).</p>
75	Martone et al (USA)	Observational (retrospective)	Not specified	OPAT; 539 patients (57% aged >50 years); 56% male	Inpatient therapy; 410 patients (63% aged >50 years); 45% male	<p>A total of 216 adverse events were reported in 50/539 OPAT patients and 81/410 hospital patients (9.3% vs. 19.8%; $p < 0.0001$).</p> <p>A total of 89 adverse events possibly related to therapy were experienced by 31 OPAT and 34 hospital patients (5.8% vs. 8.3%; $p = 0.12$). Significantly more hospital patients had diarrhoea (2.4% vs. 0.2%; $p = 0.001$).</p>	
76	Matthews et al (UK)	Cohort (retrospective)	SA; GN; Community hospital staff	Self-administered OPAT; 513 episodes (mean patient age 46)	Professional-administered OPAT; 1621 episodes (mean patient age 61)	<p>Drug associated complications were experienced in 189/1536 H-OPAT episodes (12%) and 59/473 S-OPAT episodes (12%).</p> <p>Complications related to vascular access affected eight (0.5%) H-OPAT patients and five (1%) S-OPAT patients ($p = 0.2$).</p> <p>The overall complication rate was 23% (353/1536 episodes) for H-OPAT patients and 24% (112/473 episodes) for S-OPAT ($p = 0.7$).</p> <p>Re-admission occurred for 193 H-OPAT and 50 S-OPAT patients (rates of 12.6% and 10.5%</p>	<p>Drug related complications included: GI side-effects (58), drug rash (52), drug fever (51), unclassified drug reaction (45), neutropenia (41), anaphylaxis (4), renal impairment (1), and C-diff diarrhoea (1).</p> <p>Access-related complications were: line infection (3), leaking line (3), mechanical phlebitis (2), and thrombosis (6).</p>

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
						respectively; p=0.3). Two H-OPAT patients died (unrelated cardiac causes).	
78	Mazo et al (Spain)	Case-control (retrospective)	Hospital in the Home (HHU)	HHU therapy; 150 patients (mean age 67); 47% male	Inpatient therapy; 150 patients (mean age 63); 51% male	HHU decreased the number of complications or re-admissions to the surgical or emergency unit at 45 days (HHU rate 0.67% vs. hospital rate 3.5%).	
81	Montalto & Dunt (Australia)	Observational (retrospective)	SN (HHU)	HHU therapy; 55 cellulitis patients (mean age 52); 60% male / 14 pyelonephritis patients (mean age 30); 0% male	Inpatient therapy; 22 cellulitis patients (mean age 51); 73% male / 10 pyelonephritis patients (mean age 35); 30% male	Incidents were recorded for 3/69 HHU patients (4%) and 10/32 Hospital patients (31%). Four Hospital patients (three with cellulitis, one with pyelonephritis) were re-admitted within four weeks.	HHU incidents were: drainage of abscess (2), and vasovagal episode at administration of medication (1). Hospital group incidents were: unexpected non-urgent operation (2), drug reaction (1), unexpected returned to hospital within four weeks (4), anaphylaxis (1), re-admission for related condition (1), and unexpected gastroscopy (1).
98	Pond et al (UK)	Case-control (retrospective)	SA	Home therapy; 25 patients (mean age 21); 56% male	Inpatient therapy; 25 patients (mean age 22); 56% male	There were 2/25 (8%) adverse reactions in each group. All consisted of mild skin rashes that subsided with withdrawal of the relevant antibiotic.	
101	Rapoport et al (Multinational)	RCT	OP	Outpatient therapy; 40 patients (median age 45); 52% male	Inpatient therapy; 44 patients (median age 48); 32% male	Incidence of adverse events was similar for OPAT patients (6/40; 15%) and inpatients (8/44; 18%). Three events (one OPAT, two inpatients) were considered to be potentially drug related; two events were severe (one in each group). There was one death in the OPAT group.	
102	Rehm et al (USA)	RCT	SA; SN; (also skilled nursing facility; assisted-living; nursing home; rehab centre)	Home therapy; 103 patients (median age 50); 58% male	Inpatient therapy; 97 patients (median age 54); 61% male	Fewer patients in the OPAT group (48/103; 46.6%) experienced a serious adverse event compared with hospital patients (52/97; 53.6%). A total of 53 hospital patients (54.6%) discontinued therapy compared with 10 OPAT patients (9.7%). This was most commonly	Reasons for OPAT discontinuation were: skin problems (4), renal failure (2), diabetic gastroparesis (1), and blood creatine phosphokinase increased (1). Reasons for inpatient discontinuation were: cardiovascular problem (4), skin

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
						<p>related to adverse events (80% of OPAT; 47% of hospital).</p> <p>Eighteen of 103 OPAT patients (17.5%) required re-admission.</p> <p>Fewer deaths occurred in the OPAT group (n=4; 3.9%) than in the hospital group (n=18; 18.6%) (p=0.001).</p>	<p>problem (4), infection (3), renal failure (3), blood creatine phosphokinase increased (2), fever (2), sepsis (2), anaphylactic reaction (1), hypoxia (1), red man syndrome (1), thrombocytopenia (1), and vomiting (1).</p> <p>Reasons for OPAT re-admission were: other medical condition (11), related to initial infection (4), and problems related to treatment provision in post-acute care setting (3).</p>
103	Richards et al (New Zealand)	RCT	GN	Home therapy; 24 patients (mean age 50); 54% male	Inpatient therapy; 25 patients (mean age 50); 52% male	<p>Two patients in each group reported nausea and candidiasis.</p> <p>There were five extra-pulmonary infections in Home patients (21%) and four in Hospital patients (16%), and two pulmonary complications in the Home group (8.3%) and one (4%) in the Hospital group.</p> <p>Two of 24 patients were transferred from the Home group to hospital (one with pulmonary infection). One Hospital patient was re-admitted (clinical deterioration).</p> <p>There were no deaths in either group.</p>	<p>Reasons for home to hospital transfer were: development of empyema in legionella infection (1); development of bullous myringitis (1).</p> <p>Extra-pulmonary infection in the Home group included three IV site infections.</p>
109	Seaton et al (UK)	Before and after	SN	Standard OPAT; 230 patients (median age 49); 52% male	Nurse-led OPAT; 112 patients (median age 50); 61% male	<p>Medical review was required for 21/112 patients (19%) post-introduction of a nurse-led protocol.</p> <p>Re-admission (6% vs. 7%), drug reaction (4% vs. 7%) and change in therapy rates (5% vs. 4%) were similar for pre- and post-protocol patients.</p>	<p>Reasons for review were: other medical problem (5), rash (8), incision of abscess required (3), and therapy change or admission for lack of improvement (5).</p>
111	Sebban et al (France)	RCT	OP	IV therapy; 47 patients (mean age 52); 40% male	Oral therapy; 49 patients (mean age 52); 31% male	<p>There were five adverse events in the IV group (5/46) and three in the Oral group (3/48). There were no statistical differences between the two groups for toxicity.</p> <p>Nine IV patients (19.6%) and five Oral patients (10.4%) were re-admitted. There were no</p>	<p>Reasons for re-admission were: persistent temperature (9), chose to be re-admitted (2), severe dental infection (1), positive initial blood cultures (1), and allergic reaction to ceftriaxone (1).</p>

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
						significant differences between groups in all-cause mortality, clinical deterioration, relapse of infection, new infection, modification of therapy, or re-admission.	
116	Stein et al (USA)	RCT	OP	IV therapy; 10 patients (mean age 54); 60% male	Oral therapy; 10 patients (mean age 53); 40% male	There were no side-effects in the OPAT group. Two of 10 patients in the Oral group (20%) experienced adverse events (one discontinued treatment). Four of 10 OPAT patients (40%) were hospitalised due to lack of improvement.	Adverse events were: skin and tongue pruritus (1), and diarrhoea (1)
131	Wolter et al (Australia)	RCT	SA	Home care; 13 admissions (median age 22); 28% male	Inpatient therapy; 18 admissions (median age 22); 39% male	There were no adverse drug reactions, short-term re-admissions, events or deaths attributable to the drugs used. One patient had a pneumothorax associated with central line insertion. There were no differences between groups in IV complication rates (p=0.57) or numbers of line changes required (p=0.5).	There was no significant difference in time to next admission between the two groups (p=0.68).
132	Wolter et al (Australia)	RCT	Not specified	Home care; 44 admissions (median patient age 43); 45% male	Inpatient therapy; 38 admissions (median patient age 49); 34% male	There were 23 adverse events reported in the Home group (52%) and 31 in the Hospital group (82%). Five were considered serious. Five Hospital and three Home group events were considered to be directly/possibly related to place of therapy. There were seven re-admissions in the Home group and four in the Hospital group 30 days after discharge. Three patients receiving home therapy had unplanned re-admission during treatment.	Serious events were: CVA (1), pneumothorax (1), line elated sepsis (1), and PICC vein thrombosis (2). Location related events were: Hospital patient with vancomycin resistant enterococci (4) or MRSA (1), Home patient with peripheral IV infection (1) or presented to another hospital for re-admission (1) or PICC line fracture (1).

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
136	Yang et al (Canada)	Case-control	Not specified	OPAT; 21 patients (mean age 59); 57% male	Previous standard care; 21 patients (mean age 59); 57% male	<p>Incidence of 30-day re-admission was lower in the OPAT group than in the previous care group (14.3% vs. 28.6%, p=0.51), and mean length of hospital stay was shorter by 3.2 days (10.7 vs. 13.9, p=0.36).</p> <p>The total incidence of adverse drug reactions (n=5, 23.8%) and VAD-related complications (n=2, 9.5%) were the same for each group. Three patients in the previous care group (60%) required a change or discontinuation of therapy compared with one (20%) in the OPAT group (p=0.62).</p> <p>There were no re-admissions for adverse events in the OPAT group, and two in the previous care group (9.5%).</p>	Adverse drug events included: allergy (3), haematological (1), renal/liver toxicity (2), GI-related (1), neurological (1), and abnormal drug level (2).
137	Yong et al (Singapore)	Case-control (retrospective)	OP; SA	OPAT; 69 patients (mean age 53); 53% male	Inpatient therapy; 93 patients (mean age 56); 51% male	<p>Complications occurred in 18/72 OPAT episodes (25%), eight of which required re-admission.</p> <p>At the end of 4-months follow-up, there was no difference in the number of OPAT (13/72; 18.1%) and hospital patients (18/93; 19.4%) re-admitted due to relapse (p=0.991).</p> <p>There was one patient death in each group.</p>	Complications were: PICC line related (8), adverse drug reaction (2), admission for underlying medical condition (7), and admission for adverse drug reaction (1).
OPAT ONLY STUDIES							
11	Al Ansari et al (Bahrain)	Case-series (retrospective)	OP	101 patients; 57% male	—	Two patients (2%) were re-admitted to hospital.	
12	Allison et al (USA)	Cohort (retrospective)	SN	782 patients (mean age 58); 57% male	—	<p>Twenty-six percent (207/782) of patients were re-admitted within 30 days.</p> <p>Nearly half of 16 patients prescribed aminoglycosides at discharge, (6) were re-admitted for medication side effects</p> <p>Regression analysis showed that</p>	<p>Reasons for re-admission were non-ID related (63), worsening infection (62), new infection (48), adverse drug reaction (30), line complication (20), and diarrhoea (2).</p> <p>Medication side-effects were: acute renal insufficiency (4), rash</p>

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
						risk of re-admission was related to age (OR, 1.09 per decade; 95% CI 0.99-1.21; p=0.10), aminoglycoside use (OR, 2.33; 95% CI 1.17-4.57; p=0.01), drug resistant organisms (OR, 1.57; 95% CI 1.03-2.36; p=0.03), and number of prior hospital discharges without IV antibiotics in the past 12 months (OR, 1.20 per prior admission; 95% CI 1.09-1.32; p<0.001).	(1), rash and neutropenia (1).
13	Amodeo et al (New Zealand)	Observational (retrospective)	SA; GN	100 treatment courses (mean patient age 65); 75% male	—	Adverse events occurred in 27/100 episodes; 17 minor events managed in clinic, and 10 re-admissions. There were two deaths in the 12-month follow-up period. Five patients were re-admitted with further episodes of IE; mean number of days between completion of OPAT and re-admission was 220 (range 109-344d).	Minor adverse events were: ototoxicity (1), drug induced hepatitis (1), itch (1), PICC line occlusion (6), line migration (2), phlebitis (2), cellulitis (1), and high residual infusate unrelated to PICC line patency (3). Reasons for re-admission were fever and rash (3), drug fever (2), diarrhoea and vomiting (1), hepatitis (1), worsening congestive heart failure (1), flank pain secondary to renal sub-capsular bleed (1), and recurrence of angina (1).
14	Anand et al (USA)	Case-series	Home IV therapy (unspecified)	52 patients	—	Seven of 52 patients (13%) had minor complications requiring a change of antibiotic or therapy duration.	Complications included: rash (1), increased LFTs (1), transient neutropenia / septicaemia (1), and bleeding at PICC site (1).
15	Angel (USA)	RCT	SA	62 patients (mean age 71); 53% male	—	Of 14 reported events, seven were judged unrelated to therapy. There were no deaths during the study period.	Related adverse events were: phlebitis (2), rash (2), diarrhoea (1), nausea (1), and fever (1).
17	Barr et al (UK)	Observational (retrospective)	OP; SA	854 treatment courses; 55% male	—	Twenty of 854 patients had diagnosed line infections, 2.3% of all indwelling line episodes, and an incidence of 0.79 per 1,000 line use days (95% CI 0.68-0.91). Incidence of other line events was 125/854 (14.6%), 4.9 per 1,000 indwelling line use days (95% CI 4.68-5.21).	There was a lower rate of line infection in Self compared to Clinic OPAT, but this was not statistically significance (OR 0.6846; 95% CI 0.2805-1.671; p=0.362). There was a higher risk of other line events with Self compared to Clinic OPAT (OR 1.62; 95% CI 1.06-2.46; p=0.032). This was

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							no longer significant in multivariate analysis (p=0.22).
18	Barr et al (UK)	Observational (retrospective)	OP; SA; SN; GN	2233 patients (median age 51); 58% male	—	<p>Crude admission rate from OPAT was 11.7% (262/2233 patients). Unplanned re-admission was recorded for 204 patients (9.1%) (CR of 6.3 events per 1000 OPAT days).</p> <p>A total of 219/2233 episodes (9.8%) were associated with adverse drug reaction (CR 6.7 events per 1000d).</p> <p>Line infections occurred in 14/2233 patients (0.6%) (CR 0.4 events per 1000 days). Other line events occurred in 92 patients (4.1%) (CR 2.8 events per 1000d).</p> <p>Eight patients died (0.4%).</p>	<p>Unplanned admission included: deterioration in infection (76), new medical event not infection related (63), adverse drug reaction (28), surgery (12), line complication (7), and logistic reasons (7).</p> <p>Drug reactions were: rash (89), severe GI upset (38), chills or fever (28), leukopenia (22), thrombocytopenia or anaemia (21), nephrotoxicity (13), and hepatotoxicity (6).</p> <p>Other line events included: line obstructed or leaking, 'chemical' or 'mechanical' phlebitis, patient default of follow-up with line in situ, and line fall out.</p>
19	Barr et al (UK)	Observational (retrospective)	Not specified	780 patients (median age 52); 58% male	—	<p>During or up to 90 days following OPAT, 34 patients (4.4%) were investigated for suspected symptomatic venous thromboembolism (VTE); two DVTs were diagnosed (incidence 2/780, 0.26% (95% CI: 0.03–0.92%)).</p> <p>Up to 1 year following OPAT, there were a total of five VTEs (0.64%). The rate of VTE appeared constant in the year following OPAT.</p>	
21	Berman & Johnson (USA)	Case-series (retrospective)	SA	221 patients (median age 41); 66% male	—	<p>Side-effects were documented in 74/302 episodes (25%). In addition, 18% of patients (55 episodes) complained of constitutional symptoms.</p> <p>Three patients (1.4%) were hospitalised for side-effects.</p>	<p>Side-effects included: renal dysfunction (21), drug rash (18), anaemia (13), diarrhoea (13), vestibular dysfunction (11), fever (9) thrombocytopenia (8), neutropenia (7), and hepatitis (3).</p> <p>Constitutional symptoms were: fatigue (20), headache (12), nausea (19), anorexia (5), weakness (2), palpitations (1), sleepiness (1), and insomnia (1).</p>

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22	Bernard et al (France)	Observational (?)	SA; SN;	39 patients (mean age 44); 64% male	—	<p>Four of 39 patients reported adverse events (10%).</p> <p>Four of 39 patients were re-admitted for medical reasons (10%).</p> <p>There were no haematological or renal complications.</p>	<p>Adverse events were: rash (2), and nausea and vomiting (2).</p> <p>Reasons for re-admission were: deep venous thrombophlebitis (3), and allergic reaction (1).</p>
24	Cervera et al (Spain)	Observational	SA; SN	73 patients (mean age 60); 75% male	—	<p>Twelve of 73 patients (16.4%) had complications requiring re-admission.</p> <p>Three patients had fatal complications.</p>	<p>Non-fatal events were: heart failure (2), catheter-related sepsis (1), variceal haemorrhage (1), abdominal pain (1), dizziness (1), lower-back pain (1), fever (1), and hypersensitivity reaction (1).</p> <p>Fatal complications were: health-care related pneumonia (1), cerebral haemorrhage (1), and pulmonary oedema (1).</p>
25	Chambers et al (New Zealand)	Case-series	SA; SN	153 patients (median age 55); 58% male	—	<p>Complications of treatment developed in 31/153 (20%) patients.</p> <p>All catheter related infections (n=3) resolved with removal of the devices.</p> <p>Fifteen patients (10%) were re-admitted within one month of discharge from hospital.</p>	<p>Complications were: phlebitis (9), line occlusion (12), line leakage or breakage (6), infection (3), thrombosis (1), and pump failure (4).</p> <p>Reasons for re-admission were: washout of infected prosthesis (2), slow resolution of cellulitis (3), jugular vein thrombosis (1) line sepsis (1), uncontrolled pain (3), discharged to inappropriate level of care (1), and unrelated condition (4).</p>
27	Chan et al (Singapore)	Observational	Not specified	109 patients (mean age 57); 66% male	—	<p>Nine patients were re-admitted from OPAT.</p> <p>There were no deaths or relapses at 30 days post cessation of antibiotics.</p>	<p>Reasons for re-admission were: surgical drainage of abscess after initial drainage failure (3), worsening of underlying non-infectious comorbidity (5), and infectious condition unrelated to KLA (1).</p>
28	Chapman et al (UK)	Observational (retrospective)	SA; Infusion centre	334 treatment courses (mean patient age 46); 59% male	—	<p>Twenty-one of 334 treatment episodes (6.3%) ended in re-admission.</p> <p>In 11 episodes OPAT was terminated because of a change of plan.</p> <p>Two patients developed C-diff</p>	<p>Reasons for re-admission were: unrelated to OPAT (6), inappropriate referral (6), non-resolving soft tissue sepsis (3), deep sepsis with inadequate clinical response (1), symptom control (1), alternative IV therapy</p>

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						diarrhoea during IV antibiotic therapy; a further patient had diarrhoea on starting OPAT, and was found to have <i>C. difficile</i> toxin.	following antibiotic reaction (1), line infection (1), fractured humerus after fall travelling to OPAT unit (1), cut off end of PICC self-administering antibiotics (1).
29	Cheong et al (Australia)	Case-series	GN	714 treatment courses (mean patient age 53); 42% male	—	Adverse drug reactions occurred in 38/714 courses of treatment (5.3%). Drug reactions in five patients were ranked as serious or life-threatening (all were re-admitted).	Adverse events included: skin reaction (18), abdominal symptoms (8), vascular symptoms (5), renal function changes (4), hypotension (2), shortness of breath (1), and severe cutaneous symptoms (1).
31	Cox et al (USA)	Observational (retrospective)	SA	205 patients (mean age 59); 99% male	—	Adverse events occurred in 99/231 (43%) home IV courses. Venous access complications were frequent (n=57; 25%) but rarely serious. Catheter or infusion problems resulted in admission in five treatment courses. All other events related to adverse drug reactions (n=42; 18%).	Venous access complications were: catheter pulled out (22), occluded catheter (18), irritation from dressing (6), site infection (4), leakage (3), bacteraemia (3), and phlebitis (1). Adverse drug reactions were: nephrotoxicity (10); eosinophilia (9), rash (8), leukopenia (7), anaemia (5), and thrombocytopenia (3).
33	Dalovisio et al (USA)	Observational (retrospective)	SA; SN	62 patients (mean age 69)	—	Five of 66 treatment courses (7.6%) resulted in re-admission within 30 days; none were directly related to the infectious diagnosis. Twelve of 62 patients (19.4%) experienced line complications. No patients died while receiving IV treatment.	Reasons for re-admission included: pneumonia, chest pain, surgical wound infection, hepatic failure, and tumour fever. Line complications included: line breakage, leakage, infection, and infiltration.
34	Dargan et al (Canada)	Case-series (retrospective)	OP; Home therapy (unspecified)	66 patients (mean age 57); 50% male	—	Nineteen of 66 patients (29%) experienced a total of 25 complications. Most (n=15) were attributed to IV access, and the remainder to adverse drug reactions. Five patients (all treatment failures) were re-admitted to hospital for reasons attributable to the infection.	Access related events were: interstitial of IV line (6), occluded line (3), phlebitis (3), bleeding (1), leakage of PICC line (1), and thrombosis (1). Drug related events were: nausea (3), acute renal failure (1), allergic reaction (1), hypokalaemia (1), nephrotoxicity (1), neutropenia (1), vomiting (1), and yeast infection (1).

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35	Dobson et al (Australia)	Case-series	SA; SN; GN	770 patients (mean age 48); 66% male	—	Allergic reactions were experienced by 28/770 patients (3.6%). No patient had anaphylaxis. Mean time from treatment start to reaction onset was 19.6 days (range 1-39d).	Allergic reactions included: rash (13), rash with pruritus (4), fever (3), and perioral angioedema (3). No reactions were experienced by patients who received drugs via bolus or intermittent administration alone (although this did not reach significance (OR 0; 95% CI 0-1.7)).
36	Donald et al (Australia)	Case-series (retrospective)	SN	124 patients (aged 16-97); 60% male	—	One patient developed self-limiting diarrhoea. There were no other complications attributable to therapy. Nineteen of 124 patients (15%) were re-admitted.	Reasons for re-admission were: failure of cellulitis to resolve (13), abscess requiring surgery (4), analgesia needed (1), and admission for central venous access (1).
37	Duncan et al (UK)	Observational (retrospective)	Not specified	1377 treatment courses	—	A total of 51 adverse reactions were observed in 1377 episodes (3.7%), a prevalence rate of 37.0 per 1,000 new patient episodes.	Adverse reactions were: rash (20), hepatic enzyme abnormality (10), leukopenia, thrombocytopenia or anaemia (6), GI symptoms (5); anaphylaxis (4), chills or fever (3), and acute kidney injury (3).
38	Duncan et al (UK)	Observational (retrospective)	Not specified	55 completed OPAT patients (median age 59); 80% male / 25 failed OPAT patients (median age 67); 60% male	—	Twenty-one episodes resulted in re-admission (26.3%), seven in an adverse drug event (8.8%), three in line complications (3.8%), and two in drug resistance (2.5%).	Reasons for re-admission included: suspected endocarditis decompensation (7), and non-endocarditis related (4), Reasons for OPAT failure included: hyperkalaemia (1), vomiting (1), acute renal dysfunction (1), presyncope during administration (1) and resistance to oral component of the OPAT regimen (1).
42	Esposito et al (Italy)	Observational (retrospective)	OP; SA; Visit by doctor or nurse (also care facility)	239 patients (aged 11-80+); 62% male	—	Adverse drug reactions, usually mild, were detected 27/239 patients (11%), and were more frequently seen in patients who received combination therapy (74.1% vs. 25.9%).	Adverse reactions were: rash (12), fever (3), hepatic impairment (3), nausea/vomiting (2) renal impairment (2), anaphylactic reaction (1), diarrhoea (1), itching (1), leukopenia (1), and urticaria (1).
43	Esposito et al (Italy)	Observational	OP; SA; Visit by doctor or nurse (also care facility)	176 patients (aged >65 years); 47% male	—	Adverse drug reactions, usually mild, were detected in 22/176 patients (13%).	Adverse reactions were: rash (7), fever (3), itching (3), renal impairment (2), hepatic impairment (1), diarrhoea (1), anaphylactic reaction (1),

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							eosinophilia (1), dizziness (1), urticaria (1), and dyspnoea and palpitations (1).
45	Goodwin et al (Canada)	Case-series	SN; GN	2405 patients (mean age 46); 55% male	—	<p>Thirty-three of 1642 patients (2%) discontinued therapy before prescribed completion (treatment related in 25 cases).</p> <p>Fifty-two of 1642 patients (3.2%) were admitted to hospital.</p> <p>Fifty-four of 1642 patients (3.3%) had unplanned interruptions to therapy; only two were unrelated to treatment (comorbidity).</p>	<p>Reasons for discontinuation were: adverse effect of therapy (9), inadequate venous access (5), unscheduled admission due to worsening infection (4), early resolution of infection (5), change of therapy (4), change to oral therapy (9), comorbidity (5), and patient decision (3).</p> <p>Reasons for admission were: comorbidity (36), treatment failure (12), and inability to manage self-therapy (4).</p> <p>Reasons for interruption were: venous access complication (15), temporary loss of venous access (26), device problem (n=18).</p>
46	Gourdeau et al (Canada)	Case-series (retrospective)	OP; SA	124 patients (mean age 41); 56% male	—	<p>Two of 124 patients (1.6%) experienced adverse reactions requiring treatment modification.</p> <p>There were no cases of catheter-related infection.</p> <p>One patient was re-admitted (due to lack of improvement).</p>	Reasons for treatment modification were: rash (1), and recurrent phlebitis (1).
47	Graninger et al (Austria)	Case-series	OP	54 patients	—	Adverse events were seen in nine of 54 patients (17%).	Adverse events were: thrombocytopenia (3), rash (3), nausea (1), C-diff colitis (1), fever (1), transient hearing impairment (1), and leukopenia (1).
48	Grayson et al (Australia)	Case-series	GN	20 patients (mean age 58)	—	<p>No major infective complications related to IV antibiotic administration were noted.</p> <p>Two complications were seen (2/20; 10%).</p>	Complications were: localised soft-tissue infection at catheter exit site (1), and progressive renal dysfunction (1).
49	Gross et al (USA)	Case-series (retrospective)	Home IV therapy (unspecified)	13 patients (mean age 38); 100% male	—	<p>Eleven patients (85%) experienced 22 adverse events (one patient had four, two had three, four had two and four had one).</p> <p>There were no deaths.</p>	Adverse events were hypoglycaemic (8), nephrotoxicity (6), hypotension (5), hyperkalaemia (1), hypercalcaemia (1), and elevated

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							pancreatic enzymes.
50	Heintz et al (USA)	Observational	OP; SA; SN; Infusion centre (also long-term care facility; interim-care facility; prison)	494 treatment courses	—	<p>Infection and/or OPAT-related complications occurred in 35/494 cases (7.1%).</p> <p>Intervention by the ID pharmacist post discharge occurred in 26/494 cases (5.3%).</p>	<p>Complications included: re-admission and/or emergency department visit within 30 days of discharge (28), 30-day infection-related mortality (2), and drug-induced toxicity (11).</p> <p>Drug-induced adverse effects were: rash/hives (5), nephrotoxicity (3), bone-marrow suppression (2), and intractable nausea and vomiting (1).</p>
51	Hindes et al (USA)	Case-series	SA	48 patients (mean age 65)	—	<p>Complications were seen in four of 48 patients (8%).</p> <p>Three patients required re-admission (6%),</p>	<p>Complications were: serum sickness reaction (3), and subclavian vein thrombosis (1).</p> <p>Reasons for re-admission were: serum sickness (1), new site infection (1), and seizure unrelated to therapy (1).</p>
52	Hitchcock et al (UK)	Case-series	OP; SA; GN; Private home healthcare company	273 patients (mean age 60); 54% male	—	<p>Twenty three of 303 courses (8%) were followed by re-admission during therapy or within 28 days of completion.</p> <p>Thirteen admissions were related to the original diagnosis or to OPAT drug treatment; 10 were unrelated.</p>	<p>Reasons for OPAT re-admission were: surgery after treatment failure (3), line problem (2), adverse drug effect (2), treatment failure at end of original course (3), super infection (1), and worsening clinical condition (2).</p>
53	Ho et al (Singapore)	Case-series	OP	29 patients (median age 41); 90% male	—	<p>Six of 29 patients (21%) required re-admission, five during OPAT and one during the 30 day follow-up period.</p> <p>There were no deaths or significant misadventures.</p>	<p>Hospital re-admissions were: PICC infections (2), complications related to endocarditis (2), bacteraemia due to a different organism (2).</p> <p>Incidence of re-admission and PICC infection was similar to that found in non-IVDU endocarditis patients treated in OPAT.</p>
54	Htin et al (Australia)	Case-series (retrospective)	SN	68 patients (median age 68); 87% male	—	<p>Three patients (4%) developed complications and required re-admission.</p> <p>There were two deaths, both</p>	<p>Reasons for re-admission were: line-related bloodstream infection (1), fever due to flare of gouty arthritis (1), worsening anaemia in IHD, and Crohn's disease (1).</p>

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						unrelated to OPAT. Of the remaining 66 patients, 65 were still alive and 1 patient was lost to follow-up (1-year survival 96% (65/68)).	
55	Huminer et al (Israel)	Case-series	SA; SN (also nursing home; kibbutz)	37 patients (mean age 64); 57% male	—	<p>Eight of 37 patients (22%) experienced adverse drug reactions.</p> <p>Ten of 37 patients had local complications (27%).</p> <p>Six patients were re-admitted before completing OPAT.</p>	<p>Adverse drug reactions were: fever (5), rash (2), and syncope (1).</p> <p>Local complications were: occluded line (10), thrombophlebitis (6), and intravascular infection (1)</p> <p>Reasons for admission were: fever (5), and PSV tachycardia (1).</p>
56	Johansson et al (Sweden)	Case-series	SA	11 patients (mean age 51); 73% male	—	<p>One patient telephoned the hospital on one occasion for help with CVAD handling.</p> <p>One patient developed a CVAD exit-site infection.</p> <p>All other patients recovered without re-admission and without antibiotic changed.</p>	
57	Kayley et al (UK)	Case-series	SA; GN; Doctor administered	67 patients	—	<p>Complications of home therapy were minimal (17/67; 25%).</p> <p>Line infections (n=3) were all seen in HIV positive patients who were treated for >6 months continuously.</p>	Complications were: line infection (3), broken line clamp (5), blocked line (2), dislodged line (3), drug allergy (2), and C-diff diarrhoea (2).
59	Kieran et al (Ireland)	Case-series (retrospective)	SA; Nurses attached to commercial company	56 patients (median age 50); 57% male	—	<p>Adverse events occurred in 12/60 episodes (20%).</p> <p>Five of 56 patients (7%) had a line-related complication (rate of 3.9 per 1,000 outpatient central line days).</p> <p>Drug-related adverse events occurred in 4/60 episodes (6.7%).</p> <p>In seven of 60 episodes (12%), patients required re-admission related to an adverse event; in five cases (8.3%) this was therapy related.</p>	<p>Line complications were: line infection (2), line blockage (2), and dislodged line (1).</p> <p>Drug-related events were: rash (2), acute hepatitis (1), and neutropenia (1).</p> <p>Reasons for re-admission were: acute hepatitis (1), neutropenia (1), failure to manage OPAT (1), anxiety (1), and line infection (1).</p>

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62	Lai et al (USA)	Case-series (retrospective)	SA; SN	333 patients (mean age 62); 98% male	—	<p>Complications occurred in 96/393 OPAT courses (24.4%). The most common was re-admission (n=49, 12.5%).</p> <p>Adverse drug events were present in 40 of the 393 courses (10.2%). Shortening of OPAT (including switches to oral antimicrobial therapy) occurred in 29 of the 40 cases (72.5%; 7.4% of all).</p> <p>The overall line-related complication rate was 6.4% (25/393) over the period (PICC line, n=22; peripheral IV line, n=3).</p> <p>Rates of PICC complications decreased across the period (8.4% to 4.5%), although this was not statistically significant.</p>	<p>Reasons for re-admission included: failure to improve on OPAT (15), reason unrelated to OPAT (13), PICC-related (9), and adverse drug event (8).</p> <p>Adverse drug events were: acute kidney injury (11), pruritus/rash (10), leukopenia (7), GI problems, including diarrhoea (6), and C-diff associated diarrhoea (2).</p> <p>Access-related complications included: occlusion/accidental displacement (9), erythema or tenderness (6), and bloodstream infection (6).</p>
63	Lane et al (USA)	Cross-sectional	OP; SA	555 adult infectious diseases physicians	—	<p>OPAT-associated complications were perceived as being rare (≤5% of patients).</p> <p>The most commonly reported in greater numbers than this were line occlusion/ (80% of respondents), rash (39%), and nephrotoxicity (39%).</p> <p>Patients commonly required line exchange or removal or change in antibiotic therapy because of complications; hospitalization was less common.</p>	
64	Larioza et al (USA)	Case-series (retrospective)	Home infusion company	43 patients (56% aged >50 years); 67% male	—	<p>Ten of 43 patients (23%) were re-admitted to hospital during antibiotic treatment.</p>	<p>Reasons for re-admission were: antibiotic-associated diarrhoea (1), PICC-related issues (6), interstitial nephritis (1), and drug rash (2).</p>
65	Larioza et al (USA)	Case-series (retrospective)	Home infusion company	33 patients (76% aged ≥50 years); 61% male	—	<p>Four of 33 patients (12.1%) developed complications.</p> <p>There were no deaths.</p>	<p>Complications were: line infection (2), deep vein thrombophlebitis (1), and C-diff diarrhoea (1).</p>

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66	Laupland et al (Canada)	Observational	OP; SA; SN	2405 patients (mean age 46); 55% male	—	Overall, 139 of 3145 patients (4%) were admitted to hospital within seven days of starting home therapy. Another 82 patients (3%) had interruptions to therapy.	Reasons for interruption were: venous access related (45), infusion delivery system related (30), comorbidity (3), and unspecified (4).
69	Lillie et al (UK)	Case-series	SN	98 patients (mean age 55); 61% male	—	Of 64 patients attending 4-week follow-up, two (3.1%) had a relapse of infection; one patient required admission for treatment.	
70	Lin et al (USA)	Case-series (retrospective)	Not specified	177 patients	—	Antibiotic complications occurred at a rate of 16% (28/177). Most were minor in nature. PICC line related complications occurred in four patients (2%). There were no permanent complications or deaths.	Antibiotic complications were: rash (11), diarrhoea (6), transient neutropenia (3), itchiness (2), fatigue (2), flushing (1), fever (1), black tongue (1), and elevated LFTs (1). PICC related complications were: line thrombosis (3), and septicaemia (1).
71	Lopardo (Argentina)	Case-series (retrospective)	OP; SA; SN	48 patients (median age 55); 62% male	—	Complications occurred in 7/48 patients (15%; only one occurred while the patient was still receiving antibiotic treatment (heart failure).	Complications were: heart failure (3), and clinically significant emboli (4).
72	Mackintosh et al (UK)	Case-series (retrospective)	OP; SA; SN	198 patients (aged <40-89); 64% male	—	Twenty of 198 patients (10.1%) suffered an adverse reaction to initial IV therapy.	Adverse reactions were: rash (9), leukopenia or thrombocytopenia (4), vomiting (3), fever (2), tinnitus (1) and acute kidney injury (1).
77	Mauceri (USA)	RCT	SA	27 patients	—	Ten treatment-related adverse effects were reported in 27 patients, (two were considered severe). Three patients were withdrawn from the study due to adverse events.	Adverse events were: rash (3), gastrointestinal symptoms (3), growth resistant organisms (3), and fever (1)
79	McMahon et al (Australia)	Observational	SN	40 patients (mean age 59 (M), 49 (F)); 75% male	—	Nine of 40 patients (23%) experienced a total of 11 adverse events. All were considered to be related to the antibiotic or to complications of venous access. Three patients required hospital re-admission.	Adverse events were: rash (2), neutropenia (2), catheter-related (2), pseudomonas bacteraemia (1), fever (1), diarrhoea (1), nephrotoxicity (1), and chest pain during infusion (1). Reasons for treatment failure re-admission were: dyspnoea and

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						Three patients who were treatment failures were re-admitted.	pericardial effusion (2), and cellulitis around a cardiac surgery site (1).
80	Mohammadi et al (USA)	Case-series (retrospective)	SA; SN	190 patients (mean age 63); 98% male	—	<p>Adverse events occurred in 12/90 patients (6.3%) during the review period. No emergence of a drug-resistant organism or C. difficile was observed</p> <p>There were five peripherally inserted central catheter line adverse events, including three admissions (1.6%).</p> <p>Eight deaths during OPAT were related to malignancies.</p>	<p>Adverse drug events included: neutropenia, diarrhoea, drug allergy rash, and nephrotoxicity.</p> <p>Access-related events included line infection (4), re-admission (3), and emergency department visits for line-related events (2).</p>
83	Montalto (Australia)	Case-series (retrospective)	SN (HHU)	133 patients (mean age 46); 52% male	—	<p>Twenty-eight telephone calls were received from 22/133 patients (17%; range 1-3 calls). Thirteen were initiated by the patient or carer either anxious or asking about the condition or its management. Most required reassurance and follow-up.</p> <p>Thirteen calls resulted in unscheduled staff callouts. One patient was re-admitted.</p> <p>Five of 133 patients (3.8%) were returned to hospital during their HHU admission.</p>	<p>Reasons for calls were: nausea or vomiting (6), pain (3), allergic reaction (1), diarrhoea (1), fever (1), problems with venous cannula (2), and perception of worsening condition (2).</p> <p>Results of callouts were: IV maxolon given (5), management of anaphylaxis (1), vasovagal episode during drug administration (1), discussion with GP/unit director and action planned (5), and re-admission (1).</p> <p>Reasons for re-admission were: carer withdrawal (1), exploration of possible abscess (1), exploration of possible palmar space collection (1), worsening respiratory state in COPD (1), and non-resolving pneumonia (1).</p>
84	Montalto et al (Australia)	Case-series (retrospective)	SN (HHU)	3423 treatment courses (patient age 0-80+); 55% male	—	<p>Unexpected telephone calls were made by 607/3423 patients (18%).</p> <p>There were 177 unexpected staff callouts (5%). Patients receiving antibiotics were more likely to have a staff call out than patients</p>	Reasons for callout included: pump malfunction (46), venous access problems (30), pain (19), vomiting (17), fever (14), and anxiety (13). Patients who called were more likely to return to hospital than those who did not

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
						<p>receiving non-antibiotic therapy (p<0.001).</p> <p>A total of 143 episodes of care (4%) involved an unplanned return to hospital. Patients who received antibiotic therapy were more likely to require an unplanned return to hospital (p=0.001).</p> <p>There were five patient deaths; two during HHU stay and three after return to hospital.</p>	(14.5% v. 2.2%, p<0.001). Reasons for re-admission included: lack of improvement (40), cardiac problem (22), and fever (19). No patient had an anaphylactoid drug reaction; four patients were returned for other drug reactions.
85	Morales & von Behren (Puerto Rico)	Case-series	SA	22 patients (mean age 33-41); 82% male	—	<p>Six of 22 patients (27%) reported nine adverse events (all mild or moderate).</p> <p>Four patients were withdrawn due to adverse events.</p> <p>There were no deaths during the study period.</p>	<p>Unrelated adverse events were: headache (1), urethral disorder (1), and diarrhoea (1).</p> <p>Reasons for withdrawal were: urticaria (1), probable allergic reaction (1), flushing (1), and fever, rash, diarrhoea, and urethral disorder (1).</p>
86	Muldoon et al (Ireland)	Cross-sectional	Not specified	55 consultant physicians (15% clinical microbiologists)	—	<p>61% of those reporting on re-admission estimated the 30-day re-admission rate for OPAT patients as being less than 10%, while the remainder estimated it at between 10 and 25%.</p>	
87	Muldoon et al (USA)	Cross-sectional	Not specified	316 adult and paediatric infectious diseases physicians	—	<p>Most respondents had witnessed at least one complication in the last year (243/274, 89%).</p> <p>Adverse drug reaction was the most commonly reported (69%), followed by thrombosis (58%), C-Diff related disease (53%), line-related bacteraemia / exit site infection (51%), re-admission (43%), phlebitis (40%) and death (2%).</p>	
89	Nathwani et al (UK)	Case-series	OP; SA	101 patients	—	<p>Six of 101 patients experienced an adverse drug reaction (6%).</p> <p>Eight patients had an unscheduled re-admission (8%).</p> <p>Twelve patients (12%) had PICC line complications.</p>	

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
90	Nathwani (UK)	Case-series	OP; SA; SN	125 patients	—	There were no complications associated with vascular devices. One patient was re-admitted for OPAT failure (due to various logistical reasons)	
92	Pajaron et al (Spain)	Case-series (retrospective)	SA	45 patients (mean age 63); 76% male	—	Eight patients returned to hospital with complications and six were admitted (12.5%). An additional 11 patients had less serious complications (24.4%). There were three recurrences in 2/45 patients during the year following the initial episode (one patient had two recurrences). No patients died in the course of treatment at home. Five patients (13%) died during the first year following discharge from hospital (two related to endocarditis and three to pre-existing advanced cancer).	Reasons for re-admission were: cardiac insufficiency (2), acute renal insufficiency with hypokalaemia (1), sepsis (1), medication-related anaphylactic reaction to allopurinol and acute secondary renal insufficiency (1), and hepatic-renal syndrome secondary to hepatocarcinoma (1). Adverse events were: congestive cardiac insufficiency (4), angina (1), acute episode of previous chronic renal insufficiency (1), drug-side effect (4), and catheter related infection (3).
93	Parker et al (UK)	Observational	OP; SA	29 patients; 38 GP practices	—	Eight of 29 patients (28%) reported a problem.	Adverse events were: due to speed of injection or discomfort caused by IV access (6), and hypersensitivity type reaction (2).
94	Partridge et al (UK)	Case-series (retrospective)	OP; SA	34 patients (mean age 55); 79% male	—	Adverse events occurred in 12/36 episodes (33%), inc. one patient death (unrelated to OPAT). Two patients with line infection required re-admission. Three patients were re-admitted for non-OPAT-associated medical problems.	Adverse events included: line infection (4), split Hickman line (1), PICC line dressing allergy (1), pain in PICC arm (1), ototoxicity (1), renal toxicity (1), diarrhoea (1), and mycotic aneurysm of the spleen (1).
95	Patanwala et al (USA)	Decision tree analysis	SN	41 patients (mean age 53); 44% male	—	Nine of 41 patients (22%; all treatment failures) were re-admitted.	
96	Perez-Lopez et al (Spain)	Observational	SN	145 patients (mean age 68); 48% male	—	There were 23 adverse events; most common was phlebitis (n=21; 15%). A total of 11/145 patients (8%) required hospitalisation.	There were no significant differences in the number of adverse events between older (n=14; 15%) and younger (n=9, 16%) patients (p=0.65).

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ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
						No patients died. A further 22 patients were re-admitted during the 3-month follow-up period (four died while in hospital).	
99	Poretz (USA)	RCT	SA	238 patients (mean age 45-52); 57% male†	—	Seventy-two of 238 patients (30%) reported adverse experiences considered related to therapy (seven classified as severe, 25 moderate, 65 mild).	Adverse events included: phlebitis (13), rash (12), diarrhoea (8), maculopapular rash (4), hypoxia (3), allergic reaction (3), fever (3), headache (3), and nausea (3).
100	Poretz (USA)	RCT	SA	130 patients (mean age 45); 59% male†	—	Thirty-one of 130 patients (24%), reported adverse events (27 events were related to the study drug and four to the IV line).	Adverse events included: rash (7), diarrhoea (4), phlebitis (4), allergic reaction (3), and maculopapular rash (3).
104	Rodriguez-Cerrillo et al (Spain)	Case-series	SN (HHU)	24 patients (mean age 73)	—	Three of 24 patients contacted the Unit for minor symptoms or doubts about treatment. One patient required an unscheduled visit by HHU staff (vomiting). No patient had an unexpected return to hospital.	
105	Rodriguez-Cerrillo et al (Spain)	Case-series	SN (HHU)	25 patients (mean age 59); 48% male	—	One of 25 patients (4%) made an unexpected telephone call for diarrhoea (after starting oral antibiotics). There were no urgent visits by HHU staff, hospital re-admissions during HHU treatment, or admissions in the month following discharge.	
106	Seaton & MacConnachie (UK)	Case-series (retrospective)	SA; Other (unspecified)	19 patients (mean age 55); 53% male	—	Eighteen patients (95%) survived >6-months after hospital discharge. There were two adverse events and one patient death. No further events were noted in the OPAT setting with therapy up to 128 days. There were no unplanned re-admissions.	Adverse events were: above knee amputation for osteomyelitis/septic arthritis (1), and reversible myotoxicity (1).

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
110	Seaton et al (UK)	Observational (retrospective)	OP	963 patients (median age 48); 59% male	—	<p>Significant adverse events were observed in 68/963 patients (7.1%).</p> <p>Admission or re-admission occurred in 58/963 cases (6%).</p>	<p>Adverse events included: drug-related rash requiring a change in therapy (25), GI side effects, particularly diarrhoea (16), and abnormal liver function (11). Three patients had severe allergy or anaphylaxis.</p> <p>Reasons for admission included: treatment failure with progression of infection or lack of response (19), and other medical complication (15).</p>
112	Seetoh et al (Singapore)	Cohort	OP; SA; SN	2,229 patients (median age 56); 64% male	—	<p>Re-admission was needed in 281 episodes (12.6%), and 74 patients (3.3%) ended treatment early.</p> <p>Re-admission rate due to clinical deterioration was 9.0%, and occurred a median of 11 days (IQR 5-23 days) after beginning treatment.</p> <p>SN OPAT episodes were more than twice as likely to deteriorate as OP episodes (20% vs. 7.9%; aHR 2.5, 95% CI, 1.7-3.8; p<0.001). There was no significant difference compared with self-administration (20% vs. 9.6% aHR 0.9, 95% CI, 0.6-1.3; p=0.572).</p> <p>Of those who did not complete treatment as planned (i.e. those re-admitted or ceasing early without re-admission): 60 (2.7%) had adverse drug reactions, 16 (0.7%) had PICC line complications, four (0.2%) absconded, and two (0.1%) died suddenly.</p>	<p>Reasons for re-admission included: elective procedures (42), and clinical deterioration (201).</p>
113	Sims et al (UK)	Case-series (retrospective)	OP	14 patients (mean age 63); 71% male	—	<p>Four patients (29%) required re-admission, two for medical conditions unrelated to OPAT (UTI and hematemesis), and two for deterioration in the clinical status of their infected arthroplasty.</p> <p>There were no line complications.</p> <p>There was one unrelated patient</p>	

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
						death.	
114	Smego et al (Pakistan)	Case-series	SA	316 patients (mean age 45); 53% male	—	Medication-related adverse effects were few (14/316), generally mild, and resolved with drug dosage adjustment or discontinuation of use. No unscheduled clinic or emergency room visits.	Side effects were: renal impairment (4), skin rash (3), diarrhoea (3), leukopenia (2), hepatitis (1), and drug fever (1). Minor thrombophlebitis was the only catheter-related effect (3).
115	South (UK)	Case-series (retrospective)	OP; SA; Nurse (unspecified)	57 patients (mean age 41); 77% male	—	There were two adverse events among the 69 episodes treated (2.9%).	Adverse events were: shaking following IV bolus administration (1), and truncal rash (1).
117	Subedi et al (Australia)	Case-series	SA; SN	144 patients (median age 55); 74% male	—	There were 11 (7%) drug-related adverse events, one resulting in re-admission (6.9%). The rest were managed with symptomatic treatment, earlier cessation, or a change of antibiotic. Line-related events occurred in five patients (3%) or 1.4/ 1000 catheter-days. OPAT related re-admission occurred in nine patients (6%) within 28 days of cessation of IV antimicrobials.	Reasons for re-admission were: drug fever (1), re-insertion of PICC line (1), clinical deterioration requiring source control or surgical debridement (6), and change of antimicrobial therapy (1). Adverse drug events included: rash (6), biliary lithiasis (1), drug fever (1), and acute kidney injury (2) Access-related events were: infection (2), lymphatic leakage (2), and line fell out (1).
118	Talcott et al (USA)	Observational (pilot)	SA; SN	30 patients (median age 38); 43% male	—	Five patients were re-admitted for recurrent or prolonged fever (17%). Four patients were re-admitted for medical complications (13%). There were no lasting complications or deaths.	None of the 27 medically eligible patients who did not enter the study had complications. The complication rate for all medically eligible patients was 4/57 (7%).
121	Theocharis et al (Greece)	Case-series (retrospective)	SN	91 patients (mean age 85); 31% male	—	Mortality was 27.5% (25/91; (those who were not cured). Thirteen patients were admitted to hospital (14%); three died.	

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
123	Tice (USA)	Case-series	OP; SA; SN	538 patients (mean age 45); 52% male	—	<p>Medication was changed due to an adverse effect in 16 cases.</p> <p>Forty-two of 538 patients (7.8%) were hospitalised after starting OPAT. Only one patient (drug rash) was hospitalised due to the OPAT program or medications.</p> <p>One death occurred during treatment (patient with advanced AIDS).</p> <p>Three patients were removed from the program because of failure to comply.</p>	<p>Adverse events were: rash (11), leukopenia (1), neuromuscular disturbance (1), renal toxicity (1), laryngeal oedema (1), and intractable 'red man' syndrome (1).</p> <p>Reasons for admission were: surgery unable to take place at outpatient centre (20), poor clinical response (5), inadequate home care (3), neurological problem (3), cardiac disease (2), bleeding (2), chest disease (2), vomiting (2), leukopenia and fever (1), reimbursement problem (1), and drug rash (1).</p>
124	Tice (USA)	Observational (retrospective)	OP; SA; SN; Infusion centre.	500 patients	—	<p>A minority of patients (12%) discontinued treatment prematurely, most commonly for adverse drug reaction (5.2%). Discontinuation related to clinical failure in around 1% of cases, and to death in 0.4%.</p>	
125	Tice et al (USA)	Observational (retrospective)	OP; SA; Office based; Pharmacy based	971 patients	—	<p>One hundred and nineteen of 1053 (11%) episodes were complicated by adverse events</p> <p>Early discontinuation of therapy occurred in 6.4% of episodes (most commonly for rash and fever).</p> <p>One hundred and forty-six venous access device-related adverse events were observed.</p>	<p>Adverse events were: rash, renal toxic reaction, fever, nausea and vomiting, urticaria, diarrhoea, anaphylactic reaction, leukopenia, and vestibular toxic reaction. Rash was common (3%); as renal toxicity (1.5%) and fever (1.3%).</p> <p>Access events included: phlebitis (42), thrombosis (21), local infection (17), leakage (12), and bacteraemia (9).</p>
126	Upton et al (New Zealand)	Case-series	SA	100 patients (mean age 51); 59% male	—	<p>Thirty-five of 100 patients (35%) experienced complications during treatment.</p> <p>Twenty-two patients had central line complications (incidence of 5.3 per 1000 central line days). Twelve occurred after discharge, and five resulted in re-admission.</p> <p>Twenty two patients had adverse</p>	<p>Line complications were: line blockage (8), infection (5), DVT (4), phlebitis (3), failed line insertion (1), and line intolerance (1).</p> <p>Adverse drug reactions were: rash (8), GI symptoms (7), chest discomfort (6), abnormal LFTs (5), leukopenia (4), and nephrotoxicity (3).</p>

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
						<p>drug reactions; three resulted in re-admission.</p> <p>One patient died two days after completing treatment (ruptured iliac aneurysm).</p>	Reasons for re-admission: PICC line infection (3), PICC line re-insertion (2), anxiety (1), nausea (1), and allergic reaction (1).
127	Walton et al (Australia)	Case-series	SN	35 patients (mean age 50); 71% male	—	<p>Four patients stopped treatment prematurely.</p> <p>No patients developed penicillin associated neutropenia.</p> <p>Four patients had problems with PICC venous access; three required replacement.</p>	<p>Reasons for discontinuation included: probable drug related febrile hypersensitivity reaction (1), PICC-associated septicæmic shock (1), and weakness and focal seizures (1).</p> <p>Reasons for PICC replacement were: catheter blockage (1), and exit site infection (2).</p>
128	White et al (Australia)	Case-series (retrospective)	OP; SN; GN	55 patients (mean age 50); 65% male	—	<p>Seven of 55 patients (13%) had adverse drug events, with IV antibiotics responsible for events in three patients.</p> <p>There were no complications related to IV access.</p>	Antibiotic events were: rash (1), thrombocytopenia (1), and deranged liver enzymes (1).
129	White et al (UK)	Case-series (retrospective)	SA	72 patients (mean age 42); 42% male	—	<p>A total of 39 drug reactions were documented in 29/72 patients (40%). Therapy was discontinued in 10 patients (14%).</p> <p>One patient was admitted to hospital (line infection with sepsis).</p>	<p>Drug reactions were: neutropenia (13), mild liver function derangement (8), line infection (3), rash (3), allergic reaction (2), diarrhoea (4), headache (1), nausea (1), fatigue (1), oral thrush (1), shingles (1) and dyspepsia (1).</p> <p>Reasons for discontinuation were: neutropenia (4), drug rash (3), allergic reaction (1), and line infection with severe sepsis (1).</p>
130	Williams (USA)	Observational (retrospective)	SA	1045 patients (mean age 38); 58% male	—	<p>Drug related side-effects were relatively infrequent (2-5%).</p> <p>Venous access issues were common (375/1500; 25%)</p> <p>Rate of re-admission was 5-6% (75-90 patients).</p> <p>No deaths were directly attributable to home therapy, and overall morbidity was low.</p>	<p>Drug side-effects were: nephrotoxicity (75), skin rash (75), and leukopenia (30).</p> <p>Access issues included: infiltration of IV, and phlebitis of a peripheral cannula.</p> <p>Reasons for re-admission included: antibiotic failure, therapy change, and surgery.</p>

SUPPLEMENTARY TABLES

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)†	Comparator(s)†	Findings	Notes
133	Wynn et al (USA)	Observational (retrospective)	Physician-based program; Home health organisation; Hospital-based program (no other details)	1252 patients (mean age 52); 65% male	—	<p>A total of 66 adverse drug reactions were reported in 1,515 patients (4%).</p> <p>There were 106 vascular access complications in 1,232 patients (9%).</p>	<p>Adverse drug reactions were: rash (26), diarrhoea (8), anaphylaxis (6), leukopenia (6), renal toxicity (6), fever (5), nausea/vomiting (5), and unspecified (4).</p> <p>Access complications included: phlebitis (31), leakage (19), thrombosis (10), local reaction (9), and bacteraemia (4).</p>
134	Yadlapalli et al (USA)	Case-series (retrospective)	Not specified	58 patients (mean age 60); 83% male	—	<p>During 12-months follow-up, 10 patients (17.2%) required re-admission for further treatment.</p>	
135	Yan et al (UK)	Case-series (retrospective)	OP; GN	140 patients (aged 17-89); 64% male	—	<p>Five of 140 patients (3.6%) required hospital admission due to an inadequate response.</p> <p>Three patients (2.1%) developed a rash.</p> <p>There were no reported complications related to use of IV catheters (some patients inadvertently removed their cannula at home).</p>	<p>Three of the patients admitted to hospital required referral to the orthopaedic/surgical team due to abscess formation and tracking of cellulitis.</p>

OP: outpatient; SA: self-administered; SN: specialist nurse; GN: General nurse.

† Age and gender details relate only to those patients who were clinically evaluable or provided questionnaire data.

TABLE S3 Cost-effectiveness of outpatient parenteral antibiotic treatment

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)	Comparator(s)	Findings
60	Krauth et al (Worldwide)	Literature review	Not specified	11 studies	Inpatient therapy	<p>Studies predominantly concluded that home IV therapy would lead to significant cost reductions, from the societal perspective as well as the third-party payer perspective. In five studies, inpatient therapy was 1.8 to 3.3 times as expensive as home care; three studies that considered incremental costs revealed potentially significant cost savings with home therapy. Two of the remaining three studies reported divergent results, primarily related to pharmaceutical pricing and duration of therapy.</p> <p>Only one study included loss of working days and its monetary valuation, and found that the indirect costs per course of inpatient treatment totalled DM868 compared with DM476 for home treatment.</p>
95	Patanwala et al (USA)	Decision tree analysis	SN	41 patients (mean age 53); 44% male	Switch therapy (IV-oral) Oral therapy	<p>Oral treatment during hospitalisation and after discharge had superior effectiveness and lower cost than the Switch and OPAT scenarios in the base-case, incremental cost-effectiveness analysis (\$8923, 0.87 vs. \$11479, 0.78 vs. \$12481, 0.71, respectively). The cost variable that was expected to have the largest impact on the model was cost per day in hospital. Varying the baseline cost per day in hospital (range \$463-\$2500) did not affect the dominance of the Oral option.</p> <p>The Switch option would be the cost-effective choice if the length of hospitalisation was <6 days or if the probability of cure with the Oral option was ≤ 0.72.</p>
119	Teufel et al (Canada)	Decision tree analysis	SN	77 patients	Early discharge with oral therapy Inpatient therapy Oral outpatient therapy	<p>Oral outpatient treatment yielded an average QAFNE of 0.65, inferior to OPAT (0.72) and Early discharge (0.66), but superior to hospital treatment (0.62). Oral outpatient treatment was cost saving, but less effective than outpatient IV (ICER of \$10186 per QAFNE); Early discharge and Hospital treatment were dominated strategies.</p> <p>Early discharge (\$9265) and inpatient therapy (\$21866) were less cost effective than either Oral or IV outpatient therapies (OPAT \$5810; Oral \$5338). At a WTP threshold of \$4000 per QAFNE, Oral treatment was cost-effective in 54% of the simulations, and OPAT in 38%. Early discharge was cost effective in 8% and traditional hospital management in less than 1%. Beyond certain cost thresholds, dominance changed from the Oral to OPAT strategy, but there was no constellation when Early discharge or inpatient treatment became superior.</p>

ID	Author (country)	Study design	OPAT Model(s)	OPAT group(s)	Comparator(s)	Findings
122	Thornton et al (UK)	Observational (retrospective)	Not specified	Home therapy; 47 patients (mean age 26); 36% male	Combined therapy; 18 patients (mean age 25); 61% male Inpatient therapy; 51 patients (mean age 26); 59% male	<p>When effective treatment was classed as $\leq 0\%$ decline in FEV₁, mean ICER was £46,098 (-£374,044 to £362,472); when $\leq 2\%$ was used, mean ICER was £73,885 (£1236 to £269,023). These are the amounts that must be spent to obtain one more year of effective treatment with hospital-based care for one patient. The cost-effectiveness planes indicated increased effectiveness and increased cost for Hospital treatment compared with Home treatment. There was a slight possibility that Hospital treatment may be less effective and more expensive than Home treatment at $\leq 0\%$ decline; when $\leq 2\%$ decline is used this was not the case.</p> <p>The cost-effectiveness acceptability curve showed that if a decision maker was willing to pay up to £262,500 for one extra patient with an FEV₁ decline of $\leq 2\%$ over 1 year, there was a 95% probability that hospital care would be cost effective. If a decline of $\leq 0\%$ was used, the probability that hospital care would be cost effective never reached 95% (even if the decision maker was willing to pay £10 million for one extra patient).</p>
138	You et al (China)	Decision tree analysis	SA; SN	All patients (no numbers provided)	Oral therapy (early discharge) Inpatient therapy	<p>The base-case analysis showed that OPAT (\$14,470 per patient) was the least costly alternative, followed by Oral (\$17,877) and inpatient treatment (\$19,980). Results were sensitive to variation of the success rates of the IV and oral drugs: 1) if the IV success rate was less than 55%, Oral treatment would become the least costly option; if the success rate was higher than 80%, both OPAT and hospital IV treatment would be less costly; 2) if the Oral treatment success rate was higher than 80%, this would be the least costly option; if the success rate was less than 55%, this would be the most costly. Throughout the ranges of all variables, OPAT remained less costly than hospital treatment.</p> <p>OPAT was less costly than Oral and hospital treatment in 64% and 100% of the simulations, with mean savings of \$2,313 (95% CI 2,188–2,438) and \$4,881 (95% CI 4,869–4,893) per patient, respectively.</p>

OP: outpatient; SA: self-administered; SN: specialist nurse; GN: General nurse; ICER: incremental cost-effectiveness ratio; QAFNE: quality adjusted febrile neutropenia episode

† Age and gender details relate only to those patients who were clinically evaluable or provided questionnaire data.

TABLE S4 Patient acceptability of outpatient parenteral antibiotic treatment

ID	Author (country)	Method	OPAT Model(s)	OPAT group(s)	Comparator(s)	Findings
COMPARATOR STUDIES						
30	Corwin et al (New Zealand)	Questionnaire survey	GN	Home therapy; 98 patients (mean age 55); 62% male	Inpatient therapy; 96 patients (mean age 48); 73% male	Most patients in both treatment groups were satisfied with the care received (Home 96%; Hospital 96%). Only 5% of Home patients would prefer hospital treatment, while 35% of Hospital patients would prefer home treatment ($p<0.001$). Nine percent of the Home group reported no preference for location compared with 34% of the Hospital group.
32	Dall et al (USA)	Telephone survey	SN	Home therapy; 92 pneumonia patients (97% aged >50 years); 44% male / 64 cellulitis patients (mean age 51); 70% male	Inpatient therapy; 10728 pneumonia patients (83% aged >50 years); 51% male / cellulitis patients (no numbers provided)	Overall satisfaction with the program was extremely high, with >90% of patients responding positively to the telephone survey. The ability to have medical care at home was consistently cited as a benefit.
44	Fernandez-Aviles et al (Spain)	Questionnaire survey	SN	Home therapy; 50 patients (mean age 47); 62% male	Inpatient therapy; 50 patients (median age 50); 54% male	All 30 of the patients and caregivers surveyed felt safe at home. Most patients (97%) indicated that they would choose to receive treatment at home again, and that they would recommend the procedure to other patients. The main advantages reported were quiet and increased home comfort (67%), familiar environment (27%), free choice of activity (27%), free choice of food (20%), and increased privacy (13%). Reported disadvantages (10 patients) including anxiety and fatigue (20%), cost of local hotel or apartment (7%), and caregiver anxiety (7%).
103	Richards et al (New Zealand)	Questionnaire survey	GN	Home therapy; 24 patients (mean age 50); 54% male	Inpatient therapy; 25 patients (mean age 50); 52% male	All Home group patients were <i>very happy</i> with their care, compared with 60% of Hospital patients ($p=0.001$). Similarly, most patients were happy with the location of their care, but the Home group were happier; 92% were <i>very happy</i> with the location, compared with 32% in the Hospital group ($p<0.001$).
OPAT ONLY STUDIES						
11	Al Ansari et al (Bahrain)	Questionnaire survey	OP	101 patients; 57% male	—	Survey response was high (96.9%). Patients were highly satisfied with the OPAT service (mean rating 4.41, SD 0.31).
16	Bamford et al (UK)	Interviews	Not specified	12 interviewees (mean age 62-63); 58% male	—	Most interviewees initially preferred oral administration. The most frequently cited disadvantages of IV administration were pain or discomfort and the inconvenience related to movement, followed by problems finding or maintaining the cannula and fear of needles. Most thought the main advantage was that it would work quicker; other advantages mentioned were that it would be " <i>more effective</i> ", " <i>less hassle</i> ", " <i>it's correct and you don't forget</i> "

SUPPLEMENTARY TABLES

ID	Author (country)	Method	OPAT Model(s)	OPAT group(s)	Comparator(s)	Findings
						and “it’s probably gentler on the side effects on the stomach”. When specifically asked about IV antibiotics at home, four interviewees were clear that they would not be happy with the idea, three because of delivery issues, “I just don’t believe a district nurse could do it”, and one preferred oral therapy. Four others were happy with the idea, or had concerns about equipment/sterility but would be happy if management of the IV could be delivered at home, “if there was no fear and it could be done sterilely”. When asked about management of future infections, 75% of those who gave an opinion preferred oral antibiotics. Of the two patients who preferred the IV route, one could not swallow tablets, one thought IV antibiotics were better.
22	Bernard et al (France)	Not specified	SA; SN;	39 patients (mean age 44); 64% male	—	None of the patients complained about having to return frequently for consultation with their attending physician, and they accepted this inconvenience in order to remain outside the hospital.
26	Chambers et al (New Zealand)	Questionnaire survey	SA	100 eligible patients (mean age 63)	—	Home IV therapy was rated as <i>good</i> or <i>very good</i> by 97% of respondents. Two patients (2%) reported that they would not have it again. When patients were asked to comment freely, 91% of the replies were extremely positive (the most common reason being a preference for home over hospital). Most patients rated the experience of having a PICC or midline inserted as very good (60%) or good (35%); 28% reported some problem with the IV catheter (leakage, blockage, discomfort, inconvenience, arm swelling, skin reaction to dressing, connector becoming undone). Most respondents with a pump device rated this as <i>good</i> or <i>very good</i> (88%); 8% reported discomfort or restricted movement, and 3% reported kinking. Twelve patients (14%) self-administered antibiotics and all would do so again. Of those who did not, 27% would have liked to have done so, the main reason given being freedom from appointments with nurses.
28	Chapman et al (UK)	Questionnaire survey	SA; Infusion centre	334 treatment courses (mean patient age 46); 59% male	—	Of 276 patients completing questionnaires since the OPAT service was established, 98.6% rated the service as <i>very good</i> or <i>excellent</i> ; 99.6% reported that they would choose the OPAT service again.
31	Cox et al (USA)	Unscheduled calls or visits	SA	205 patients (mean age 59); 99% male	—	The younger group was significantly more likely than the older group to perform infusions unaided (41% vs 20%; P<0.001). Older patients were significantly more likely than younger patients to have an urgent care visit with a problem or question about the catheter or infusion (31.4 visits/1000 home IV days vs. 14.3 visits/1000 home IV days; p<0.001). Similarly, there

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						were more phone calls to the ID pharmacist from the older group (14.3/1000 home IV days vs. 8.57/1000 home IV days; p=0.04).
42	Esposito et al (Italy)	Not specified	OP; SA; Visit by doctor or nurse (also care facility)	239 patients (aged 11-80+); 62% male	—	Satisfaction with the OPAT regimen was high, with 91% of patients giving favourable feedback.
45	Goodwin et al (Canada)	Questionnaire survey	SN; GN	2405 patients (mean age 46); 55% male	—	Most of the 424 responding patients were <i>very satisfied</i> or <i>completely satisfied</i> with home therapy (61%); 6% were <i>not very satisfied</i> , and 5% were <i>totally dissatisfied</i> . Most of the satisfaction related to resuming daily activities such as work or school, and most dissatisfaction to costs incurred.
48	Grayson et al (Australia)	Not specified	GN	20 patients (mean age 58)	—	All patients reported a strong preference for home IV treatment over inpatient therapy, with many describing a sense of improved self-esteem, "ownership" of their illness, and involvement on therapy.
51	Hindes et al (USA)	Questionnaire survey; personal communication	SA	48 patients (mean age 65)	—	Surveys and personal communications demonstrated a high degree of satisfaction with the care provided, and strong endorsement of the home therapy provided as an alternative to inpatient care (no other details provided).
52	Hitchcock et al (UK)	Questionnaire survey	OP; SA; GN; Private home healthcare company	273 patients (mean age 60); 54% male	—	<p>Most of the 84 survey respondents felt that the service met their expectations and would be happy to receive this form of treatment again should the situation arise (96%). All were happy with the support they received from the OPAT team during treatment; 95% felt that their quality of life during the period of infection had been improved by outpatient management (two of the patients who did not think this suffered an adverse drug event).</p> <p>Most respondents (83%) thought that the service could not be improved. The most frequent comments from those who felt improvements could be made related to patient transport problems transport (6/14); two patients thought that communication between consultants, other staff and patients could be improved, three that they had waited too long, and one patient suggested referrals could be made directly by their GP.</p>
55	Huminer et al (Israel)	Not specified	SA; SN (also nursing home; kibbutz)	37 patients (mean age 64); 57% male	—	Most patients (95%) reported a high level of satisfaction with this type of therapy (no other details provided).

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56	Johansson et al (Sweden)	Questionnaire survey; VAS	SA	11 patients (mean age 51); 73% male	—	<p>All patients reported that OPAT was of great value (median VAS rating 97mm). Prior expectations of OPAT included peace and quiet, greater freedom and more time to do other things, the home environment being important for well-being, and to being an everyday part of the family. The 10 patients who responded after OPAT said that their expectations had been met.</p> <p>All patients said they would prefer to have OPAT again during any subsequent IV antibiotic therapy, and all agreed there were many advantages to having treatment at home. Nine out of ten patients never felt worried during administration of the drug (although they sometimes worried about the direction of their underlying condition). Nine out of ten patients were fully satisfied with the education (inc. potential complications).</p> <p>Specific advantages reported by patients included not having to go to hospital every day for therapy, more freedom, more time to do household duties and for leisure, the feeling of having control, freedom and flexibility, making it possible to be a part of daily issues at home, and being at home with your family. No examples of disadvantages were given.</p>
57	Kayley et al (UK)	Not specified	SA; GN; Doctor administered	67 patients	—	<p>Patients said they were happy to receive their treatment at home (anecdotal only – no formal survey)</p>
59	Kieran et al (Ireland)	Telephone survey	SA; Nurses attached to commercial company	56 patients (median age 50); 57% male	—	<p>All 12 patients surveyed reported that they were very happy to complete their course of antibiotics at home rather than remaining in hospital. Reasons given were preference of home to hospital (44%), the ability to resume activities of daily living (11%) or both (44%).</p> <p>All patients were satisfied with the service received, none felt that they had inadequate training, and none felt that their infection took longer to be treated because they received OPAT. All stated that they would prefer to be treated at home if a similar situation arose in the future. Almost three quarters (70%) would be happy to be followed up by phone or internet with less frequent outpatient reviews, providing that care of the IV access device could be done in the community.</p>
67	Lehoux (Canada)	Interviews	SA	6 interviewees (mean age 64); 50% male	—	<p>User acceptance of home IV treatment was shaped by different forms of anxiety, such as protecting the catheter site to avoid potential infection or the possibility of the catheter becoming dislodged. The pump alarm system could go off too easily, and false alarms frequently disturbed sleep and were initially perceived as very stressful (over time they became a "normal" disturbance).</p>

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						<p>Professional and social life was slightly limited, and patients were generally passive or submissive about this, "you're always a slave to it, having to carry it everywhere". Carers sometimes curtailed social activities because they felt needed by the patient.</p> <p>User-acceptance was closely linked to competence. Older patients did not feel comfortable with the electronic components of the pump, and the manual dexterity required to properly manipulate it could be problematic for older people, "if my eyes were okay, I'd have been able to do it. But I was frightened of not doing it properly, of not seeing the needle, which is so tiny" (IV carer). Direct observation showed patients who were unable to read messages on the digital screen due to poor eyesight, limited English, or illiteracy. They relied on memory or made informed guesses.</p>
73	Marra et al (Canada)	Questionnaire survey	SA; SN	91 patients (mean age 56); 69% male	—	<p>The majority of the 91 enrolled patients (96%) indicated a treatment location preference; 89% preferred home, while the remainder preferred hospital. Most patients (82%) gave an interpretable response regarding willingness to pay (WTP) for treatment in their preferred location. Of these patients, 90% preferred home with a median WTP of \$490 CDN, and the remainder preferred hospital with a median WTP of \$500 CDN (not statistically significant). Total WTP for the patients who preferred hospital treatment was \$7,859 versus \$60,712 for the patients who preferred home treatment. Those who stated preferences were willing to pay more than those who did not ($p < 0.0001$).</p>
74	Martel (France)	Questionnaire survey	SA	116 patients (mean age 36 (M), 41 (F)); 76% male	—	<p>Patients who received Home treatment (n=33) had a significantly higher internal locus of control, while patients who preferred to continue their treatment in hospital (n=17) had a higher external locus of control. The main reasons for accepting Home treatment were socio-familial, wanting to carry on normal activities and to have higher autonomy or freedom. The hospital group had low confidence in their own ability.</p> <p>The majority of Home group patients (89%) would use home treatment again if the cost was paid by a third party; 32% agreed to participate again even if they were responsible for the cost of antibiotics.</p>
82	Montalto (Australia)	Telephone interviews	SN (HHU)	67 patients (aged 16-70+); 49% male / 65 carers (aged 16-70+); 29% male	—	<p>Preference for the convenience and comfort of home was the most commonly cited reason for agreeing to enter the HHU (67%). More than a quarter of patients (28%) mentioned avoidance of hospitalisation, and a smaller number (13%) felt that it saved a bed for another person; three patients believed that they were not ill enough to warrant a bed. Seven patients (10%) felt that their choice was constrained as no inpatient beds</p>

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						<p>were available at the time. Almost all (97%) would use the service again if the opportunity arose.</p> <p>Benefits of a home environment were the most commonly perceived advantages of HHU care (62%), with patients reporting feeling happier, more comfortable at home, greater personal freedom, companionship, and less disruption for themselves and their family. Positive characteristics of the HHU were mentioned by 60% of patients; only two mentioned disadvantages of HHU care.</p> <p>Seven patients recalled feeling worried during their stay, but when asked whether they felt confident during their time in the HHU, all 67 patients, including those who felt worried, responded positively. The most common reason given for this was the 24-hour contact numbers for emergency backup.</p>
89	Nathwani et al (UK)	Questionnaire survey	OP; SA	101 patients	—	<p>Most patients (79%) were happy with all aspects of the care received; 96% reported that the service improved their quality of life, and 89% that this form of treatment met or exceeded their expectations. For 93% of patients it was preferable to inpatient care, and 93% would prefer this model in the future if the need arose. Most patients' family/carers were satisfied with the service (93%).</p>
90	Nathwani (UK)	Not specified	OP; SA; SN	125 patients	—	<p>Patient satisfaction with OPAT was very high (no other details provided.)</p>
93	Parker et al (UK)	Questionnaire survey; focus group; call to practices	OP; SA	29 patients; 38 GP practices	—	<p>Most patients (79%) reported the freedom of being at home as the main reason for taking part. Other reasons included less family disruption (31%), and increased social contact (21%). Of 26 patients who completed the end of study questionnaire, 92% were very much in favour of non-inpatient treatment and would repeat this form of therapy.</p> <p>Questionnaire results were supported by the focus group; all patients would repeat this form of therapy and felt that treatment outside of hospital improved their quality of life.</p>
97	Pilling & Walley (UK)	Interviews	SA; Commercial home care organisation	11 CF patients (aged 17-30) / 14 parents (children aged 6-16)	—	<p>Most of the respondents (92%) had considerable experience of home therapy, having received home IV antibiotics for ≥1 year. All preferred to be treatment at home rather than in hospital provided they were reasonably well. Most (96%) were satisfied with the quality and comprehensiveness of training, although one respondent felt that more information should have been provided on potential adverse reactions, and that the quality of homecare could be improved by the provision of refresher courses on the management of infusion devices. Support arrangements were thought to be good, and all knew how to</p>

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						<p>obtain advice if needed.</p> <p>Fifteen respondents (60%) had experienced one or more problems with their therapy (drug effervescence, painful administration, line blockage, failure of ambulatory infusion device, storage of drugs or equipment, getting rid of used equipment etc.). Most were minor, but some such as line blockages required a visit to hospital or a home visit from the nurse. Patients who self-constituted their antibiotics reported difficulties in obtaining adequate supplies of ancillary items (arbitrary quantities were provided and further supplies were difficult to obtain). They also reported problems with storage of drugs and equipment, and disposal of used equipment, particularly needles. With this exception however, all respondents were satisfied with the support they received from hospital and had no suggestions for improvement.</p>
104	Rodriguez-Cerrillo et al (Spain)	Questionnaire survey	SN (HHU)	24 patients (mean age 73)	—	95% of patients treated expressed their satisfaction with this type of treatment.
105	Rodriguez-Cerrillo et al (Spain)	Questionnaire survey	SN (HHU)	25 patients (mean age 59); 48% male	—	All patients expressed their satisfaction with treatment at home (no other details provided).
108	Seaton et al (UK)	Questionnaire survey	Not specified	205 eligible patients (mean age 49); 51% male†	—	<p>Most of the 183 responding patients (84%) thought that OPAT would be an acceptable alternative to inpatient therapy. Only three of the 29 patients who disagreed gave explanations (severe arthritis, fear of the IV device and disagreement in principle). This group was significantly older than those who were willing to have IV therapy at home (\bar{x} 64y vs. 46y; $p < 0.001$). Acceptability was not influenced by gender.</p> <p>All groups of patients (by condition) were equally agreeable to the prospect of outpatient therapy. Of the 95 patients who received IV antibiotic therapy, 87% thought that OPAT was an acceptable alternative to inpatient therapy, and 72% had a caregiver who would be willing to administer the antibiotic at home.</p>
113	Sims et al (UK)	Telephone survey	OP	14 patients (mean age 63); 71% male	—	One patient died of unrelated causes prior to questionnaire completion. All of the 13 patients contacted were satisfied with the OPAT service, thought that it was more convenient than an inpatient stay, and should the same problem recur would undergo OPAT again. All reported they would recommend the service to a friend under similar circumstances.

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ID	Author (country)	Method	OPAT Model(s)	OPAT group(s)	Comparator(s)	Findings
118	Talcott et al (USA)	Likert scales	SA; SN	30 patients (median age 38); 43% male	—	<p>Before home therapy, all 30 patients overwhelmingly preferred home to hospital therapy, and had little fear of isolation from their physician if a serious problem occurred. These convictions were unchanged after completion of home therapy.</p> <p>The report of family comfort with home care increased after treatment: support for the statement, "My family would rather have me near them than be in the hospital when something happens like this (developing fever and neutropenia)" increased from 42% agreement to 70% agreement.</p> <p>There was some evidence that patients felt slightly more isolated at home than in the hospital: agreement with the statement "I feel uneasy about calling my doctor from home with a complaint that worries me a little, for fear that I will be disturbing him or her with such a minor problem" increased from 10% to 24%.</p>
120	Teufel et al (Canada)	Interviews; VAS	Not specified	78 participants (mean age 54); 41% male	—	<p>Most respondents (75%) preferred some form of outpatient management. Home oral treatment was most commonly ranked first (36%), but 21% of respondents preferred Home IV and 18% preferred Early discharge. All three outpatient strategies were associated with higher mean VAS scores than (5.3 vs. 5.7 for Early discharge, 6.1 for Home oral, and 6.2 for Home IV).</p> <p>There was no significant difference between the outpatient strategies in relation to how much remaining life patients would be willing to give up to avoid inpatient care; \bar{x} 9.1 weeks for Early discharge, 9.6 weeks for Home IV, and 9.3 weeks for Home oral. On average, patients would give up <1% of their remaining lifetime to avoid inpatient care.</p> <p>Findings were similar for willingness to pay (\bar{x} \$282 for Early discharge, \$327 for Home IV, and £255 for Home oral). The maximum WTP to receive IV treatment at home instead of in hospital was \$4,500 (max. \$2,000 for Early discharge and \$1,500 for Home oral).</p>
123	Tice (USA)	Questionnaire survey	OP; SA; SN	538 patients (mean age 45); 52% male	—	<p>Most of the 294 responders (89%) reported that they <i>definitely would</i> have outpatient therapy instead of being hospitalised if the need arose again, and 10% said they <i>probably would</i> have outpatient therapy again. Of the four remaining patients, two said they <i>probably would not</i>, and two said they <i>definitely would not</i>.</p>
124	Tice (USA)	Questionnaire survey	OP; SA; SN; Infusion centre.	500 patients	—	<p>Almost all of the respondents (99%) reported that, should they require parenteral antibiotic therapy again, they would <i>definitely</i> or <i>probably</i> choose to be treated at home; <1% said they would prefer hospitalisation.</p>

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135	Yan et al (UK)	Questionnaire survey	OP; GN	140 patients (aged 17-89); 64% male	—	The survey was completed following an OPAT pilot scheme; 88% of patients (no numbers given) were pleased with the service as it enabled earlier discharge, even if this meant daily trips back to hospital.

OP: outpatient; SA: self-administered; SN: specialist nurse; GN: General nurse.

† Age and gender details relate only to those patients who were clinically evaluable or provided questionnaire data.

TABLE S5 Provider acceptability of outpatient parenteral antibiotic treatment

Ref.	Author (location)	Method	OPAT Model(s)	OPAT group(s)	Comparator(s)	Findings
63	Lane et al (USA)	Questionnaire survey	OP; SA	555 adult infectious diseases physicians	—	Lack of a dedicated OPAT team was reported as the most common barrier to providing safe OPAT services (median rank 2), followed by the large number of locations at which patients received OPAT, communication issues, and volume of lab results (median rank 3).
68	Lehoux et al (Canada)	Questionnaire survey	SA	51 nurses	—	<p>Respondents strongly agreed that home IV therapy gave patients greater autonomy (\bar{x} score 5.2; SD 1.0), and made it easier to pursue a normal life (\bar{x} 4.4; SD 1.0). They viewed the technology as simple to use (\bar{x} 4.5; SD 1.1), but believed it triggered some patient anxiety (\bar{x} 3.3; SD 1.3).</p> <p>Nursing teams perceived that IV therapy provided some challenges for providers in relation to the technical complexity of devices (\bar{x} 3.5; SD 1.3), number of devices used by their hospital (\bar{x} 3.3; SD 1.4), pace of product renewal (\bar{x} 3.2; SD 1.4) and fit with the home setting (\bar{x} 3.1; SD 1.4).</p> <p>Dealing with patients' psychological (\bar{x} 3.0; SD 1.0) and cognitive limitations (\bar{x} 3.0; SD 1.1) was viewed as slightly more demanding than dealing with physical limitations (\bar{x} 2.9; SD 1.1). There was a perceived increase in effort related to teaching patients how use the technology (\bar{x} 3.1; SD 1.1), about associated risks (mean 3.0; SD 1.1), how to manage their anxiety (\bar{x} 3.0; SD 1.1) and how to manage impact on their life (\bar{x} 2.8; SD 1.0).</p> <p>The two features reported as being most important for improvement, were ease of use for patients (\bar{x} 3.9; SD 1.2) and integrating the technology into the patient's life (\bar{x} 4.0; SD 1.3).</p>
86	Muldoon et al (Ireland)	Questionnaire survey	Not specified	55 consultant physicians (15% clinical microbiologists)	—	<p>Forty-one respondents (74%) had discharged patients with IV antibiotics, but almost half (n=26, 47%) did not have a designated OPAT service available to them; all felt that there was a need for a local OPAT service. Of respondents answering the question, 63% (12/19) reported that they had experienced difficulty obtaining funding for OPAT.</p> <p>Forty-five percent (13/18) reported that they thought >75% of their patients were satisfied with OPAT services; only one consultant (6%) felt that <50% of patients were satisfied.</p>
87	Muldoon et al (USA)	Questionnaire survey	Not specified	316 adult and paediatric infectious diseases physicians	—	<p>Thirty-four respondents rarely or never participated in OPAT: 48% cited logistic reasons or lack of an OPAT program, 15% that another practitioner had responsibility for OPAT, 15% reported lack of control of patient management, 12% lack of reimbursement, and 10% low patient volume.</p> <p>In the 'Comments' section, many respondents reported</p>

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						frustration about lack of institutional and financial support for OPAT, while also expressing a significant liability burden.
93	Parker et al (UK)	Questionnaire survey; focus group; call to practices	OP; SA	29 patients; 38 GP practices	—	Most GP practices (76%) saw no advantage for themselves in home IV treatment. Those that did mentioned admissions saved and freed up hospital beds, that the GP maintained responsibility for the patient, and that the patient could be treated at home. Most practices (70%) saw a substantial disadvantage in increased workload, and a small number were concerned about the safety of IV access (18%). However, almost all (94%) thought patients would benefit from being in their own environment, although many saw distance from hospital and lack of support and nursing care as a disadvantage (68%).
107	Seaton & Nathwani (UK)	Questionnaire survey	Not specified	157 infection specialists (92% clinical microbiologists)	—	<p>Most of the 157 respondents had experience of OPAT, but only 21% had an established program within their institution. Of those with no program, 61% thought there was a definite need, while 14% thought there was no need for a formal program. Only 2% thought IV therapy should always be given in hospital.</p> <p>Of the 124 specialist without a program, perceived barriers to development of OPAT were mainly organisational, including source of funding (n=43), lack of leadership (n=42), links between hospital and community (n=37), and identification and training of staff (n=21). Small numbers of patients or fragmentation of patient distribution within Trusts was also a concern (n=34). Concerns over lack of experience (n=17) or patient safety and acceptability (particularly line care and antibiotic administration), were expressed by a few respondents (n=12).</p> <p>There was no consensus regarding funding and clinical responsibility for patients; 40% thought secondary care should pay and specialists take day-to-day clinical responsibility, while 50% thought that care should be shared between hospital and community practitioners.</p>

OP: outpatient; SA: self-administered; SN: specialist nurse; GN: General nurse.

† Age and gender details relate only to those patients who were clinically evaluable or provided questionnaire data.