

Supplementary information

Supplementary table 1. Summary of papers.

Author(s)	Aim	Study design	Outcome measures	n	Selected access outcomes	Study limitations	Study quality
Personal medical services (PMS)							
Steiner <i>et al</i> (2002)	To evaluate the extent to which PMS pilots improved quality of care	Controlled before-and-after study (questionnaires used: Practice Profile, Mental Health, Elderly Care, Health Authority, GPAS)	PMS versus general medical services: change over time	19 PMS pilots matched to 23 general medical services	<ul style="list-style-type: none"> ➤ Patients rated PMS lower on continuity of care than general medical services (PMS team approach to providing care) ➤ Evidence of improved chronic disease management, mental health care and provision of care for elderly 	<ul style="list-style-type: none"> ➤ Evaluation of first-wave sites only ➤ Only sites which had specified a clear quality focus were chosen (results generalisable to this group) 	II
Sibbald <i>et al</i> (2002)	To investigate the impact of salaried GP contracts on recruitment, retention and GP behaviour and the financial implications for the NHS	Controlled before-and-after study (analysis of contracts, postal questionnaire to all PMS sites)	Incentive structures, process and outcome of recruitment, impact of salaried GP contracts on workload, quality of care, costs, GP work satisfaction and job stress	10 general medical services and 10 PMS practices; 12 PMS pilots selected for in-depth study	<ul style="list-style-type: none"> ➤ Recruitment success to salaried posts was similar to that achieved by urban practices generally ➤ Job satisfaction was equivalent to that for GP principals nationally; salaried GPs were less likely to be stressed but more likely to report problems with poor working conditions, professional isolation ➤ List sizes increased at a lower rate in PMS compared with general medical services; doctors in PMS tended to provide shorter consultations and were less likely to prescribe; patient access slightly better in PMS 	<ul style="list-style-type: none"> ➤ Evaluation of first-wave sites only 	II
Walsh <i>et al</i> (2002)	To examine the setting up and implementation of the PMS initiative across a range of different organisational forms	Case studies (interviews with GPs, nurses, admin/managers; questionnaire sent to GPs; focus groups with older people and mental health service users; patient questionnaires; documentary analysis)	Benefits/problems of PMS over general medical services, waiting times, contract details, financial data, new staff roles, degree of partnership-working	14 PMS pilots	<ul style="list-style-type: none"> ➤ The degree of integration between study sites and other organisations was limited 	<ul style="list-style-type: none"> ➤ Evaluation of first-wave sites only 	III
Carter <i>et al</i> (2002)	To evaluate the impact of first-wave PMS pilots on access to appropriate health care to those in greatest need	Evaluation by case studies (telephone interviews with lead professionals at each site at 12 and 28 months, in-depth analysis in sample of sites, local	Progress towards meeting service objectives, accessibility (satisfaction questionnaire),	41 PMS sites selected for interview; 13 sites for in-depth analysis; three case study	<ul style="list-style-type: none"> ➤ 50% of sites had improved access to care (outreach, open access, community development work) ➤ Slow progress in targeting/attracting minority ethnic groups ➤ Most of the pilots were concentrated 	<ul style="list-style-type: none"> ➤ Evaluation of first-wave sites only ➤ Only sites that had specified clear targets to improve access and reduce inequalities were 	III

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		case studies, economic analysis)	geographical targeting, economic analysis	sites	in deprived districts but no evidence suggesting PMS sites were drawing patients from neighbourhoods with highest levels of deprivation	chosen (results generalisable to this group)	
					➤ High level of satisfaction across sites (but not representative of target populations)		
					➤ Recruitment of salaried GPs in deprived areas remains a problem		
Jenkins, Lewis, Gillam (2001)	To evaluate the Isleworth PMS pilot	Single-site case study (Interviews, Angina Audit, GPAS, Focus groups, Practice Profile Questionnaire, Registration Questionnaire)	Access, interpersonal care, continuity of care, technical care, communication, range of services provided, prescribing, patient profile	One practice	➤ Practice staff expressed concerns about ability to balance accessibility and high quality of care (high proportion of patients with complex needs)	➤ Data based on single case study	III
					➤ Patients were satisfied with their correspondence with the receptionist and nursing staff but less satisfied with accessibility of practice and continuity of care offered		
Jenkins, Lewis, Gillam (2001)	To evaluate the Edith Cavell PMS pilot	Single-site case study (Interviews, Angina Audit, GPAS, Focus groups, Practice Profile Questionnaire, Registration Questionnaire)	Access, interpersonal care, continuity of care, technical care, communication, range of services provided, prescribing, patient profile	One practice	➤ Practice staff expressed growing concern about their abilities to provide high quality care (quality of care was assessed as: variable)	➤ Data based on single case study	III
					➤ Practice successful in reaching marginalised groups		
					➤ Negotiation of respective roles of nurses and doctors seen as difficult		
Jenkins, Lewis, Gillam (2001)	To evaluate the SW London PCO PMS pilot	Single-site case study (Interviews, Angina Audit, GPAS, Focus groups, Practice Profile Questionnaire, Registration Questionnaire)	Access, interpersonal care, continuity of care, technical care, communication, range of services provided, prescribing, patient profile	Seven practices	➤ Quality of care provided was felt to be excellent by practice staff but practice scored lower on GPAS than control GMS sites	➤ Data based on single case study	III
Jenkins, Lewis, Gillam (2001)	To evaluate the North Hillingdon PMS pilot	Single-site case study (Interviews, Angina Audit, GPAS, Focus groups, Practice Profile Questionnaire, Registration Questionnaire)	Access, interpersonal care, continuity of care, technical care, communication, range of services provided, prescribing, patient profile	Three practices	➤ Staff felt they were providing high quality care	➤ Data based on single case study	III
					➤ Patient satisfaction was variable (higher in the single-handed practices than in the group practices)		

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GP telephone consultations (TCs)

Car, Sheikh (2003)	To summarise the evidence evaluating the role of telephones in helping to deliver clinical care	Systematic review	Acceptability to patients & providers, scope for telephone consultations in managing acute/chronic care, quality & safety	N/A	<ul style="list-style-type: none"> ➤ Users highly satisfied with TCs ➤ Many clinicians value the convenience of TCs but there is some concern regarding the lack of visual cues and the inability to examine 	<ul style="list-style-type: none"> ➤ Authors limited search to Medline and Cochrane Library ➤ Studies conducted both within and outside the UK were included making an assessment of context difficult 	I
McKinstry <i>et al</i> (2002)	To investigate how the use of telephone consultations impacts on the management of requests for same-day appointments, on resource use, indicators of clinical care and patient perceptions of consultations	RCT (patients who used the telephone to request same-day appointments were randomly allocated to 2 groups: face-to-face same-day consultation or GP returned phone call later to triage)	Use of doctors' time, subsequent use of investigations & services in the two-week period following consultation, frequency of blood pressure measurement, antibiotic prescriptions, number of problems considered at consultation, patient perceptions	388 (full data collected for 379)	<ul style="list-style-type: none"> ➤ TCs took less time (8.2 minutes vs 6.7 minutes; diff = 1.5, 95% CI = 0.6 to 2.4, $P = 0.002$) ➤ Patients consulting by telephone re-consulted more frequently in following 2 weeks (0.6 vs 0.4; diff = 0.2, 95% CI = 0 to 0.3; $P = 0.01$) but no difference was found for use of out-of-hours care or Accident & Emergency ➤ No significant differences between TCs and face-to-face consultations for any other outcome measures ➤ More patients in the intervention arm claimed they were likely to use TCs in the future 	<ul style="list-style-type: none"> ➤ Small study ➤ Response rate 47.9% ➤ Participants were already 'callers' (people who <i>called</i> were allocated into either group) ➤ Study not powered to detect secondary outcomes ➤ No consideration of GP telephone consultation skills 	I
Brown, Armstrong (1995)	To assess the characteristics of patients using the telephone to consult the GP and whether telephone consultations were used as an additional or an alternative service to surgery consultations	Case-control study (Questionnaire)	Perceptions and attitudes regarding telephone consultations, characteristics of those accessing telephone consultations	259 patients in both case and control groups (but 81 patients in the control group were later excluded)	<ul style="list-style-type: none"> ➤ Those who consulted the GP by telephone were significantly more likely to be aware of the phone-in clinic, to have a telephone at home, to have children aged under 5 years at home, to be receiving repeat prescriptions ➤ 5% (11) indicated that they would not have made a GP appointment or requested a home visit; 53% (120) used the telephone as an alternative to a surgery appointment; 10% (22) used the telephone instead of requesting a home visit 	<ul style="list-style-type: none"> ➤ Single-site study ➤ Control group smaller than intervention group ➤ Questionnaire asks patients about consultations up to one year ago ➤ Sampling method unknown 	II
Hallam (1993)	To determine accessibility of surgeries and GPs by telephone	Case studies (Postal survey to patients of four general practices [part of	Demographic characteristics of callers, caller	2887 patients randomly selected; a	<ul style="list-style-type: none"> ➤ Over 50% of participants were unable to get through to the surgery on their first attempt 	<ul style="list-style-type: none"> ➤ Gender imbalance in response rates ➤ One practice dropped out 	II

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		a three-phase study looking at telephone use in general practice] and practice profiles)	satisfaction, call outcome, knowledge of GP accessibility by telephone	further 916 purposively selected	<ul style="list-style-type: none"> ➤ Half of the participants knew that they could access their GP by telephone ➤ Patients were highly satisfied with care received over the phone but dissatisfied with the process 	<ul style="list-style-type: none"> ➤ Practices were 'high telephone use' practices at baseline ➤ Differences among practices in patient to telephone line ratio ➤ Role of receptionists unknown 	
Jiwa, Mathers, Campbell (2002)	To determine if GP telephone triage can reduce demand for face-to-face consultations for patients seeking same-day appointments	Interrupted time series (2 years before and 1 year after introduction of GP phone consultations)	Demand for extra appointments, patient satisfaction, impact of consultation	614 calls	<ul style="list-style-type: none"> ➤ TC outcome: 43% of callers were offered same-day appointment, 22% called for repeat prescriptions, 29% for advice only, 2% requested a home visit, 4% were routine appointments ➤ 98% of patients judged TC an acceptable alternative ➤ Demand for face-to-face consultations with GP was reduced by 39% (95% CI = 29 to 51, $P < 0.001$) 	<ul style="list-style-type: none"> ➤ Single-case study with no control group ➤ Patients not followed-up post-consultation ➤ Instrument used to measure patient satisfaction not specified 	III
Nurse telephone consultations							
Lattimer <i>et al</i> (1998)	To determine the safety and effectiveness of nurse telephone consultation in out-of-hours care by investigating adverse events and the management of calls	Blocked RCT (within each 'block' one of each pair of randomised periods was randomly allocated to receive the intervention or the normal service)	Deaths within 7 days of contact, emergency hospital admissions within 24 hours and 3 days, attendance at Accident & Emergency within 3 days; number and management of calls in each arm	10 134 callers; 14 492 calls (7308 in the control arm, 7184 in the intervention arm) concerning 10 134 individuals	<ul style="list-style-type: none"> ➤ Nurses managed 50% of calls without referral to GP ➤ 69% reduction in telephone advice from GP; 38% reduction in attendance at health centres; 23% reduction in home visits ➤ Statistical equivalence between the number of deaths within 7 days, number of emergency hospital admissions, number of attendances at Accident & Emergency 	<ul style="list-style-type: none"> ➤ Looks at out-of-hours care only ➤ Authors only considered whether nurse intervention produced worse results than GP ➤ Differences in death rates between the groups are calculated but results do not distinguish reasons for death 	I
Thompson <i>et al</i> (1999)	To establish whether nurse telephone consultation was equally effective in managing workload at night	RCT (study is embedded within a larger RCT: Lattimer <i>et al</i> , 1998, as above)	Number of patients attending daytime surgery within 3 days of a call (plus those in Lattimer, 1998)	210 callers; 223 calls (123 in control and 100 in nurse consultation group)	<ul style="list-style-type: none"> ➤ 59% of calls handled by nurse along (95% CI = 48.7 to 68.7) ➤ Percentage of calls ending in GP consultation or home visit significantly reduced ➤ Nurses can manage a high percentage of calls at night (as well as during evenings and weekends) without increased numbers of patients attending daytime surgeries 	<ul style="list-style-type: none"> ➤ Small sample ➤ Authors only considered whether nurse intervention produced worse results than GP ➤ Trial not powered to detect rare adverse events 	I

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Pinnock, <i>et al</i> (2003)	To determine whether routine review by telephone of patients with asthma improves access and is a good alternative to face-to-face reviews in general practice	Pragmatic RCT	Proportion of patients reviewed within 3 months of randomisation, disease specific quality of life, asthma morbidity, nursing care satisfaction, length of consultation	Four general practices (278 adults)	<ul style="list-style-type: none"> ➤ within next 3 days ➤ At 3 months, 74% of those in intervention arm had been reviewed, compared with 48% of those in control arm (95% CI = 14 to 37, $P < 0.001$) ➤ The measure of disease specific quality of life (Juniper score) did not differ between the two groups ➤ Telephone consultations were 10 minutes shorter than those conducted face-to-face (95% CI = 12.6 to 8.8 minutes, $P < 0.001$) 	<ul style="list-style-type: none"> ➤ Not blinded ➤ Practices 'asthma-interested' and more motivated ➤ Participants slightly older than eligible population ➤ Study was of a short-duration 	I
Richards <i>et al</i> (2002)	To compare the workloads of GPs and nurses, and costs of patient care for nurse telephone triage and standard management of requests for same-day appointments in routine primary care	Multiple interrupted time series (using sequential introduction of experimental triage system in different sites with repeated measures taken for 1 week in every 12 months)	Type of consultation, time taken for consultation, presenting complaints, use of services during month and after same-day contact, costs of drugs, same-day care, follow-up care, emergency care	4685 patients (1233 standard management; 3452 in triage system)	<ul style="list-style-type: none"> ➤ Nurse telephone triage (NTT) smoothed out peaks and troughs of unplanned GP workload ➤ NTT reduced the number of face-to-face GP consultations (29–44%) and house-visits, increased telephone care (2.41) nurse care (3.79) (40% of patients managed by nurses), and follow up attendance at out-of-hours or Accident & Emergency 	<ul style="list-style-type: none"> ➤ Three times as many patients in intervention over control group ➤ Trial not powered to detect rare adverse events ➤ No measure of consultation content 	III
Gallagher, Huddart, Henderson (1998)	To determine the impact of telephone triage, conducted by a practice nurse, on the management of same-day consultations in a general practice	Prospective case study (routine data and patient postal survey)	Number of consultations, call outcome, patient satisfaction	Data collection on practice of 11 300 patients Survey: 284 patients	<ul style="list-style-type: none"> ➤ Doctor workloads fell by 54% over 3 months compared to the 3 months before the study ➤ 26% of calls were managed by the nurse without a GP following GP consultation ➤ 88% of patients were satisfied with nurse telephone advice 	<ul style="list-style-type: none"> ➤ Short-term study conducted in part over a holiday period ➤ Study not powered to detect rare adverse outcomes ➤ Patient questionnaire 10 months after consultation (recall bias) 	III
Nurse practitioner-led care							
Horrocks, Anderson, Salisbury (2002)	To determine whether nurse practitioners can provide care at first point of contact equivalent to doctors in primary care	Systematic review	N/A	N/A	<ul style="list-style-type: none"> ➤ Patients were more satisfied with care by a nurse practitioner (standard mean diff = 0.27, 95% CI = 0.07 to 0.47) ➤ No differences in health status found ➤ Nurses gave longer consultations (mean diff = 3.67 minutes, 	<ul style="list-style-type: none"> ➤ Heterogeneity across outcome measures ➤ Studies conducted both within and outside the UK were included making an assessment of context difficult 	I

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Venning <i>et al</i> (2000)	To compare the cost effectiveness of GPs and NPs as first point of contact in primary care	RCT	Consultation process, patient satisfaction, health status, return clinic visits, costs	1292 patients	<p>2.95–5.29) and made more investigations (OR = 1.22, 1.02–1.46); no differences in prescriptions, return consultations and referrals</p> <ul style="list-style-type: none"> ➤ Patients more satisfied with nurse-led than GP-led consultations (after controlling for consultation length) ➤ Nurse-led consultations were longer than GP consultations (11.57 vs 7.28 minutes, adjusted diff = 4.20, 95% CI = 2.98 to 5.41); NPs carried out more tests (8.7% vs 5.6%, OR = 1.66, 95% CI = 1.04 to 2.66), NPs asked patients to return more often (37.2 vs 24.8%, OR = 1.93, 95% CI=1.36 to 2.73) ➤ No significant difference in patterns of prescribing or health outcome 	<ul style="list-style-type: none"> ➤ Study only considers nurses who work alongside GPs ➤ Study is not powered to detect rare adverse outcomes ➤ Study nurses and GPs may be more motivated as their care is being monitored ➤ Content of consultations not measured 	I
Shum <i>et al</i> (2000)	To assess the acceptability and safety of a minor illness service led by practice nurses in general practice	RCT (multi-centre)	Patient satisfaction, length of consultation, number of prescriptions, referral and re-consultation rates, health status, patients' anticipated behaviour in seeking future health care	1815 patients (requesting same-day appointments)	<ul style="list-style-type: none"> ➤ NP care produced greater patient satisfaction ➤ 73% of nurse-led care was managed without GP input ➤ No significant difference was found between nurse and GP prescribing, referral rates, re-consultation patterns, or adverse health outcome ➤ Nurse-led consultations were on average 2 minutes longer than GP consultations 	<ul style="list-style-type: none"> ➤ Content of consultations not measured ➤ Study is not powered to detect rare adverse outcomes ➤ Study nurses and GPs may be more motivated as their care is being monitored 	I
Kinnersley <i>et al</i> (2000)	To ascertain any differences between care from nurse practitioners and that from GPs for patients seeking 'same-day' consultations in primary care	RCT (patients allocated to one of two randomisation schemes)	Patient satisfaction, resolution of symptoms/concerns, care/info provided, patients' intentions for seeking care in future	10 practices; 1368 patients	<ul style="list-style-type: none"> ➤ Generally patients consulting nurses where more satisfied with their care; for children the mean difference in satisfaction score = -4.8 (95% CI = -6.8 to -2.8), (for adults not significant) ➤ Resolution of symptoms and concerns did not differ between the two groups (OR = 1.2, 95% CI = 0.8 to 1.8) ➤ The number of prescriptions issued, investigations ordered, referrals to 	<ul style="list-style-type: none"> ➤ No demographic data collected on patients which may illuminate results; no sub-group analyses ➤ Content of consultations not measured ➤ Study is not powered to detect rare adverse outcomes ➤ Study nurses and GPs may be more motivated 	I

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					<ul style="list-style-type: none"> secondary care and re-attendances were similar between the 2 groups ➤ Patients managed by nurses reported receiving more information; nurse consultations were longer 	as their care is being monitored	
Walk-in centres							
Salisbury, Munro (2002)	To review international experience with walk-in centres in primary and emergency care and identify relevant lessons for the UK	Systematic review	N/A	N/A	<ul style="list-style-type: none"> ➤ Users tend to be affluent and employed ➤ Walk-in centres are provide access out-of-hours disproportionately ➤ User satisfaction is high and services are seen to be convenient 	<ul style="list-style-type: none"> ➤ Studies conducted both within and outside the UK were included making an assessment of context difficult; walk-in centres outside the UK have been established for diverse reasons (results are not broken down to reflect this) 	I
Chalder <i>et al</i> (2003)	To assess the impact of NHS walk-in centres on the workload of local Accident & Emergency departments, general practices, out-of-hours services	Time series analysis (of walk-in centres with no-treatment control series in matched sites)	Mean number or rate of consultations per month in the 12 month periods before and after an index date	20 Accident & Emergency departments, 40 general practices, 14 out-of-hours services	<ul style="list-style-type: none"> ➤ Non-statistically significant reduction in Accident & Emergency and general practice consultations in sites close to walk-in centres ➤ No impact on out-of-hours services near walk-in centres 	<ul style="list-style-type: none"> ➤ Practices diverse in terms of size, workload ➤ Short follow-up ➤ Towns in which services were based differed somewhat in demographic make-up ➤ Participation rates among general practices were low and sites providing data were not representative ➤ Study based on routine data of dubious quality 	II
Hsu <i>et al</i> (2003)	To assess the effect of an NHS walk-in centre on local primary and emergency health services	Before-and-after observational study	Mean daily rate of emergency GP consultations, mean number of half days to the sixth bookable routine appointment, attendance rates at out-of-hours services, minor injuries units, Accident & Emergency departments	12 general practices in two towns (one with a walk-in centre and one without a walk-in centre)	<ul style="list-style-type: none"> ➤ Mean daily rate of emergency GP consultations, time to sixth bookable appointment and attendance rates at out-of-hours services were not significantly different between intervention and control practices ➤ Attendance at the minor injuries unit was higher in the intervention town (RR = 1.22, 95% CI = 1.12 to 1.33) ➤ Non-ambulance attendances at Accident & Emergency fell less in the intervention town (RR = 1.17; 	<ul style="list-style-type: none"> ➤ Practices diverse in terms of size, workload ➤ Study has limited power to detect clinical differences ➤ Changes in study population over time makes interpretation difficult 	II

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Grant <i>et al</i> (2002)	To compare the quality of clinical care in walk-in centre with that provided in general practice and by NHS Direct	Observational study (clinical assessment using standardised patients and five scenarios)	Mean scores on checklists of essential items for the management of the clinical scenarios (post-coital contraception, chest pain, sinusitis, headache, asthma)	20 walk-in centres, 20 general practices, 11 NHS Direct sites; 297 consults — 99 in each setting	<p>95% CI = 1.03 to 1.33).</p> <ul style="list-style-type: none"> ➤ Walk-in centres achieved a significantly greater mean score for all scenarios combined than GPs (diff = 8.2 95% CI = 1.7 to 14.6), especially post-coital contraception and asthma ➤ Walk-in centres referred a higher percentage of patients (26 vs 82%) 	<ul style="list-style-type: none"> ➤ Non-random sampling of sites (bias) ➤ Small sample ➤ Limited number of conditions investigated; care generally cannot be interpreted as safe/ of high quality ➤ Study did not assess other potential strengths of general practice 	III
Salisbury <i>et al</i> (2002)	To determine the characteristics and experiences of people consulting walk-in centres compared with general practice	Observational study (pre/post consultation questionnaire) based on data from National Evaluation	Sociodemographic characteristics, reasons for consulting, attitudes to continuity, satisfaction, enablement, referrals, intentions	6229 participants across 38 walk-in centres and 34 general practices	<ul style="list-style-type: none"> ➤ Users are more likely to be male, to have education beyond age 18 years, less likely to be from a black or minority ethnic group; 80% live locally; almost all registered with GP ➤ Patient satisfaction is higher at walk-in centre than general practice ➤ Users attended because of convenience, felt their GPs were too busy, anonymity 	<ul style="list-style-type: none"> ➤ Questionnaire used to measure satisfaction is of unknown reliability and validity 	III
Salisbury <i>et al</i> (2002)	To assess the success of walk-in centres against five criteria	National evaluation (analysis of monitoring returns and anonymised patient data; questionnaire survey and follow-up survey of users; quantitative cases studies; survey of health professionals; assessment of quality of care using standardised patients)	Improved access to health care, quality, appropriateness, impact on other NHS providers, efficiency	38 walk-in centres	<ul style="list-style-type: none"> ➤ Walk-in centres scored a higher mean score for essential items conducted than GP or NHS Direct; asthma and post-coital contraception were conducted better in walk-in centres; walk-in centres achieved higher scores in relation to history-taking ➤ Half of users consulted a GP within next 4 weeks ➤ No significant differences in workload of other local primary care services 	<ul style="list-style-type: none"> ➤ Limited number of conditions investigated; care generally cannot be interpreted as safe/of high quality ➤ Study nurses and GPs may be more motivated as their care is being monitored 	[?]
Munro <i>et al</i> (2000)	To review the existing research on walk-in centres	Literature review	N/A	N/A	<ul style="list-style-type: none"> ➤ Annual attendance of 10000 patients ➤ Walk-in centre users tend to be children and young adults, registered with a GP and better-off ➤ 50% of users consult out-of hours ➤ Presenting complaints: 65–80% 	<ul style="list-style-type: none"> ➤ Studies conducted both within and outside the UK were included making an assessment of context difficult 	III

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					<ul style="list-style-type: none"> ➤ were minor illnesses; 20–35% were minor injuries ➤ Walk-in centres are likely to be able to deal with 90% of presenting complaints ➤ Walk-in centres are popular with patients (rapid access, convenient times/locations, no need for appointment) ➤ Satisfaction with nurse-led services is at least as high as that for doctor-led services 		
NHS Direct							
Munro <i>et al</i> (2001)	Evaluation of first-wave sites	National Evaluation (analysis of routine data)	Activity, clinical assessment, compliance with advice given by NHS Direct, critical event monitoring, economic evaluation, views of stakeholders	Three first-wave sites	<ul style="list-style-type: none"> ➤ NHS Direct is used in 5% of all episodes of ill health where unscheduled care is sought; users tend to be young adults/adults calling on behalf of children ➤ Serious adverse effect rates are lower than in other triage settings ➤ Users view service as friendly, prompt, professional and advice is seen as practical and helpful; sources of dissatisfaction include difficulties in getting through to service/delays, number of questions asked, inconsistency in quality of self-care advice ➤ NHS Direct has had little impact on demand for other services; may have halted demand for out-of-hours care 	<ul style="list-style-type: none"> ➤ Study is based on analysis of first-wave sites ➤ Rapid development of NHS Direct makes comparison of data from beginning to end of evaluation difficult ➤ Study is based entirely on routine data 	III
Munro <i>et al</i> (2000)	To quantify the impact of NHS Direct on the use of Accident & Emergency, ambulance and GP cooperatives	Observational study (analysis of routine data) based on data from National Evaluation	Changes in trends in use after the introduction of NHS Direct	68 500 calls (3 first-wave NHS Direct sites and 6 nearby GP cooperatives as controls)	<ul style="list-style-type: none"> ➤ 72% of calls received out of hours ➤ 22% of calls on behalf of children aged under 5 years ➤ Changes in use of Accident & Emergency and ambulance services after introduction of NHS Direct were not significant ➤ Changes in use of GP out of hours services were small but significant (2% per month to -0.8% per month; diff=-2.9%, 95% CI= -4.2 to -1.5%) 	<ul style="list-style-type: none"> ➤ Study is based on analysis of first-wave sites ➤ Rapid development of NHS Direct makes comparison of data from beginning to end of evaluation difficult ➤ Study is based entirely on routine data 	III

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Pharmacist-led initiatives								
Munro <i>et al</i> (2001)	Evaluation of NHS Direct Essex pharmacy pilot	Case study (analysis of routine data and questionnaires)	Callers experiences and satisfaction, impact on pharmacies, effects on other services which NHS Direct advises callers to use	107 833 calls included (143 366 calls received in total but no triage record for some)	<ul style="list-style-type: none"> ➤ In first 3 months: 6% calls logged as referred to pharmacists; 86% of these felt advice was appropriate ➤ When used, the service seemed acceptable to callers ➤ Concerns: privacy in pharmacy ➤ One-third who consulted pharmacists also consulted their GP with same condition 	<ul style="list-style-type: none"> ➤ Initiative was only partially implemented ➤ Benefits to user not measured 	III	
Hassell <i>et al</i> (2001)	To examine how referring patients with self-limiting conditions directly to a community pharmacist would affect GP's workload	Before-and-after study (all patients seeking GP appointments or telephone prescriptions for 12 conditions were offered a consultation at a community pharmacy). Data from Whittington <i>et al</i> , 2001 (below).	Transfer rates, reductions in GP consultations for 12 self-limiting conditions together and separately, prescribing outcomes, reconsultation rates	One general practice and eight local community pharmacies; 3044 consultations	<ul style="list-style-type: none"> ➤ Overall workload of GPs was unaffected but the workload for the 12 study conditions decreased ($P = 0.001$, 95% CI = 0.397 to 0.108); 37.8% of the combined consultations were transferred ➤ 49% of the patients who consulted a GP were prescribed a drug that could have been provided from pharmacies' limited formulary; eight received prescriptions for products that could be purchases over the counter 	<ul style="list-style-type: none"> ➤ Differential waiting times to see GP may have influenced participation decisions ➤ Low recruitment rate (38%) 	III	
Whittington <i>et al</i> (2001)	To describe community pharmacy management of minor conditions after referral from one general practice	Feasibility study in which all patients seeking a prescription for 12 self-limiting conditions were offered a consultation with a pharmacist (routine data, interviews with pharmacists)	Level of transfer to pharmacy management for 12 conditions, patient management within pharmacies (prescribing outcomes, referral to practice, reconsultation rates)	One general practice and eight local community pharmacies; 3044 consultations	<ul style="list-style-type: none"> ➤ The most common presenting complaints were: head lice, vaginal thrush, upper respiratory tract infections (79% of total) ➤ Most patients were managed with advice and treatment prescribed from the formulary; 4% of patients were referred back to the practice ➤ 6% of patients reconsulted for the same condition within 2 weeks 	<ul style="list-style-type: none"> ➤ Differential waiting times to see GP may have influenced participation decisions ➤ Low recruitment rate (38%) 	III	