

Urgent care centres for reducing the demand on emergency departments: a scoping review of published quantitative and qualitative studies

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Emergency department (ED) overcrowding is a global public health concern, and is associated with poor patient outcomes and high medical care costs.¹⁻³ In Australia, the number of ED presentations has been rising since the early 2000s by 2–3% annually.^{4,5} In New South Wales, nearly half of all ED presentations during 2010–2014 were classified as low acuity presentations.⁶ Diverting people with low acuity conditions to primary care facilities,⁷ such as urgent care centres (UCCs),⁸ could alleviate ED overcrowding.⁹ While UCCs have been introduced in many countries, including Australia,¹⁰ their effectiveness and impact on health care costs are unclear.¹¹ We therefore undertook a scoping review of published studies of the effect of UCCs on ED presentation numbers, their costs, and the experiences of patients and practitioners.

Methods

We conducted a scoping review of published qualitative or quantitative studies of the impact of UCCs in primary care and the number of ED presentations (Box 1). We searched for publications (to 28 August 2024) in the MEDLINE, Embase, Cochrane Central Register of Controlled Trials (CENTRAL), PsycINFO, and CINAHL databases, supplemented by internet searches and checking of reference lists for grey literature and other relevant publications (Supporting Information, supplementary methods). The review protocol is available upon request to the corresponding author.

Different types of UCC and similar primary care-based clinics have been described in the literature:

- urgent care centres: for low acuity, urgent care, also available outside regular hours;¹²
- walk-in centres: primary care facilities not located in hospitals, offering services without appointments, with or without extended hours;¹²
- after-hours clinics: provide care between 5pm and 8am and on weekends and during holidays, and typically managed by the patients' primary care provider;¹³
- community health centres: offer primary or secondary care in areas with restricted access to medical health care;¹⁴
- general practitioner cooperatives: operate outside regular hours, often near emergency departments;^{15,16} and
- patient-centred homes: UCC or UCC-like clinics that meet requirements with respect to care coordination and communication.^{17,18}

To ensure the comprehensiveness of our review, we defined UCC broadly as a primary care-based facility or model of care for people with low acuity conditions.¹⁹ The clinic must operate

Abstract

Objectives: To identify published studies that examined the impact of urgent care centres on the numbers of presentations to emergency departments (EDs), or explored the experiences and views of patients and practitioners regarding urgent care centres as alternative sources of health care and advice.

Study design: Scoping review of qualitative and quantitative studies published to 28 August 2024.

Data sources: MEDLINE, Embase, Cochrane Central Register of Controlled Trials (CENTRAL), PsycINFO, and CINAHL databases; grey literature searches.

Data synthesis: Of 2698 potentially relevant publications, 51 met our inclusion criteria (30 quantitative studies; 21 qualitative studies). Urgent care centres of various types were led by general practitioners in 41 of 51 studies, primarily managed people with non-urgent conditions or minor illnesses in 34 studies and non-emergency but urgent conditions in eight, and nine of the 22 studies that discussed funding indicated that access to the centres was free of charge. The effect of urgent care centres on ED presentation numbers was mixed; all seven studies of after-hours clinics, one of two studies of 24-hour clinics, and four of five studies of walk-in centres reported reduced ED visit numbers; in eleven studies that reported effects on hospital admissions from the ED, they were lower in seven (studies of an urgent cancer care centre, four community health centres, and a general practitioner cooperative). Patient satisfaction with urgent care centres is generally as high as with other primary care services; they preferred them to EDs, and preferred personal triage to telephone triage. Reasons for people choosing urgent care centres included easier access and the unavailability of doctors or appointments elsewhere. Clinicians reported increased workload, mixed experiences with the coordination of care, concerns about unregistered or undocumented people using the services, and protocol confusion, particularly with respect to triage. Continuity of care was a concern for both clinicians and patients.

Conclusions: Urgent care centres, especially walk-in and after-hours clinics, can help reduce the number of ED presentations and reduce health care costs. Patient satisfaction with such clinics is high, but public health education could guide people to appropriate care for non-urgent health problems. Training in the management of conditions frequently seen in urgent care centres is needed to ensure consistent, effective care.

separately from EDs and other health services; it could be embedded within or share a building or area with ED or primary care services or be a standalone clinic.

Data extraction and synthesis

Two authors (FS, MF) extracted information from the publications, and one reviewer (FS) validated the information. We collected general information, mode of service delivery, and clinic type

1 Inclusion and exclusion criteria for our scoping review of published studies of the impact of primary care urgent care centres (UCCs) on the number of emergency department (ED) presentations

Criterion	Inclusion criteria	Exclusion criteria
Participants	Any.	Not applicable.
Intervention	- UCCs in which general practitioners or other practitioners work outside the ED, managing only low acuity cases in a dedicated area with dedicated resources. - UCCs can be located within EDs or hospitals, but must be defined as urgent care, general practitioner cooperative, or walk-in clinics for low acuity cases and be staffed by non-ED practitioners. - Studies assessing the effect of extended general practitioner/primary care service hours eligible if it is specified that they are for low acuity cases or aim to reduce the number of avoidable ED presentations.	- Fast-track areas within EDs where dedicated ED staff are assigned to manage low acuity cases in a dedicated area with dedicated resources. - General practitioners or other primary care practitioners located in EDs who manage only low acuity cases in a dedicated area with dedicated resources. - Primary care streaming in EDs. - Evaluation of intervention for triage only; eg, helplines.
Comparator	Any.	Not applicable.
Setting	Primary care.	Secondary or tertiary care.
Study type	- Quantitative studies: randomised or non-randomised trials, prospective or retrospective cohort studies, interrupted time series or repeated measures studies, embedded or implementation trials, government evaluation reports. - Qualitative studies: patient and staff experience	- Opinion pieces and conference abstracts. - Study protocols. - Systematic reviews (but reference lists screened). - Cross-sectional analyses.
Outcome	- Quantitative studies: ED presentations or hospitalisations from the ED as an outcome (number of events, mean visits per patient, proportional change). - Qualitative studies: patient and staff experiences.	- No ED-related outcomes reported. - Qualitative studies that explored theory-based individual behaviours rather than reporting results (such as interviews) for participants.
Language of publication	English.	Language other than English.

from all studies. For quantitative studies, we extracted numbers of ED presentations and hospital admissions, their costs, clinic location, workflow, and operating hours. For qualitative studies, we collected information about facilitators and barriers to UCC use and patient and provider experiences. All findings were narratively synthesised.

Results

We initially identified 2698 potentially relevant publications by database searching; after removing duplicates, we screened 1868 records for relevance. After excluding 1730 publications that were not relevant to our research question, we assessed the full text of 138 articles for eligibility according to our inclusion criteria; 51 articles were included in our review (Supporting Information, figure 1): 30 quantitative studies (Box 2)²⁰⁻⁴⁹ and 21 qualitative studies (Box 3).^{16,50-69}

All publications described studies in high income countries, including the United Kingdom (seventeen studies)^{20,23,24,33,37,43,50,52,55,57,58,62,64,66,65,67,68} and the United States (seven studies).^{21,27,28,32,41,47,48} The most frequently described care models were urgent care and walk-in centres in the United Kingdom and the United States (thirteen studies),^{20,21,24,27,28,33,37,33,50,55,57,60,65,66} community health centres in the United States (three studies),^{28,41,48} in after-hours clinics Australia and the United Kingdom (five studies), and general practitioner cooperatives in the United Kingdom and European countries (eleven studies).^{16,22,29,30,34,40,42,45,56,65,66}

The study groups in the quantitative studies included clinic attendees (16 of 30 studies),²⁰⁻³⁵ the general population (eight studies),³⁶⁻⁴³ people with cancer⁴⁴ or diabetes,⁴⁵ clinicians,⁴⁶ or people without health insurance,^{47,48} or people receiving home care.⁴⁹ The study groups in the qualitative studies were staff members (seven of 21 studies),⁵⁰⁻⁵⁶ patients (eleven studies),^{16,40,57-65} or both patients and staff (three studies).⁶⁶⁻⁶⁸

Mode of delivery and workflow

Services were delivered in person in 40 of 51 studies,^{20-33,35-49,51,52,54,55,57,59-63} and nine studies reported hybrid delivery (for example, both in person and by phone).^{16,34,50,56,58,64,65,67,68}

UCCs were led by general practitioners in 41 of 51 studies.^{20,22-31,34-46,49,50,52,53,55,56,58,59,61-69} Triage was performed by nurses (six studies),^{16,50,53,55,58,61} general practitioners (three studies),^{29,52,57} a paramedic (one study),⁵⁹ or by different people in different positions at different centre types (nine studies).^{37,40,51,54,60,65-68}

In the twenty-four publications that reported opening times, UCCs were open 24 hours a day (two studies),^{22,26} after normal hours (eighteen studies),^{20,25,27,29-31,33,36-39,41-43,45,46,49} for a limited number of hours (two studies),^{21,40} or during standard work hours (two studies).^{23,28} In eighteen studies UCCs were standalone clinics,^{20-22,24,26-28,31,32,37,41,42,45,47,51,56,59,63} in ten studies they were located within primary care,^{23,25,29,30,36,38-40,46,49} in eight studies next to EDs or hospitals,^{33-35,44,50,52,57,58} and in two studies within a community or health centre;^{43,61} one publication included different types of UCC arrangement.⁶⁵

In 34 of 51 studies, the clinics primarily managed people with non-urgent conditions or minor illnesses,^{16,20,22-26,28,29,31,33,34,36-38,40-43,46,49-51,53,56-58,60-62,64,65,67,68} and in eight studies the focus was non-emergency but urgent conditions,^{21,27,35,39,40,52,55,59} in other studies, the focus was psychiatric care,⁵⁴ low acuity presentations related to cancer treatment,⁴⁴ diabetes management,²⁵ chronic conditions,⁴⁵ and people without health insurance with low acuity conditions.⁴⁷ Other studies compared several clinic models without defining their scope^{32,48,60,66} or did not report this aspect.^{30,63}

Quantitative studies

Twenty-four of the 30 quantitative studies were longitudinal, six were pre-post evaluations.^{20,22,24,26,34,44} Four longitudinal studies

2 Summary of thirty quantitative studies included in our scoping review of published studies of the impact of primary care urgent care centres (UCCs) on the number of emergency department (ED) presentations

Reference	Study design; participants (country)	Intervention (type; mode of delivery; location)	Comparator	Summary of findings	Funding source, funding model and cost assessments
Moore, 1972 ²⁸	Quantitative observational study; Charlestown residents who visited the emergency room (USA)	Neighbourhood health centre; in-person only; standalone	Before program	Increased ED visits; no change in hospital use by the community.	Government (Medicare and welfare), and private insurance and payments
Maynard, 1983 ²⁶	Quantitative observational study; Mosgiel residents who attended the accident and emergency department of Dunedin Hospital (New Zealand)	Health centre; in-person only; standalone	Before program	No reduction in overall ED use by health centre patients, nor in opening hours of the health centre, or for subgroups thought likely to prefer the new facility.	Not reported.
Merritt, 2000 ²⁷	Quantitative observational study, patients who visited the urgent care centre during August 1996 (USA)	Urgent care centre, in-person only, standalone	Before program	A first-time visit to the UCC was associated with a 48% reduction in ED visits for adults and a 28% reduction for children during the six months following the visit.	Not reported.
Hsu, 2003 ²⁴	Quantitative observational study; nine of thirteen general practices with patients in Loughborough and three of four practices with patients in Market Harborough (UK)	Walk-in centre; in-person only; standalone	Before program	No effect on local general practitioners' workload; local minor injuries unit (in same building as walk-in centre) increased (adjusted RR, 1.10; 95% CI, 1.00–1.21).	Government-funded (National Health Service).
Chalder, 2003 ³⁷	Quantitative observational time series analysis; EDs, general practices and out-of-hours services (UK)	Walk-in centre; in-person only; standalone	Before program	Reduced ED visits and general practice consultations near walk-in centres: intervention: –173.3 (95% CI, –334 to –12) per 1000 patients per month; control: –3 (95% CI, –145 to 139) per 1000 patients per month; no influence on out-of-hours service consultations; –0.5 (95% CI, –0.95 to –0) per 1000 patients per month.	Government agency (National Health Service).
van Uden, 2004 ⁴²	Quantitative observational study; Limburg residents (Netherlands)	General practitioner cooperatives; in-person only; standalone	Before program	Reorganisation of out-of-hours primary care has shifted patient contacts from emergency care to primary care; demand for emergency care reduced by 8.2% during normal hours and 8.9% outside normal hours.	Not reported.
Horwitz, 2005 ⁴⁷	Quantitative observational study; uninsured patients (at least 18 years of age, not being seen for substance abuse or mental health only) (USA)	Community Access Program; in-person only; standalone	Control group with usual care	No change in ED visits and primary care contact (RR, 1.07; 95% CI, 0.72–1.58).	Government agency (Health Resources and Services Administration).
van Uden, 2005 ³⁴	Quantitative observational study; all patient contact registration forms in Maastricht (Netherlands)	Primary care physician cooperative; hybrid; within ED	Before program	Use of out-of-hours hospital emergency care reduced by 53%; proportion of patients using primary care increased by 25%.	Not reported.
Salisbury, 2007 ³³	Quantitative observational study; sites with new walk-in centres (UK)	Walk-in centre; in-person only; within ED	Before program	No increase in attendance at sites with walk-in centres; difference in change: 542 (95% CI, –347 to 1431) patients per month; considerable variability between sites.	Government agency (National Health Service). Total cost increased by 22% in the intervention group (28% rise in clinical staff costs) and 10% in the control group (15% rise in clinical staff costs). Difference in cost increase per patient was not statistically significant (£3.06; 95% CI –£16.50 to £10.39), nor after including admission costs (£20.97; 95% CI, –£64.98 to £23.04).

Continues

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Reference	Study design; participants (country)	Intervention (type; mode of delivery; location)	Comparator	Summary of findings	Funding source, funding model and cost assessments
O'Keefe, 2008 ²⁹	Quantitative observational study; out-of-hours attenders (Ireland)	General practitioner cooperatives; in-person only; within general practitioner clinic	Before program	No significant change in total out-of-hours ED attendances (1003 v 998) or workload; no significant drop in unnecessary attendances (8.5% to 6.2%; $P = 0.05$) and no change in admissions, transfers, or minor injury cases over three-month winter period.	Not reported.
Rust, 2009 ⁴¹	Quantitative observational study; counties in Georgia (USA)	Community health centre; in-person only; standalone	Non-community health centre counties	Without clinic: more ED visits by uninsured patients in rural counties (adjusted RR, 1.21; 95% CI, 1.02–1.42), but not insured patients (adjusted RR, 1.06, 95% CI, 0.92–1.22).	Government agency (sliding scale fees subsidised by grants from the Health Resources and Services Administration Bureau of Primary Health Care).
Buckley, 2010 ³⁶	Quantitative observational retrospective time series; residents of Wagga Wagga (Australia)	After-hours clinic; in-person only; within pre-existing general practitioner clinic	Before program	Low acuity ED presentations reduced by 8.2% (95% CI, 6.2–10.2%).	Government agency (Riverina division of general practice).
O'Kelly, 2010 ³⁰	Quantitative observational study; all attenders (Ireland)	General practitioner cooperative; in-person only; within general practitioner clinic	Outside general practitioner cooperative hours	ED visits during cooperative hours declined as proportion of all attendances for triage categories 4 and 5 (1999, 46%; 2007, 24%). ED attendances for triage categories 4 and 5 fell by 54% ($P = 0.033$).	Not reported.
Philips, 2010 ⁴⁰	Quantitative observational study; patient contacts at the ED in two hospitals and with general practitioners on call in the intervention region (Belgium)	General practitioner cooperative; in-person only; within general practitioner clinic	Before program	One year after introduction, more people seek help at the general practice cooperative (OR, 1.65; 95% CI, 1.44–1.88); no effect on ED visits.	Not reported.
Jones, 2011 ²⁵	Quantitative observational study; patients of the local hospital ED (Canada)	After-hours clinic; in-person only; within general practitioner clinic	Before program	During after-hours clinic hours (6–10 pm, Monday to Thursday): 38 fewer ED visits per month ($P = 0.009$) and 49 fewer semi-urgent ED visits (triage category 4) per month ($P = 0.001$; reduced from 7.9 to 4.7 per 1000 population per month) over fourteen months.	Government agency (health care for all Albertans is provided by the provincial government).
Arain, 2015 ²⁰	Observational longitudinal; clinic attenders (UK)	Walk-in centre; in-person only; standalone	Before program	Monthly number of general practitioner-type attendances at adult ED reduced by 8% (95% CI, 1–16%), but not at the children's ED or minor injury unit.	Not reported.
Pines, 2015 ³²	Quantitative observational study; patient-centred medical home practices (USA)	Physician practice connections: patient centred medical home; in-person only; standalone	Not patient-centred medical homes	Twelve to thirteen fewer ED visits per 100 beneficiaries over two years in patient-centred medical homes compared than for people attending non-recognised practices; seven to eight fewer visits for ambulatory care-sensitive conditions; no impact on inpatient admissions (2008–2010, Medicare data).	Not reported. Mean annualised per-beneficiary payments: intervention, \$117 (SD, 73); control, \$133 (SD, 103). Mean admission payment: intervention, \$894 (SD, 598); control, \$1312 (SD, 1068).
Wright, 2015 ⁴⁸	Quantitative observational study; people eligible for both Medicare and Medicaid (dual eligibles) (USA)	Federally qualified health centre; in-person only	Non health centre users	Among dual eligibles, preventable ED visits by smaller proportion of people using federally qualified health centres (12.0%) than for other people (14.7%) during 2008–2010; overall number of ED visits for ambulatory care-sensitive conditions was higher for centre users in most groups, but fewer preventable hospitalisations for Black (16% fewer) and Hispanic (13% fewer) patients older than 65 years of age.	Government agency (federal).

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Reference	Study design; participants (country)	Intervention (type; mode of delivery; location)	Comparator	Summary of findings	Funding source, funding model and cost assessments
Dolton, 2016 ²³	Quantitative observational study; all Central London patients (UK)	7-day clinic; in-person only; within general practitioner clinic	General practitioner practices without 7-day opening	Reduced ED visits by patients of pilot practices; mean weekly number of minor cases: intervention, 8.0 (SE, 7.0); control, 7.3 (SE, 5.0); mean weekly number of minor cases: intervention, 13.8 (SE, 6.4); control, 14.0 (SE, 10.8).	Government agency (Prime Minister's Challenge Fund; established in 2013 to pilot 7-day opening of general practices).
Whittaker, 2016 ⁴³	Quantitative observational study; hospital administrative data (UK)	After-hours clinic; in-person only; within primary community centres	Before program	Expanding access was associated with reduced ED visits with minor problems in first twelve months by 26.4% (95% CI, 14.2–38.6%).	Government agency (National Health Service). 26.6% reduction in costs for patient-initiated referrals for minor health problems.
Colliers, 2017 ²²	Quantitative observational study; all patients (Belgium)	General practitioner cooperatives; in-person only; standalone	Before program, and other regions	No change in ED presentations (OR, 0.96; 95% CI, 0.91–1.1).	Government agency (National Institute for Health and Disability Insurance).
Payne, 2017 ³¹	Mixed quantitative and qualitative study; people who presented to the Bathurst after-hours general practice clinic (Australia)	After-hours clinic; in-person only; standalone, no appointments	Before program	41% reduction in non-urgent ED presentations (418.5 to 245.5 per year) over two years after opening.	Government agency (Medicare covers fees for service; no out-of-pocket expenses for patients).
Pacheco, 2019 ³⁹	Quantitative observational study; Talcahuano Health District (Chile)	Urgent care centre (after-hours care hybrid); in-person only; within general practitioner clinic	Before program	ED visits reduced by 2.7% (95% CI, 1.4–4.0%); same-day visits to primary care centres reduced by 5.7% (95% CI, –11.1% to –0.35%), possibly affecting quality of primary care.	Government agency (public health insurance fund; care is free of charge at point of care for most users).
Devlin, 2020 ⁴⁶	Quantitative observational study; physicians who claim after-hour incentives (Canada)	After-hours clinic; in-person only; within general practitioner clinic	Physicians who did not submit claims for after-hour incentives under the Ontario Health Insurance Plan	Number of less urgent ED visits reduced by 5.5% from 2004 to 2007; cost savings of about \$149 per averted ED visit.	Government agency. Total costs per 1000 patients reduced despite after-hours costs nearly doubling.
Jones, 2020 ⁴⁹	Quantitative observational study; home care patients aged 19 years or older in Ontario (Canada)	After-hours clinic; in-person only; within general practitioner clinic	Control period	Smaller rise in risk of same day after-hours ED visits for people with after-hours primary care (OR, 1.16; 95% CI, 1.01–1.33) than for other patients (OR, 1.33; 95% CI, 1.21–1.47). The effect was larger for ED visits not leading to admission.	Government agency (publicly funded adult, home care patients in Ontario).
Baughman, 2021 ²¹	Observational retrospective cohort analysis; established patients at clinic (USA)	Walk-in centre; in-person only; within established primary care provider office	Before program	Walk-in clinic at primary care provider office led to reduction in low acuity ED visits (0.4 per 100 patients) over one year, despite absolute visit numbers increasing.	Not reported. Mean monthly costs: ED unit, US\$81 416; walk-in clinic, \$16 709. For low acuity cases, cost of clinic visit was 20.4% of ED visit; treating 2387 patients in the clinic saved an estimated US\$825 902.
Hong, 2021 ³⁸	Quantitative observational study; Ontario residents (Canada)	After-hours clinic; in-person only; within general practitioner clinic	Before program	Incentives for physicians to provide after-hours primary care reduced some less urgent ED visits by 1.26 (95% CI, 1.04–1.48) per 1000 patients per month.	Government agency (Ontario government).
Lippi Bruni, 2023 ⁴⁵	Quantitative observational study; all patients with type 2 diabetic (Italy)	General practitioners joining community health centres; in-person only; standalone	Patients enrolled with general practitioners not in a community health centre	Reduction in inappropriate ED visits by 1.5–1.7 percentage points per patient per year during weekday daytime hours; no effect on night or weekend visits.	Government agency (Ministry of Health defined community health centres as national priority).

2 Continued

Reference	Study design; participants (country)	Intervention (type; mode of delivery; location)	Comparator	Summary of findings	Funding source, funding model and cost assessments
Galloway, 2023 ⁴⁴	Quantitative observational interrupted time series; people with cancer and serious blood disorders experiencing complications of disorder or treatment (Canada)	Urgent cancer care centre; in-person only; in hospital	Before program	No change in ED visits (RR, 0.96; 95% CI, 0.86–1.08), primary care clinician visits, or hospitalisations.	Not reported.
Wackers, 2023 ³⁵	Quantitative observational study; patients who visited acute care collaborations (Netherlands)	Acute care collaboration; in-person only; within ED	Stand-alone after-hours primary care provider	Collaboration between EDs and after-hours primary care did not alter ED use (OR, 1.01; 95% CI, 1.00–1.03); hospital admission rates and costs rose.	Not reported. Median total cost for full patient journey: intervention, €194; control, €139.

CI = confidence interval; OR = odds ratio; RR = risk ratio; SD = standard deviation; SE = standard error; UK = United Kingdom; USA = United States of America. ♦

were longer than five years.^{30,36,39,45} Nineteen studies assessed outcomes before and after program establishment, eleven used another comparator, such as matched controls. Eleven studies measured the number of low acuity ED presentations and the number of hospitalisations from the ED. Patient waiting time was not evaluated in any study.

Emergency department presentations

Fewer ED presentations were reported by all seven quantitative studies of after-hours clinics^{25,31,36,38,39,43,46} and one of two of 24-hour clinics;²³ a study of people receiving home care found that after-hours care was associated with fewer same-day ED presentations.⁴⁹ Two of six studies of general practitioner cooperatives found no effect on ED visit numbers,^{22,40} three found reductions.^{30,34,42}

Four of five walk-in centre studies reported reduced ED visit numbers;^{20,21,27,37} two United Kingdom studies reported increased workloads for minor injuries units,²⁴ and a study including multiple sites found no difference in ED visit numbers.³³ A UCC with a focus on low acuity presentations by people being treated for cancer found no effect on the number of ED presentations.⁴⁴

Community health centres had no effect on the number of ED presentations but were associated with lower hospitalisation rates in three of seven studies^{26,28,48} or unchanged hospitalisation rates in one;⁴⁷ a study of patients without health insurance found that the number of ED presentations was reduced.⁴¹ Further, patient-centred medical homes in the United States³² and participation of general practitioners in community health centres (a “medical home” care model in Italy) were associated with reduced inappropriate ED use.⁴⁵ Acute care collaboration did not affect the number of ED presentations, but was associated with a higher hospitalisation rate.³⁵

Of nine studies that reported proportional changes in ED presentation numbers, three reported 2–3% reductions,^{21,39,43} four reductions of 8–10%,^{20,23,36,42} and one a reduction of more than 50%.³¹ One study reported a 2% reduction in the number of inappropriate ED presentations.⁴⁵

Hospital admissions from the emergency department

Effects on the number of hospital admissions from the ED were reported in eleven studies, they were lower in seven (investigating an urgent cancer care centre, four community health centres,

and a general practitioner cooperative).^{26,32,34,44,45,47,48} They were higher in studies of a United Kingdom walk-in UCC²⁷ and a general practitioner cooperative in Ireland,²⁹ and there was no change in studies of a general practitioner cooperative³⁰ and an acute care collaboration centre.³⁵

Referrals

A United Kingdom walk-in centre was associated with reduced numbers of primary care presentations;²⁰ studies in a community health centre²⁶ and a general practitioner cooperative³⁴ reported increased numbers of primary care referrals.

Qualitative studies

Ten of 21 qualitative studies were based on self-completed surveys^{16,55–57,62–65,67,69} and eight on semi-structured interviews.^{52,53,58,59,61,66–68} One study included both approaches.⁵⁰ Two studies used focus groups^{51,54} and one retrospective chart reviews.⁶⁰ Three quantitative studies also included assessment of user feedback.^{25,33,47}

Facilitators of the use of urgent care centres

The unavailability of doctors or appointments was a frequent reason for people using UCCs;^{16,57,59,61,63} they were regarded more quickly accessible than EDs,^{59,61} a better alternative,^{25,47,59,66,69} and did not require appointments.^{47,51,57,63,67} Other facilitators included the urgent need for health care,^{47,61} clinically healthy people seeking reassurance (“worried well”),^{16,52} not being registered or medically insured,^{47,52} and proximity to home or work.^{52,57,65,66} Dissatisfaction with their doctors,^{52,57} popularity of the clinic or recommendations from others,^{52,57,61} and better equipment than primary care clinics⁵² were other motivators for people to use UCCs. From an organisational perspective, strong commitment and leadership by doctors⁶⁸ and a clear understanding of the role of the clinic among staff members⁵⁶ were critical. Staff experience in triage⁵³ and the availability of telephone advice⁶⁷ were also important.

Barriers to the use of urgent care centres

Poor public awareness and understanding of the role of UCCs was often reported.^{16,51,52,66,69} and providers often do not understand the model of care.^{20,67} Concerns about duplicating ED and family practice services were expressed, and about private clinics losing patients to free UCCs,^{20,51,66} although one United Kingdom study reported that duplication was not a

3 Summary of twenty-one published qualitative studies of primary care urgent care centres (UCCs) included in our scoping review

Reference	Study design; population characteristics (country)	Intervention (type; mode of delivery; location)	Summary of findings	Funding model
Rizos, 1990 ⁶³	Survey; patients (Canada)	Walk-in clinic; in-person only; located in shopping mall	Main reasons for clinic visits: convenience, timely access, no appointments needed. Most patients would have visited other clinics or the ED if theirs were closed. Despite most visits being outside regular hours, satisfaction was high.	Not reported.
Salisbury, 1997 ⁶⁴	Postal survey; patients (UK)	General practitioner cooperative; hybrid (phone call, face-to-face, or home visit); not reported	Patients who received telephone advice, preferred their own doctor or a home visit, or experienced longer waiting times reported lower overall satisfaction. Satisfaction levels varied more within patient groups than between models for out-of-hours care. Shifting to a primarily telephone-based advice service could increase dissatisfaction.	Not reported.
Hallam, 1999 ⁶⁸	Semi-structured interviews and postal surveys; general practitioners, health service managers, purchasers, providers, and patients (UK)	UCC; hybrid (in-person, telephone, home visits); various locations (hospital, accident and emergency, general practitioner health centres, community centres); standalone	General practitioners find public involvement lacking. Transitioning to cooperative care is resisted because of resource limitations. Recruiting general practitioners requires effort, patient satisfaction is high. Concerns persist about the model's long term viability. Suggestions include public education and improving general practitioner skills.	Government and private.
Shipman, 2000 ⁶⁵	Survey; general population attending the services (UK)	General practitioner cooperative; hybrid (phone call, face-to-face or home visit); not reported	Patients were satisfied with cooperative, practice-based, or deputising services, but were concerned about service quality. Satisfaction varied more with cooperative service delivery; concerns about telephone consultations and access to out-of-hours care.	Not reported.
Brown, 2002 ⁵¹	Focus group; physicians (Canada, UK)	Walk-in centre; in-person only; standalone	Growth of clinics driven by increasing patient expectations for convenient health care and reduced availability of family physicians. Need to increase accountability of physicians and patients and to alter the framework of primary health care delivery to bridge the gap.	Not reported.
McKinley, 2002 ⁶²	Survey; all who requested care after their practice had closed on weekday evenings and weekends (UK)	Out-of-hours primary care; in-person only; not reported	Meeting or failing to meet patients' care expectations predicts their satisfaction with out-of-hours care. Providers should manage patient service expectations to reduce dissatisfaction.	Not reported.
Hutchison, 2003 ⁶⁰	Cohort study; patients (Canada)	Walk-in clinic; in-person only; not reported	Family practice patients were most satisfied with waiting times; family practices and walk-in clinics were rated more positively than EDs on all satisfaction dimensions. However, overall care quality was scored higher in walk-in clinics and EDs than in family practices.	Private (fee for service).
Bury, 2005 ⁶⁷	Questionnaire/survey and semi-structured interviews; physicians (Ireland)	General practitioner out-of-hours cooperative; hybrid (telephone follow-up and in-person); various locations	More clarity required about the mutual support level of general practitioner cooperatives and ambulance services, including procedures for call transfers, understanding each other's roles, and developing common procedures.	Not reported.
Jackson, 2005 ⁶¹	Semi-structured interviews; patients (UK)	Walk-in clinic; in-person only; within minor injuries unit	Patients note the clinics helped improve health care accessibility by offering an alternative for professional advice and treatment. They alleviate pressure on general practice and accident and emergency facilities, empowering people to satisfy their health care needs responsibly.	Government (National Health Service)
van Uden, 2005 ⁵⁶	Survey informed by general practitioner interviews; general practitioners (Netherlands)	General practice cooperatives; hybrid (phone call, face-to-face or home visit); standalone	General practitioners are generally satisfied with cooperatives for out-of-hours care, more with standalone cooperatives than integrated ones.	Not reported.
Egbunike, 2010 ⁵⁸	Semi-structured telephone interviews and thematic analysis; service users or carers (UK)	Out-of-hours clinic; hybrid (telephone triage and in-person); hospital and standalone locations	Service users need streamlined and flexible triage systems to improve satisfaction and manage their conditions. Better information and education about services are essential for optimal user benefit and satisfaction, potentially affecting decisions about care.	General practitioner cooperative, non-for-profit funding; hospital based, government funded and private out-of-hours service; privately funded.

3 Continued

Reference	Study design; population characteristics (country)	Intervention (type; mode of delivery; location)	Summary of findings	Funding model
Philips, 2010 ⁶⁹	Survey; patients (Belgium)	General practitioner deputising services; in-person only; home based or ED care	Of 350 respondents, 99 (98.6%) were aware of the ED, 82 (81.7%) knew about the clinic. Reasons for favouring the ED: easy access, thorough explanations from doctors, delayed payment deadlines. Reason for favouring the clinic: shorter waiting times.	Not reported.
Johansen, 2011 ⁵⁴	Focus groups; general practitioners (Norway)	Casualty clinic; in-person only; various	General practitioners found out-of-hours psychiatry difficult because of uncertainty and inadequate support, potentially affecting care quality. To maintain emergency mental health care, better support for general practitioners outside normal hours is essential.	Not reported.
Smits, 2012 ¹⁶	Survey; patients (Netherlands)	General practitioner cooperatives; hybrid (phone call, face-to-face or home visit); not reported	Patients were satisfied with general practitioner cooperatives, and it was increasing four years after opening. Areas where improvement is needed include advice quality, waiting times, and information provided.	Not reported.
Amiel, 2014 ⁵⁷	Survey; urgent care centre service users (UK)	UCC; in-person only; co-located with emergency department	Primary motivations for service use: access to care, receiving prescription medication, dissatisfaction with general practitioner. The clinic primarily attracted healthy young adults, often registered with general practitioners, seeking convenience and ease of access. Need for patient education and self-management.	Government agency (National Health Service).
Arain, 2015 ⁶⁶	Interviews; health care professionals (consultants, general practitioners, nurses) and managers (general practitioner-led walk-in centre managers, primary care trust managers) (UK)	Walk-in centre; in-person only; not reported.	Daytime visits to adult ED reduced after opening of the clinic, but not at night. Survey responses indicated that some people were redirected from the ED.	Government and private.
Greenfield, 2016 ⁵²	Phenomenological study with semi-structured open-ended interview; staff (UK)	UCC; in-person only; co-located with accident and emergency department	Four main themes: confusion about choices, overt reasons, covert motives, question of legitimacy. Participants acknowledged patients' use of UCCs because of convenience, urgency, anxiety, and lack of self-care skills.	Commissioned by National Health Service.
Keizer, 2016 ⁵⁵	Cross-sectional survey; general practitioners (Netherlands)	General practitioner cooperative (out-of-hours primary care); in-person only; not reported	Of 428 respondents, increased workload reported by 370 (86.5%) of respondents, and 393 (91.8%) believed patient contacts could be reduced; 323 (75.4%) cited societal expectations for 24-hour service as key reason for non-urgent visits to cooperatives; 359 (83.9%) saw current telephone triage methods as contributing to high cooperative use. Proposed solutions included co-payments, stricter triage, expanding telephone consultation roles, and patient education.	Not reported.
Ablard, 2017 ⁵⁰	Survey and semi-structured interviews with thematic analysis, lead emergency department consultants (UK)	UCCs and general practitioner out-of-hours; hybrid; co-located next to ED	Four themes: justification for the service, level of integration, referral processes, sustainability. Need to develop a service within or near the ED, and to establish efficient triage procedures.	Government agency (National Institute for Health Research Clinical Applications Research Centre Yorkshire and Humber).
Heutmekers, 2022 ⁵³	Semi-structured face-to-face interviews; health care professionals (Netherlands)	Out-of-hours general practitioner cooperative for people with intellectual disabilities; hybrid (phone call and in person); not reported	Quality of care is shaped more by the organisational environment rather than medical factors, indicating the need for clear standards for roles and responsibilities of health care professionals to improve accessibility and quality of care for people with intellectual disabilities.	Not reported.
Greene, 2023 ⁵⁹	Semi-structured telephone interviews and thematic analysis; service users and relatives (Australia)	Complex And Restorative centre; in-person only; standalone	Most participants preferred the centre to the nearby ED for its calm atmosphere and specialised geriatric medicine staff. Programs aimed at avoiding ED visits would be a viable alternative for older people needing urgent care, improving public health systems and user satisfaction.	Not reported.

ED = emergency department; UK = United Kingdom. ♦

concern.⁶⁸ Primary care and ED care providers had mixed views about the impact of UCCs on ED load,^{51,66,68} the appropriateness of ED attendance,⁵¹ and the cost-effectiveness of UCCs.⁶⁶ The lack of standardised protocols⁶⁷ and low standards of safety for staff members were also reported.^{51,54} Other barriers included wide variations in clinic-to-clinic staffing levels and differences in triage systems,^{67,68} as well as inadequate public involvement in planning and operations.⁶⁸

Patient experiences

People who attended UCCs reported shorter^{57,68} or acceptable waiting times (within 24 hours),⁶³ high satisfaction^{58,59} (more than 80%^{16,62,63} or 90%⁶⁸) or similar satisfaction as with family practices,⁶⁰ and they preferred them to home visits^{16,62,63} or visiting EDs.^{62,65,69} People also reported promptness,^{58,59} friendly staff,^{58,64} and quality information,^{57,58} but triage experiences were mixed;^{16,58} in-person triage was preferred to telephone triage.^{64,65} Deputising UCCs (involving outside doctors) were generally preferred to practice-based (co-located) UCCs (which rely on rosters or on-call arrangements for regular general practitioners),⁶⁵ but comparisons with general practice cooperatives found less satisfaction⁶² or no difference.⁶⁴ People who visited a general practitioner cooperative were less likely to need further visits to doctors.⁶⁴

Negative experiences included lower quality advice from triage nurses,¹⁶ unfamiliarity with staff members,^{58,64} and poor continuity of care;⁵⁸ continuity of care was also of concern for health care professionals.⁵¹ In a survey, more than 50% of people had consulted their regular doctors after visiting UCCs.³³

Provider experiences

Providers reported improved collaboration between UCCs and general practices⁶⁸ and the police;^{54,55,68} liaison structures were crucial.^{50,67} Embedded models promoted teamwork but role confusion and differing risk tolerance could be a problem.⁵⁰ General practitioners had mixed experiences with specialists⁵³⁻⁵⁶ because of mismatched service scopes.^{53,67} Providers viewed UCCs as helpful in reducing ED presentation numbers⁶⁶ and improving care quality⁶⁸ and care access.⁶⁶ Doctors preferred standalone UCC models⁵⁶ but were concerned about increased workload,^{54-56,66} scope creep,⁵⁰ inconsistent triage guidelines,^{50,53,66,67} patient illegitimacy (for example, unregistered or undocumented people, asylum seekers),^{52,53,56} and safety questions.⁵⁴⁻⁵⁶ Other concerns included a lack of training and equipment^{67,68} and of established connections between patients and doctors.^{54,55,58}

Costs

Six studies evaluated the costs of UCCs.^{21,32,33,35,43,46} A United Kingdom study projected US\$825 902 in savings by providing walk-in clinics as alternatives to EDs;²¹ another reported lower annual per beneficiary payments at urgent care centres.³² A Canadian study estimated that \$149 was saved for each ED visit averted by increased after-hours services.⁴⁶ In the United Kingdom, one study found no change in per patient costs after establishing walk-in centres,³³ but another reported a 26% cost reduction for minor referrals.⁴³ In the Netherlands, total costs were higher for shared triage clinics than for standalone walk-in clinics.³⁵

Funding models

Twenty-two studies reported government funding for UCCs, and four mixed funding, including a combination of government,

non-profit, and private funding; one study reported private funding. Four studies reported that the service was free^{20,31,39,40} and five implied that it was free.^{23,24,33,57,61} Other reimbursement models included fee-for-service^{22,60} and pay-for-performance models.^{38,46} One study noted bulk-billing was not available at the service;³⁶ another analysed insurance claims data without specifying the funding model.³⁵ Two studies were of services with income-sensitive sliding fee scales.^{41,48} A mixed public-private funding model in one quantitative study was associated with more ED visits but unchanged hospital admission number.²⁸

Discussion

We found that walk-in and after-hours clinics could reduce the number of ED presentations and health care costs. Most UCCs were led by general practitioners, offered care for people with a variety of health problems, and were free of charge. People were highly satisfied with these services, but patients and health care providers reported concerns about the lack of continuity of care, and clinicians reported that interdisciplinary collaboration, safety, and standardised protocols could be improved.

The impact of UCCs is often context-specific. Most studies with study groups drawn from the general population found reduced ED visit numbers,^{25,31,36,38,39,43,46} while studies that assessed people with specific medical risks often did not.^{44,49} Qualitative findings suggest that standalone UCC models^{62,64} are generally preferred to co-located clinics,³⁵ but the number of studies was small. UCCs are not the sole solution for ED overcrowding. While they can increase access to health care and manage people with low acuity conditions, they do not remove the root causes of ED pressure, including access block, bed shortages,⁷⁰ and suboptimal outpatient scheduling.⁷¹ Solutions that avoid mismatches between causes and solutions must be tailored according to local conditions, and will require additional resources and political commitment.^{72,73}

Clinicians were concerned about the lack of standardised protocols, especially with respect to triage. Which low acuity presentations should be considered "inappropriate" and managed in primary care is controversial; studies in Australia and the United Kingdom suggest that 10–25% of ED patients could be diverted to primary care.^{74,75} A systematic review of studies during 2000–2014 also found that the increased workload is a problem for doctors.⁷⁶ Additional training for doctors is also crucial, as many reported working outside their usual scope of practice.^{50,54-56,66} Clinicians also raised concerns about unregistered and uninsured people attending UCCs; people in these groups, whose health is often poorer than that of other people,^{77,78} find health care easier to access at UCCs because of the looser identity requirements. These findings indicate the importance of public health education, official documentation support for patients, proper training for doctors, and the establishment of UCC standards in countries that lack them, including Australia.

Patient satisfaction with UCC services is high and similar to that with comparable services. The facilitators of people using UCCs in our review were similar to those identified by an umbrella review, including limited access to general practitioners, perceived urgency of the need for care, and convenience.⁷⁹ A comparative study in the United Kingdom, United States, and New Zealand found that reasons for choosing UCCs can involve demographic, circumstantial, and clinical factors.⁸⁰ Continuity of care is valued,^{81,82} but often cannot be achieved in primary care-based urgent care general practice because of access, funding, and cost barriers.⁸³

Policy implications

Public education about appropriate choices of care is needed. Training and workload management for doctors are important for ensuring safety and care quality in UCCs. Establishing a national standard is critical in countries like Australia, where the Royal New Zealand College of Urgent Care standard is currently used.⁸⁴ UCCs alone cannot solve ED overcrowding, and strategies for optimising existing services are needed, including increasing the availability of doctors and reducing waiting times.^{57,85} Information regarding the comparative effectiveness and cost-effectiveness of privately and publicly funded UCCs is limited. In countries where UCCs are well established, such as the United Kingdom and the United States, refining regulations, ensuring quality, and maintaining affordability should be priorities. In Australia, where UCCs are newer, government support is crucial, as is assessing their effectiveness, service uptake by the public, and financial incentives for both providers and patients. In our review, the Australian findings were similar to those of overseas studies in that after-hours care was reported to reduce the number of ED presentations,^{31,36} and people prefer UCCs to EDs.⁵⁹ As health care demand rises with the ageing of populations in many countries,⁸⁶ including Australia, primary care UCCs will probably be vital for alleviating the pressure on EDs.

Limitations

As a scoping review, we did not undertake formal quality appraisal and we used broad inclusion criteria, as a wide variety of study types of various UCC models have been reported, and there is no globally accepted definition of “urgent care centre”.

Conclusion

UCCs can help reduce the number of ED presentations; walk-in clinics and after-hours clinics can be effective and reduce health care costs. Our findings can inform discussions about the effectiveness of UCC-like clinics for diverting people with non-urgent needs from EDs. While patient satisfaction with UCCs is high, public health education could guide people to seek appropriate care for their health problems. Training in the management of conditions frequently seen in UCCs, especially for nurse practitioners, is needed to ensure consistent, effective care. Published standards are needed in Australia to improve safety and consistency and to assess the effectiveness and cost-effectiveness of UCCs. Workload management, improved interdisciplinary communication and collaboration, and training are important considerations for clinicians.

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Supporting Information

Additional Supporting Information is included with the online version of this article.