

Avoiding A&E through Rapid Response teams and See and Treat Models

A rapid review of existing evidence

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Overview

This review was requested by Central London, West London, Hammersmith and Fulham, Hounslow and Ealing (CWHHE) CCGs.

Desktop research was undertaken within the UK and internationally to identify similar models to help understand if this could be an effective initiative. The following research includes 12 individual case studies from both the UK and Internationally as well as one analytical paper on paramedic models of care in Australia followed by additional reference material. The review team found that many rapid response community services are now in place to support admission avoidances and to expedite hospital discharge however, there often appears to be an absence of clear pathways for ambulance services which can lead to unnecessary activities and delays. In addition, although the review examined case studies internationally, a consistent approach was lacking across the London-specific examples despite many of them sharing similar characteristics. It is important to note however that this may be due to the targeted nature of some of the services.

The following slide lists the case studies and provides their key quantified impact, or notes when this was inapplicable or unavailable. In the case of the latter, contact has been made with the sources of the initiatives in an attempt to gather more information on their impact, however this information has not yet been received. It is important to note that as this is a rapid review, it is not systematic nor does it cover all existing initiatives and data on the subject. Rather it pulls out some key examples to share learning and provide good practice guides.

Methodology

The rapid review used quantitative approaches to capture a broad range of examples. The first stage used desktop research via academic resources such as the King's Fund, Nuffield Trust, British Medical Journal, and Google Scholar. The team then examined a wide range of sources such as project reports, stakeholder websites, press releases as well as a range of internal resources such as outputs from the 'Good Practice Market Place' that took place at the 'Implementing the Urgent and Emergency Care Vision in London' event in November 2015.

Search terms included 'ambulance', 'ambulance referral guidance', 'rapid response', 'appropriate care pathways', 'see and treat', 'admission avoidance' and 'A&E avoidance'. The most appropriate case studies were selected according to their relevance to the rapid review request and relation to the *Appropriate Care Pathway, Inner London – Community Independence Service with London Ambulance Service*. A variety of examples were included to provide context and to act as a reference. Where possible – contact details have been provided for CWHHE to request any further information from the case study leads.

If you would like any further information please contact: natalia.proctor@nhs.net

Key studies and their impacts

Pg	Study	Key Quantified Impact	Contact
5	Case Study 1: K466 Falls Specialist Response Car	66.5% of patient seen by the service were treated within their own home	Lea Agambar Lea.Agambar@nelft.nhs.uk
6	Case Study 2: Rapid Access Doctor	75% of all patients seen by the service were treated within their own home	Megan Milmine megan.milmine@nhs.net
7	Case Study 3: Dedicated Community Nurse working with LAS	The addition of the nurse practitioner saw the percentage of non conveyance to A&E increase to 68.9% from 23.6%	Diane Chalmers Diane.Chalmers@yourhealthcare.org
8	Case Study 4: An integrated community team works with the LAS	Accident and emergency referrals to Integrated Community Response Service (ICRS) reduced by 64 % between June-September 2014 following the implementation of the LAS pathway.	Rosalie Barrett Rosalie.Barrett@HRCH.NHS.UK
9	Case Study 5: Community Prevention of Admission Team	Less than 10% of patients assessed by the service are admitted to hospital while under the care of the service	Sarah Murphy Sarah.murphy@smcs.nhs.uk
10	Case Study 6: Community Rapid Response Service Sussex Community Trust & Brighton & Hove	The scheme saw post-fall A&E admissions reduce by over 50% In 2015	Veena Lalsing vlalsing@nhs.net
11	Case Study 7: Enhanced Rapid Response Service: Kent Community Health NHS Foundation Trust	Of the 342 referrals recorded as being made to avoid admission 94.4% of patients were discharged to their usual place of residence, avoiding an admission	Sue Scott sue.scott@kentcht.nhs.uk
12	Case Study 8: Central and North West London NHS Foundation Trust: Rapid Response Service	Over 80% of referrals avoided admission	Graeme Caul graeme.caul@nhs.net
13	Case Study 9a: Guy's & St Thomas' and King's hospitals Rapid Response	4% reduction in the number of Southwark & Lambeth patients attending A&E	Contact not identified
14	Case Study 9b: Guy's & St Thomas' and King's Hospitals @home service	Supported reduction in ED attendances and developed 25 clinical pathways	@home team: 020 3049 751(between 8am and 11pm)
15	Case Study 10: Welsh Ambulance Service Alternative Care Pathways	2,500 non-injury falls referrals, 300 resolved epilepsy episodes and over 500 resolved hypoglycaemic episode referrals	GIG.SSLT@Wales.nhs.uk
16	Case Study 11: Extended care paramedics (ECPs), Perth	49.4% of ED presentations prevented and 5.3% of hospital admissions avoided	http://www.saambulance.com.au/
17	Case Study 12: Metropolitan Referral Unit, South Australia	Reduces time spent by clinicians looking for correct referral pathway and keeping up to date with services	Contact not identified
18	Analysis: Evidence-based paramedic models of care to reduce unnecessary emergency department attendance – feasibility and safety	Author's have been contacted to identify result of study – no response yet received	Judith Finn judith.finn@uwa.edu.au
19	Additional Research	Not applicable	See links on slide 19
20	Conclusions	Not applicable	Not applicable

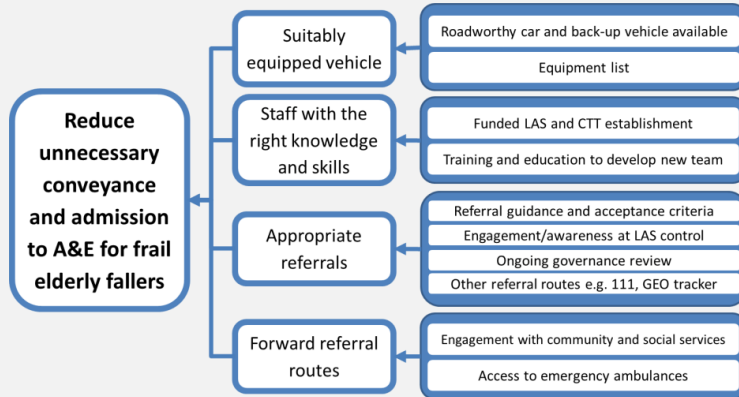
Case Studies

Case Study 1: K466 Falls Specialist Response Car

Background and Case for Change:

34% of all London Ambulance Service (LAS) conveyances to Queen's ED in Romford are patients aged 75yrs and over. A significant proportion of these attendances are due to falls, they don't need to be in hospital, and could have been better cared for at home.

This takes ambulances that could be attending elsewhere off the road, clogs up ED, and for the majority of this group of patients, results in an inpatient stay of at least one night.



The Solution:

Using winter pressures funding, a learning collaborative of community nurses and paramedics was set up to try to reduce unnecessary ED attendances for frail, older people in North East London.

The collaborative sought to use their combined expertise to work together on setting up a service to respond to low acuity fallers, with the intention of assessing and treating on scene, with the aim of keeping the patient at home wherever safe to do so. They utilised the available funding to run a Falls Specialist Response Car, provided by the LAS and known as call sign K466, staffed with a Community Treatment team (CTT) nurse and a paramedic. LAS Control Centre identify the patient on criteria including the patient being over 65 and the service operates seven days a week between the hours of 07:00 and 19:00.

The scheme aims to keep 20 patients at home, per week to reduce attendance, admissions and ambulance conveyances to an ED.

Impact

- From April 2015 to July 2016 the team visited 1,821 patients and managed to keep 1,211 at home (66.5%) avoiding the need for an emergency ambulance, A&E attendance and admission (where that would have been appropriate).
- Essex are looking to replicate the model and the team have presented their work to the executives and Trust.

The Team won the international poster competition at the National Patient Safety Congress awards on 7th July – against over 200 other entries. They have also been shortlisted for an HSJ award.

Performance:		2015/2016															
Month:	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Total
Calls attended	98	112	105	121	104	114	145	111	107	133	110	99	99	131	100	132	1,821
Pts kept at home (Plan):	80	100	80	100	80	80	100	80	80	100	80	100	80	100	80	100	1,420
Pts kept at home (actual):	57	72	79	97	76	81	106	76	79	95	77	- *	53	99	75	89	1,211

*Note: information missing on actual patients kept at home for March – therefore the total is approximate and most likely lower than the actual figure.

Reference: <https://www.myhealth.london.nhs.uk/sites/default/files/20.%20K466-%20Falls%20Specialist%20Response%20Car.pdf>

Case Study 2: Rapid Access Doctor

Background:

The System Resilience Group led by Sutton CCG was tasked, as part of winter resilience, to identify schemes that addressed the following themes:

- **Growing pressure on acute health services** against a background of falling resources and limited funding.
- An **increasing frail and elderly population with complex care needs** for whom hospitalisation is not necessarily appropriate and would benefit from an **experienced clinical assessment** at home.
- A requirement to be as effective or improve on current models, particularly with regard to being **patient focused**, timely and with **good clinical outcomes**.

Case for Change :

The proposed scheme aimed to:

- **Improve care for patients** by:
 - Reducing unnecessary ambulance conveyances,
 - Reducing A&E attendances
 - Reducing unplanned admissions.
- **Improve quality and access** to the right service at the right time, improving patient health and wellbeing.
- **Increase capacity** for the London Ambulance Service to attend higher priority calls.
- **Make best use of resources** and generating savings to help address the financial gap.

The Solution:



The existing Out of Hours provider was commissioned to provide a dedicated GP with a driver in a non London Ambulance Service vehicle (provided by the existing Out Of Hours provider). They responded to clinically appropriate Green (C3-C4) category triaged calls from 999 and were dispatched from the London Ambulance Service clinical decision making hub. Provided support to locally based Ambulance Crews.



The scheme operated between the hours of 15:00 and 0:00 Friday, Saturday, Sunday and bank holidays from December 2014 to the end of February 2015.



The scheme was commissioned to **assess, diagnose, prescribe and treat in the home**, without requiring a paramedic response, conveyance to hospital or subsequent admission. It also aimed to **improve patient access** to existing appropriate support services commissioned within the community.



Impact:

The results from the winter scheme using the RCGP accredited audit tool demonstrated that:

- **75% of all patients were treated within their own home** leading to:
 - ✓ Increase in capacity within the London Ambulance service to respond to higher acuity calls.
 - ✓ **Reduction in non elective attendances** at the local acute trust.
 - ✓ **Reduction in admissions** at the acute trust
- A number of cases were identified from the audit where clearly the individual patient benefited from having care in their home, this is particularly so for vulnerable patients who could deteriorate with transfer.

Lessons Learnt:

The scheme needed to ensure better access to appropriate support services reducing the risk of crisis in the future by:

- Linking to community services that can build a suitable package of care,
- Use of the mobile directory of services commissioned by NHS London
- Ensuring a more comprehensive induction for staff. Activity could have been higher, facilitated by:
- Increasing awareness within the Ambulance Service control Centre
- Running the service seven days a week and across SW London
- Agreeing a KPI for activity with LAS.

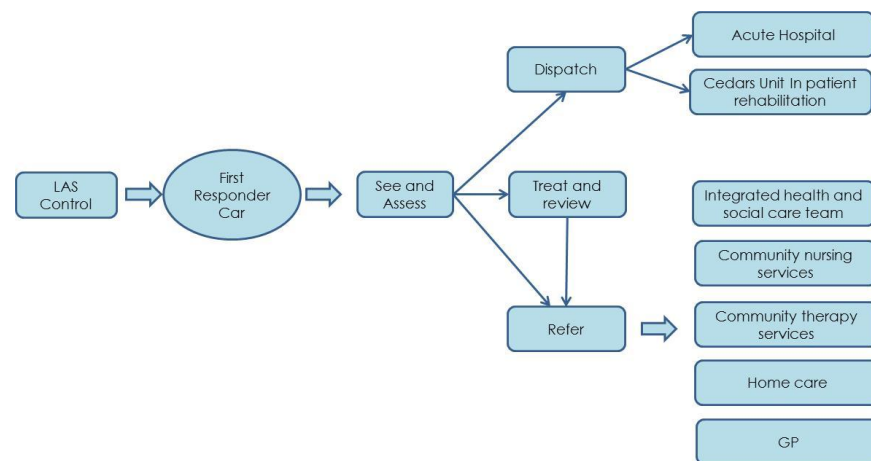
Case Study 3: Dedicated Community Nurse working with LAS

Background and Case for Change:

In autumn 2014 London Ambulance Service (LAS) and Your Healthcare (YH) Community Interest Company (CIC) worked in partnership with the Kingston Clinical Commissioning Group to develop a pilot service.

The service worked with a LAS rapid dispatch car manned by a LAS Paramedic and a Rapid Response Nurse with advanced clinical skills.

The pilot was created to offer an alternative service to an ambulance dispatch for adults with particular needs where it was believed an A&E attendance or hospital admission could be avoided.



The Solution:

By working together the Nurse Practitioner and Paramedic were able to treat a person with complex needs at home and arrange medication and emergency equipment. As the Your Healthcare are an integrated health and social care service they were able to access additional community care services without delay to provide additional support at home, preventing an ambulance conveyance and A&E attendance.

This ensures that the service is able to not only see and treat people in their own homes but can refer into YH integrated adult community health and social care service which includes community nursing, physiotherapy, occupational therapy, rehabilitation, the falls service and home care support.

Impact:

- The project duration was 7 months and in that time the team treated 557 category C patients and 384 remained at home.
- Historically the percentage of non conveyance with LAS alone is 23.6% with the addition of the nurse practitioner this percentage increased to 68.9%.

The long term impact is improvement and enhancement of future working with LAS. As an on-going improvement the LAS ambulance crews are referring to the Rapid Response if a patient needs on going assessment, treatment and review to prevent taking them to hospital. The rapid response team are also seeing primary care patients in A&E daily to allow senior A&E clinicians to see more serious cases promptly.

The Rapid response team take referrals from local GPs to assess patients at home within a 2 hour response time, seeing elderly patients with undifferentiated diagnoses and multiple co-morbidities and using clinical decision making, deciding to treat that patient at home or if a hospital admission is required.

Case Study 4: An integrated community team works with the LAS

Background and Case for Change:

The UK National Health Service's initiative to move more care to the community to provide quality and cost-effective intervention has been a key focus of its strategy for the last ten years. This has seen the establishment of the integrated community multidisciplinary team (MDT) and the development of emerging roles for allied health professionals. Physiotherapists are now playing active roles as members and leaders of MDTs in emergency, pre-hospital and urgent care settings

The Solution:

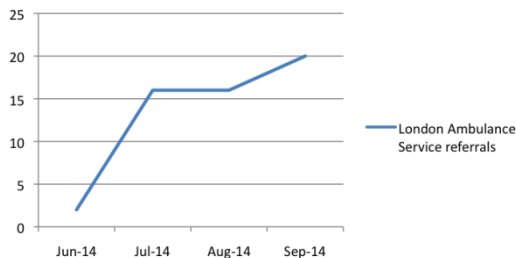
A new care pathway was established in June 2014 between the London Ambulance Service (LAS) and the Integrated Community Response Service (ICRS) in North West London. It was set up with the philosophy that an integrated care team with enhanced clinical skills should be able to successfully manage appropriate (non-life threatening) LAS cases in the community. Enhanced clinical skills may include: non-medical prescribing and advanced imaging training. Clinical members of the ICRS spent observation days with the LAS and discussions between members took place before 'going live'.

Referrals are received via telephone 7 days a week between 7am and 7pm. Once the referral is accepted, the ICRS responds within a 2-hour window and provides clinical intervention and management for approximately 7 days.

Impact:

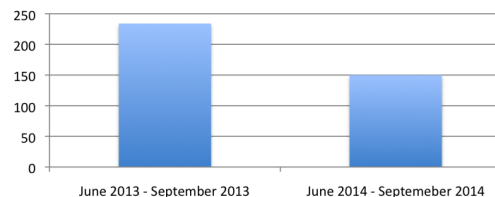
Considering case examples the physiotherapist demonstrated autonomy in assessment, intervention and case management (e.g. advanced assessment, analgesia prescribed and rehabilitation followed). Each LAS referral received and then managed by the ICRS revealed that only patients with acute serious illness were admitted to hospital.

London Ambulance Service referrals



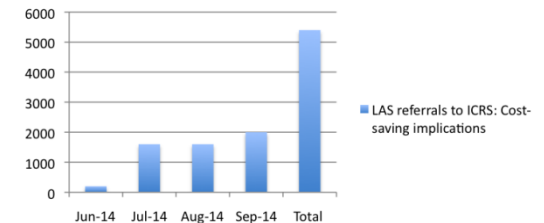
Referrals received from the LAS between June and September 2014.

Accident and Emergency referrals decreased following implementation of LAS pathway



Accident and emergency referrals to ICRS reduced by 64 % between June-September 2014 following the implementation of the LAS pathway.

LAS referrals to ICRS: Cost-saving implications



Every Accident and Emergency visit costs minimum of £100 (+/-). This graph highlights the cost-saving since implementing the new pathway.

In conclusion, an LAS case can be referred to an integrated community team and managed accordingly. The LAS and the ICRS have successfully demonstrated that they can collaboratively work together in managing acute patients. In addition, there is an emerging role for physiotherapists in emergency and pre-hospital care and in response to an appropriate LAS referral. Further research is required to determine the direct impact of the physiotherapist.

Case Study 5 :Community Prevention of Admission Team

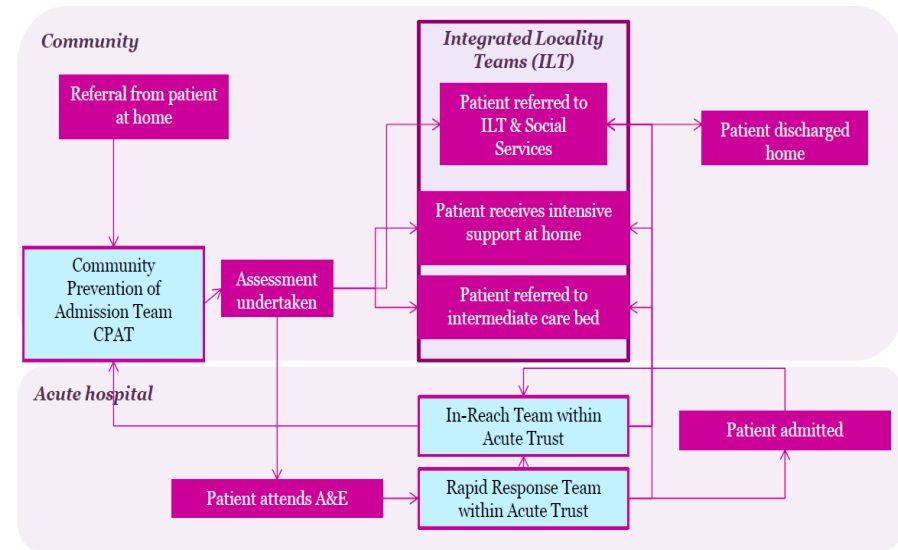
Background and Case for Change:

With increasing pressure on local A&E and acute services as well as across the whole local health economy, the existing community and primary care services had limited capacity to enable the provision of a responsive service to support unplanned care over a 7 day period. The gap identified that in order to prevent avoidable A&E attendances and subsequent acute hospital admissions, patients require high quality rapid holistic assessment and clinical intervention in the community; where their presenting condition could be managed within an enhanced health care package alongside existing services. The aim of the service is to reduce the number of avoidable attendances to A&E and admissions to hospital and thereby provide more effective care pathways closer to home in the community.

The Solution:

A multi-disciplinary team consisting of nurses and therapists and clinically led by a nurse consultant providing a service 7 days a week. The service aims to respond within 2 hours and provide intensive intervention for up to 5 days as an average, in order to prevent a hospital admission or to support a patient discharged from A&E to stay at home. The service also provides Intermediate Care to patients requiring a period of up to 6 weeks rehabilitation following an acute event leading to reduced independence for the patient. The service works through an integrated approach with the Integrated Locality Teams and services within our Model for Planned Care to provide a seamless transfer of care as required.

- **Inclusion criteria:** New unmet health need or acute worsening of known health need, Imminent risk of an avoidable hospital admission
- **Exclusion criteria:** Sepsis/stroke or other emergency requiring admission, Age < 18, Primary mental health presentation



Impact:

- Enhanced support to patients in the community with an exacerbation of their long term conditions, sudden event leading to reduced mobility, urinary tract infections and post falls.
- Less than 10% of patients assessed by the service are admitted to hospital while under the care of the service
- Provide crucial support to nursing home residents to prevent hospital admissions and to support post discharge from A&E.

Case Study 6: Community Rapid Response Service Sussex Community Trust & Brighton & Hove

Background and Case for Change:

Sussex Community NHS Trust wanted to engage with the wider urgent care network as described in the NHS England 5 year forward view with key specialist emergency centres in their partner acute trusts supported by its full range of community services.

They took part in this network by preventing unnecessary hospital admissions with their admission avoidance, falls prevention and assessment teams aiming for more coordination in urgent out of hours care.

The Solution:

The community rapid response service (CRRS) was developed. It is a multidisciplinary service, providing a rapid assessment to patients / clients age 18 above

- Open Monday to Sunday and cover from 8am-8pm including public holidays
- Aim to make contact and/or assess a patient within 2 hours of receiving a referral
- Provide support for up to 72 hours through the crisis period referring on as required
- The service is mainly for admission avoidance
- The service visits patients in their own homes / hospital mainly the Accident & Emergency department as well as in care and nursing homes.
- It accepts patients with any types of infections e.g. chest infection, patients who have had falls and if they are not managing at home.
- It accepts referrals from health or social care professionals, such as GPs, nurses and social workers
- There is a single point of contact

The service covers three areas of Brighton and Hove

1. Central

- Withdean
- Patcham
- Preston Park
- Varndean

2. West

- Hove
- Hangleton
- Portslade
- Mile Oak

3. East

- Woodingdean
- Rottingdean
- Saltdean
- Hollingdean
- Moulsecomb
- Coldean
- Whitehawk

Impact:

- In 2015 they helped reduce by more than half the number of people who went to A&E after a fall in which they had hurt themselves but had not suffered a fracture.
- The admission avoidance/intermediate care team in Mid Sussex were able to successfully manage at home 74 per cent of people referred, who otherwise would have been taken to hospital.

References:

- <http://www.sussexcommunity.nhs.uk/downloads/about-us/trust-reports/annual-strategic-reports/2014-2015/integratedcare-adults.pdf>
- <http://www.sussexcommunity.nhs.uk/services/servicedetails.htm?directoryID=16301>
- <http://www.sussexcommunity.nhs.uk/downloads/services/rapid-response/rapid-response-patientleaflet.pdf>

Case Study 7: Enhanced Rapid Response Service: Kent Community Health NHS Foundation Trust

Background and Case for Change:

The service brings together a medically-led community team to treat patients at or closer to home. It aims to avoid unnecessary A&E attendance and emergency admission to an acute hospital.

The service began as a pilot in November 2013, funded through short-term winter pressure money from commissioners. This enabled the trust to upgrade the existing rapid response nursing service by investing in a wider range of skills within the team. ERRS employs more advanced practitioners capable of enhanced assessment and treatment and a consultant geriatrician.

The service also facilitates timely hospital discharge for patients who need a short stay in an acute bed, and can also admit patients to community hospital beds. It is particularly aimed at over 75s.

Impact:

Data show that between November 2014 and March 2015:

- 342 referrals were recorded as being made to avoid admission
- Of these, 94.4% of patients were discharged to their usual place of residence, avoiding an admission.

Therefore the scheme could potentially reduce pressure on local acute services and save money.

The scheme has also produced high patient satisfaction.

The Solution:

After initial clinical triage, the service assesses the patient in their own home where medical, nursing and therapy support is then given.

An important feature of the service is leadership by the consultant geriatrician, who manages a team of specialty doctors and enhanced practitioners. It also includes an engagement programme with primary care, the mental health trust, social care and the ambulance trust to boost uptake of the service.

ERRS receives referrals directly from primary care, the ambulance service, A&E and hospital discharge teams.

Key characteristics of the service:

- Part of a 24 hour, 7 day a week service
- Single point of access
- Step up directly to community beds
- MDT including consultant geriatrician
- Takes referrals from all health providers, including the Ambulance Service, and social care
- Patients seen dependent on acuity but usually within 2 hours
- ERSS Pathway is up to 7 days
- Patients able to stay at are admitted to a virtual ward
- Conditions accepted: acute confusion, acute heart failure, acute urinary retention, administration of intravenous antibiotics, cellulitis, COPD and asthma, dementia crisis, end-of-life care, acute loss of mobility in frail elderly, gastroenteritis, higher level tube feeding, hypoglycaemia, non-fracture falls, other conditions requiring enhanced service, recovery from injury or surgery, sudden reduced mobility, urgent provision of nursing intervention, urgent provision of personal care, urinary tract infections causing falls or acute confusion.

References:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/459193/Kent_Community_Health.pdf

<http://www.local.gov.uk/documents/10180/6927502/Case+study+Kent+Developing+an+enhanced+integrated+rapid+response+service.pdf>

<https://www.kentcht.nhs.uk/service/rapid-response/>

Case Study 8: Central and North West London NHS Foundation Trust: Rapid Response Service

Background and Case for Change:

Camden's Rapid Response Service (RRS) provides alternative care pathways in the community so that fewer vulnerable patients are admitted to hospital.

The service aims to:

- rapidly respond to admission avoidance referrals
- reduce the number of short-stay admissions
- improve patient flow along the emergency care pathway
- accelerate therapy-led discharges so that patients receive care closer to home
- bring financial benefits to the local health and care economy at large

From October 2013, the trust used winter resilience money to create a single RRS. Integrating schemes brought benefits of sharing resources and better management of peaks in demand. The service was designed collaboratively with CNWL clinicians and managers working with staff at local acute trusts and the ambulance service, as well as nursing and residential homes, the voluntary sector and patients.

The Solution:

The service offers short-term intensive support including nursing and therapeutic assessments and social care for up to 10 days, after patients are referred on to other appropriate services.

The service is for adults over the age of 18 who live in Camden, are registered with a Camden general practitioner (GP) and who require immediate intervention to prevent a possible hospital admission. Admission criteria is broad; the service is unsuitable for people who are medically unstable or where mental health is the main problem.

There is a single point of access. The service accepts referrals from:

- GPs and other health and social care staff including sheltered housing managers
- London Ambulance Service
- Acute services, if the patient has deteriorated once discharged home
- Carers and families (self-referrals)

The service is available 24 hours a day, seven days a week. Most patients are frail older adults. This particularly benefits frail elderly people, for whom hospital admission is associated with a risk of deterioration.

Impact:

In September 2015 there were 80 hospital admissions a month with over 80% of referrals avoiding admission. A local acute trust's data for the last 6 months of 2013 and 2014 showed a 10.4% reduction in total inpatient spells for Camden patients. For residents from selected nursing and residential care homes, inpatient spells reduced by 35.1%. While this cannot be directly attributed to the enhanced RRS, the trust believes it has been pivotal in reducing avoidable admissions.

References

<http://www.cnwl.nhs.uk/service/camden-rapid-response-admission-avoidance-service/>

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/459230/Case_study_collection_-_Admission_avoidance.pdf

Case Study 9a: Guy's & St Thomas' and King's Hospitals Rapid Response

Background and Case for Change:

The overall aim is to reduce unplanned admissions where possible, manage length of stay and ensure that discharge arrangements are as effective as possible to avoid unnecessary re-admissions.

There was a need to support vulnerable elderly people living alone who have become less mobile, sometimes because of a fall, to avoid admissions or long stays in hospital .

This service is also part of Lambeth and Southwark Integrated Care (SLIC) programme began in 2012, linking up services at scale across the local NHS and local authority social care and working together to deliver preventative, coordinated and community-based services.

Impact:

As part of the overall impact of SLIC (2016):

- 4% reduction in the number of Southwark & Lambeth patients attending A&E
- Reduction in residential and nursing home placements
- Admissions for over 65s have remained stable unlike other boroughs where numbers have risen

The Solution:

Provides short-term support and rehabilitation such as physiotherapy in the home. This may have been after an event, a fall or short-term illness, making it more difficult to cope at home.

The service can quickly visit and provide care and support to help patients remain at home and prevent hospital admission.

The teams consist of nurses, physiotherapists, occupational therapists, rehabilitation support workers, social workers and a geriatrician (consultant specialising in the care of elderly people).

Acceptance Criteria:

- Patient would otherwise have to be admitted
- Must be 18 years of age or over and live in Lambeth or Southwark and be registered with a GP
- Patient must be able to transfer with maximum of assistance of one person or less (assistance of two people will be considered on a case-by-case basis)
- patient must currently be at home in the community (including care home residents) or have been in hospital for no longer than 48 hours
- patient must be home by 7pm for same day review.

Exclusion Criteria:

- Primary reason for referral is a mental health or drug/alcohol problem.
- Referrals that can be effectively managed by standard social or health care services within the timeframe required.

References:

<http://www.guysandstthomas.nhs.uk/our-services/community-rapid-response/overview.aspx>

<http://guysstthomashospital.newsweaver.co.uk/icfiles/1/14211/150535/5272827/pdf/News%20for%20GPs%20and%20primary%20care%20colleagues%20-%20April%202015%20-%20Print%20All%20Page.pdf>

http://slicare.org/system/documents/files/000/000/068/original/SLIC_newsletter_FINAL_March_16.pdf?1459345392

Case Study 9b: Guy's & St Thomas' and King's hospitals @home service

Background and Case for Change:

This service was set up to reduce pressure on acute services, initially focussing on discharge processes, reducing delays, avoiding readmissions and improving patient experience and outcomes. It now also aims to reduce hospital admissions.

This service is also part of Lambeth and Southwark Integrated Care (SLIC) programme begun in 2012, linking up services across the local NHS and social care and working together to deliver preventative, coordinated and community-based services

The integration of @home with other supporting services was crucial to success as was developing a service that gave confidence to GPs, consultants and other partners, as well as staff, patients and carers for discharge and admission avoidance decisions.

Impact*:

- The service receives around 20 referrals daily
- Supported reduction in ED attendances
- Supported reduction in LOS
- Reduced conveyance times freeing up LAS
- Provided better clinical outcomes

**Note: The rapid review team was unable to make contact with the service to further identify quantifiable impact nor was it able to find this information online.*

The Solution:

Key characteristics of the service:

- Provides acute clinical care at home that would otherwise have to be carried out in hospital
- Single Point of Access Referrals can be made between 08:00 – 23:00hrs; the service is open 24/7
- 2 hour response for urgent medical assessment
- Patients must reside and be registered with a GP Practice within in Lambeth or Southwark
- Patients can be treated at home for IV Therapy, Blood Monitoring, Anticoagulation Therapy, Cannulation and care, PICC & Hickman lines, Complex Wound Management, Palliative and Respiratory Care, Observation and Vital Sign Monitoring
- About 25 clinical pathways which include COPD, Cellulitis, Gastroenteritis, Dehydration, Infected foot ulcers, Diabetes, Pyelonephritis, Post Surgery, Heart Failure, Viral Illness, UTI
- Shared or total medical responsibility for patient
- Domiciliary visits by consultant or @home GP when required
- Referral pathway with the London Ambulance Service (LAS) so they can assess people in their homes and refer them to @home for treatment, or to refer to a rapid access 'Hot Clinic' rather than taking them to A&E (particularly for falls and CGA).

References:

- http://slicare.org/system/documents/files/000/000/068/original/SLIC_newsletter_FINAL_March_16.pdf?1459345392 (2016)
 - <http://www.guysandstthomas.nhs.uk/resources/patient-information/community/at-home-service.pdf> (2014)
 - <http://www.guysandstthomas.nhs.uk/news-and-events/2015-news/march/20150305Hospital-care-at-home-helps-local-patients.aspx> (2015)
 - http://guysstthomashospital.newsweaver.co.uk/files/1/14211/150535/5131226/dc0ed6fccc78b97472e3bb66/_home%20poster%20final%20170314.pdf
 - <http://www.tandfonline.com/doi/full/10.1080/17571472.2016.1211592> (2016)
- Business Case for the implementation of Homeward across Lambeth & Southwark(2013)

Case Study 10: Welsh Ambulance Service Alternative Care Pathways

Background and Case for Change:

In 2013, Paul Hughes, Medical Director at the Welsh Ambulance Service (WAS), said: “Demand on our ambulance service increases every year, and it is becoming increasingly clear that transporting patients to emergency departments who do not need to go there is not in the best interests of the patient, nor sustainable for the health service.”

There was a growing demand for the paramedic workforce to be able to see and treat the increasing number of frail, elderly patients with chronic and/or mental health issues.

Impact:

Using appropriate pathways reduces pressure on A&E departments, and ensures patients receive the most appropriate care, from the right clinician, at the right time and in the right place.

In 2013/14 the Alternative Care Pathways resulted in:

- 2,500 non-injury falls referrals (by paramedic and nurse),
- 300 resolved epilepsy episodes
- Over 500 resolved hypoglycaemic episode referrals

The Solution:

The WAS worked with local health boards to build on existing pathways and redesign the system. Instead of taking them to hospital, paramedics can refer patients to their GP or an identified community team.

Alternative Care Pathways (ACPs) for non-injured fallers, people who have had epilepsy and hypoglycaemic episodes aim to make better use of community-based services and improve patient experience. They are now used throughout Wales. New pathways are being piloted including one for Mental Health.

To make a referral, paramedics call the 24-hour ‘Co-ordination Point’ number, and the existing Health Information team within NHS Direct Wales act as co-ordination agents for the ACPs. They enter details onto a bespoke database then make the referral on the paramedic’s behalf to community teams for falls screening, or the patient’s GP when the patient is left at home following a hypoglycaemic or epilepsy episode.

Overall up-skilling of staff in chronic conditions management and relevant decision making is addressed through training and education plans. NHS Direct Wales nurses who triage non-injured fallers on the telephone can also make referrals to community teams.

“Across Wales, there is a clear initiative to develop community-based services which can improve the quality of life for patients, by re-focussing NHS resources from reactive to pro-active hospital admission prevention.”

Paul Hughes, Medical Director at the Welsh Ambulance Service (WAS).

References:

<http://www.ambulance.wales.nhs.uk/Documents/AQS1314/AQS.pdf>

<http://www.wales.nhs.uk/sitesplus/documents/1134/5%20steps.pdf>

<http://www.ambulance.wales.nhs.uk/assets/documents/97d29d3b-0732-4621-92da-cd16461dee89636083383399707427.pdf>

<http://www.ambulance.wales.nhs.uk/Default.aspx?gcid=1015&pageId=2&lan=en> (2013)

Case Study 11: Extended care paramedics, Perth

Background and Case for Change:

The Extended Care Paramedic Program (ECP) is a joint initiative of South Australia (SA) Health and SA Ambulance Service (SAAS) that commenced in December 2008.

ECPs are highly skilled clinicians who work collaboratively with other health care professionals to manage and treat people in their usual residence. Although SAAS operates the ECP program for all members of the community, it is proving to be particularly beneficial to those in residential aged care facilities which is pivotal to the program's success.

Impact:

The pilot during period 1 December 2008 – 30 June 2009 resulted in:

- 1123 cases with ECP intervention
- 49.4% of ED presentations prevented
- 5.3% of hospital admissions avoided
- no adverse outcomes

The Solution:

ECPs only attend patients who have made a call to triple zero (000). An ECP in the SAAS Emergency Operations Centre assesses the patients' requirements through phone consultation or emergency crew referral and can dispatch an ECP, which is a single responder in an ambulance response vehicle, as opposed to a traditional stretcher carrying ambulance.

ECPs provide alternate care pathways for patients and assist in reducing unnecessary transport to hospital. Attendance by an ECP reduces the disruption to patients and their carers that is associated with a trip to hospital. If after assessment, the patient still needs to go to hospital, the ECP will arrange this. Patients receive more tailored care and if needed, will be managed in collaboration with other health professionals that are appropriate to their needs

The service has two shifts from 0700-1900 and 1200-2400. It collaborates with general and other medical practitioners, palliative care services, Carers Respite Centre, Adelaide Plastic Surgery, physiotherapists and more.

What type of cases do ECPs attend?

- wound care including suturing and skin tears
- pain management, chronic pain (musculoskeletal) and palliative care patients with break through pain
- gastroenteritis – diarrhoea and vomiting
- catheter/urinary tract infection/urinary retention
 - replacement of urinary catheters – female, male and supra pubic with acute problems (not routine replacements)
- rehydration/heat/dehydration
- cellulitis
- chest infections
- PEG replacements (acute problems not routine replacements)
- confusion/dizziness/lethargy
- confirmed migraine
- epistaxis

References:

<http://www.sahealth.sa.gov.au/wps/wcm/connect/6e89ce8042ad6521b6e0be30a4818ec3/extcareparamedicsfacts-saas-200912.pdf?MOD=AJPERES&CACHEID=6e89ce8042ad6521b6e0be30a4818ec3>
<http://www.ambulance.nsw.gov.au/about-us/Paramedics.html>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3724748/>

Case Study 12: Metropolitan Referral Unit, South Australia

Background and Case for Change:

The health service in Australia has similar pressures to the UK with increasing pressure on A&E departments, hospital flow and increasing Length of Stay. There are added complications around payment mechanisms such as patients paying for ambulance conveyance (although this does not appear to be a particular deterrent for inappropriate usage being relatively inexpensive).

Health systems are managed over a very large geographical area and there appeared to be a lack of co-ordination and awareness of what was available to GPs and other referrers. This meant that patients were not always treated in the right place at the right time.

The Metropolitan Referral Unit was set to support hospital avoidance and discharge support services for South Australia's Health public hospitals including Community Nursing – Palliative Care and Extended Community Care.

Impact*:

- Improves appropriate referrals reducing delays and supporting the patient receiving the most suitable treatment
- Reduces time spent by clinicians looking for correct referral pathway and keeping up to date with services

**Note: The rapid review team was unable to make contact with the service to further identify quantifiable impact nor was it able to find this information online.*

The Solution:

The MRU was set up to bring together vital community-based services aimed at helping GPs and other referring health practitioners in managing their patient's health and to support patients to remain independent at home.

The services support people at home, reduce the need for hospital admission and help patients in hospital return home quicker. Evidence indicates that providing services in people's homes and in community spaces has excellent results for people with complex chronic conditions, including elderly and young people requiring palliative care and additional short term support before being discharged from hospital.

This programme provides short-term out of hospital clinical services to immediate support hospital avoidance and assist with early supported discharge from metropolitan public hospitals.

Health@Home services/programmes available for eligible patients:

- Community Nursing- Palliative Care & Extended Community Care
- Hospital and Healthcare at Home (short-term admission avoidance and discharge support similar to Rapid Response Models described in previous case studies)
- End of Life Choices
- Virtual Nursing - Direct Observational Therapy (TB)

The first two services accept direct referrals from the South Australian Ambulance Service

Reference: <http://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/health+services/healthathome>

<http://www.saambulance.com.au/>

<http://www.sahealth.sa.gov.au/wps/wcm/connect/45cf08804dab7a169edebed1d6abeab7/nonhospital-report-PHCS-20121203.pdf?MOD=AJPERES&CACHEID=45cf08804dab7a169edebed1d6abeab7&CACHE=NONE>

<http://www.sahealth.sa.gov.au/wps/wcm/connect/b1c3cf00453d99b1b81efa8a21f01153/Information+for+General+Practitioners.pdf?MOD=AJPERES&CACHEID=b1c3cf00453d99b1b81efa8a21f01153>

Analysis: Evidence-based paramedic models of care to reduce unnecessary emergency department attendance – feasibility and safety

Background and Case for Change:

In the Sydney West-Nepean catchment area, the ECP program began in December 2007. By October 2009, a total of 22 ECPs had responded to over 10,000 cases, with a non-transport rate of 38% - 45%. The South Australian Ambulance Service (SAAS) introduced an ECP programme in the metropolitan area in December 2008 (An example is listed above in Case Study 11).

In the first 7 months ECPs attended 1,123 patients, of those 555 interventions (49.4%) were considered to have prevented an ED presentation and 60 (5.3%), were considered to have prevented a hospital admission; and no adverse events were recorded". ECPs provide alternative care pathways for patients who call for an ambulance and meet certain pre-defined criteria, such as the patient having a minor illness or injury, or only requiring basic medical advice or reassurance. Through a 'see and treat' or a 'see and refer' strategy it is suggested that they can assist in reducing ambulance transport to hospital.

The Study:

Whilst there is clear enthusiasm about the concept of ECPs as an alternative community-based model of emergency/primary health care, there is no good quality research data in Australia to support the efficacy, safety or cost-effectiveness of an ECP programme. It needs to be established that patients seen by ECPs do not end up presenting to ED within hours/days of the initial ECP attendance – possibly in a worse clinical condition than their initial presentation – or come to harm or die because of an unrecognised life-threatening condition.

The project aimed to develop and test (through simulation) the feasibility and safety of empirically derived clinical protocols for an extended care paramedic (ECP) role for the Perth metropolitan area. They highlight the fact that paramedics do not have the same repertoire of clinical assessment skills as emergency physicians, nor do they have access to the same array of diagnostic tests. Of concern to all clinicians is the risk of failing to identify potentially catastrophic events, such as sepsis, stroke or myocardial infarction. Thus while the study is interested in modelling the impact of the introduction of ECPs on ED demand and ED crowding, its primary concern is patient safety.

Conclusions:

The results have not yet been found online and the authors have been contacted requesting further information. It is expected that the results of the 'virtual' study of ECPs will provide much needed data to better inform decisions about emergency medical services in WA and other jurisdictions. The study is congruent with the WA Department of Health primary health care principle of "implementation through consultation and evidence". Reducing unnecessary ambulance transport to ED has the potential to reduce ED demand, ambulance ramping and ED crowding, as well as possibly reducing demand for in-patient services. However, evidence is needed to establish that ECP models of care are safe, feasible and cost-effective.

References:

<https://bmccemergmed.biomedcentral.com/articles/10.1186/1471-227X-13-13>

Additional Research

Additional research:

The rapid review team identified further studies internationally that may provide useful to CWHHE's review of The Community Independence Service. They have not been included as full case studies due to their lack of direct relevance or broad remit but are listed below for reference.

Title	Description	Link
<i>The impact of new prehospital practitioners on ambulance transportation to the emergency department: a systematic review and meta-analysis</i>	<p>The study aimed to conduct a systematic review and meta-analysis to examine the impact of new prehospital practitioners (NPPs), including emergency care practitioners (EmCPs), paramedic practitioners and extended care paramedics (ECPs), on ambulance transportation to the emergency department (ED).</p> <p>The NPP schemes reduced transport to the ED; however, the appropriateness of the decision of the NPPs and the safety of patients were not well supported by the reported studies.</p>	http://emj.bmj.com/content/31/e1/e88.short
<i>Hospital at home admission avoidance (2008) including Australia, New Zealand, Italy and UK</i>	<p>A systematic review and meta analysis, the effectiveness and cost of managing patients with admission avoidance hospital at home compared with in-patient hospital care.</p>	http://europepmc.org/artic/es/pmc4033791

Conclusions

Conclusions:

The purpose of this Rapid Review was to review available literature on referral pathways from ambulance services to community services, specifically rapid response teams and see and treat models that support non-conveyance to A&E and admission avoidance, and to provide a list of summarised relevant initiatives.

The 5 Year Forward View states that health and social services need to work better together to help patients get the right care, at the right time, in the right place. A number of rapid response community services are now in place to support admission avoidances and to expedite hospital discharge however there is often an absence of clear pathways for ambulance services which can lead to unnecessary activities and delays. Although the review examined case studies internationally, a consistent approach was lacking across the London-specific examples despite many of them sharing similar characteristics. It is important to note however that this may be due to the targeted nature of some of the services.

Key characteristics of most initiatives were:

- Response times are short, usually assessment within two hours, to give confidence to patients and other healthcare professionals and services
- Acceptance criteria is clear to avoid delay
- Social care provision was often included, especially for frail, venerable patients after an event and older falls patients
- There was usually a single point of access with referrals possible out-of-hours and opening hours extended; often seven days a week, 7-7
- Most initiatives allowed for any health care provider and social care to refer
- The services were only offered to patients for a set time - usually from 48 hours to a week after which patients are referred.
- Many initiatives had direct links to other health and social services for onward referral

It was not always clear from the information found how these services assessed specific issues such as sepsis, and the other criteria listed in the *Appropriate Care Pathway, Inner London – Community Independence Service with London Ambulance Service*, however where possible a contact has been identified and provided on slide 3 for further research into each of the specific services to be conducted.

A common theme through out several examples was their focus on frail, vulnerable patients who have suffered an event and also for older falls patients. Many Rapid Response services currently receive most admission avoidance referrals from within primary care where there are established links and pathways. From the literature, it would appear that for the most part referral pathways between the ambulance service and rapid response services and see and treat models reduce admissions, improve patient outcomes and are popular with patients.

References:

- 5 year forward view :Time to Deliver , NHS England (2016) <https://www.england.nhs.uk/wp-content/uploads/2015/06/5yfv-time-to-deliver-25-06.pdf>
NHS England: Improving Referral Pathways (2015) <http://www.nhs.uk/NHSEngland/keogh-review/Documents/improving-referral-pathways-v1-FINAL.PDF>
Health Committee Written evidence from the College of Paramedics (2013) <http://www.publications.parliament.uk/pa/cm201314/cmselect/cmhealth/171/171vw13.htm>
Effective Approaches in UEC, NHS Interim Mgmt & Support (2013) <https://www.england.nhs.uk/wp-content/uploads/2013/08/amb-hand.pdf>