Developing a holistic, multidisciplinary community service for frail older people

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Abstract

This article explores the development of an ambulatory community service that demonstrates multidisciplinary working to meet the diverse needs of frail older people and their carers. The service comprises advanced nurse practitioners, a pharmacist, a community navigator, consultants, occupational therapists, physiotherapists, a nurse, rehabilitation assistants, a healthcare assistant and an administrator. This multidisciplinary team (MDT) serves adults with complex medical and rehabilitation needs who are being discharged from hospital, staying in bedded rehabilitation units or living at home by offering assessments, investigations and rehabilitation, where appropriate closer to home.

The aims of the service are to: keep people well, prevent unplanned hospital admissions, promote health and well-being, reduce the risk of falls, enable independent living and provide rehabilitation. Personalised care plans are developed with patients and their carers. Advanced nursing practice is demonstrated in assessment, investigation, diagnosis, management, referral and non-medical prescribing.

Development of this MDT is required to support and promote integrated, evidence-based work. Such development leads to integrated care across communities, and bridges gaps between patients and carers, GPs, home, residential and hospital-based services, and the voluntary, statutory and non-statutory sectors.

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PEOPLE WITH diverse and complex conditions are living longer at home (Townsend 2016). The complexity of their conditions is due in part to their frailty and, in many cases, dementia. Comprehensive geriatric assessment (CGA) and multidisciplinary interventions, including rehabilitation in community settings, have a positive effect on people living with frailty (Cameron et al 2015), so community services must be proactive as well as reactive.

An important aspect of proactive care is identifying people who would benefit from CGA. This is the gold standard of care: it aims to keep people healthy and prevent unplanned hospital admissions.

CGA in a multidisciplinary team (MDT) ensures unmet needs can be identified and solutions developed to meet these needs, as well as providing support for carers. The NHS Five Year Forward View requires local and flexible community care (NHS England 2014) and supporting people with frailty is better managed by responsive community services (British Geriatrics Society (BGS) 2018). This has led to the development of a holistic, multidisciplinary, ambulatory community service that involves patients in planning their care and works as part of an integrated community team. This article describes the development of the service, evaluates its effect and outlines future plans.

Service development

The holistic assessment rapid investigation (HARI) service was commissioned in April 2015 as part of a Darzi Fellowship (Mervyn et al 2017) initiative. The Darzi Fellowship promotes clinical leadership in nurses, doctors, midwives, allied health professionals, pharmacists, dentists and paramedics.

The projects developed by the fellowship endeavour to promote service improvement, safety initiatives and financial savings.

The HARI service is housed in a purpose-built health centre that offers many investigations on-site. The HARI team was developed from an original older people's assessment and rehabilitation service. As well as physiotherapists, occupational therapists, rehabilitation assistants, an administrator, consultants, a nurse and a healthcare assistant, the team comprises advanced nurse practitioners (ANPs) and a pharmacist focus their attention on a patient. The team also originally included a community navigator as part of a pilot scheme that has now been rolled out across the borough in a different format to provide people and carers with information and support in navigating social and community and voluntary services.

The HARI team has therapy and clinical leadership, and is integrated with GPs, hospital older person's consultants and other community services in the borough of Merton. The HARI service's vision and aims are outlined in Box 1.

Evaluation of data from a random sample of 100 patients referred between April 2016 and March 2017 showed that 75% of referrals came from GPs (Figure 1). These included requests for assessment and further investigation of people who had experienced recurrent falls or who needed clinical management for complex conditions, including memory loss and medication difficulties. People with multiple rehabilitation needs were also referred.

Assessment

People are referred either for a rehabilitation and nursing assessment only or for a CGA (Box 2) with ANPs or consultants and a nurse. A Swedish feasibility study (Westgård et al 2018) in a small cohort of frail older people admitted to hospital found that those who received a CGA had more interventions from more members of the MDT and were statistically more likely to have a personalised care plan than those who received usual care. In addition, a Cochrane review (Ellis et al 2017) concluded that patients who underwent a CGA in hospital were more likely to be alive in their own home at follow up.

It would be interesting to see if these findings were replicated in this community setting; certainly, a high proportion of people are seen by more than one member of the MDT at the HARI service and all receive a personalised care plan.

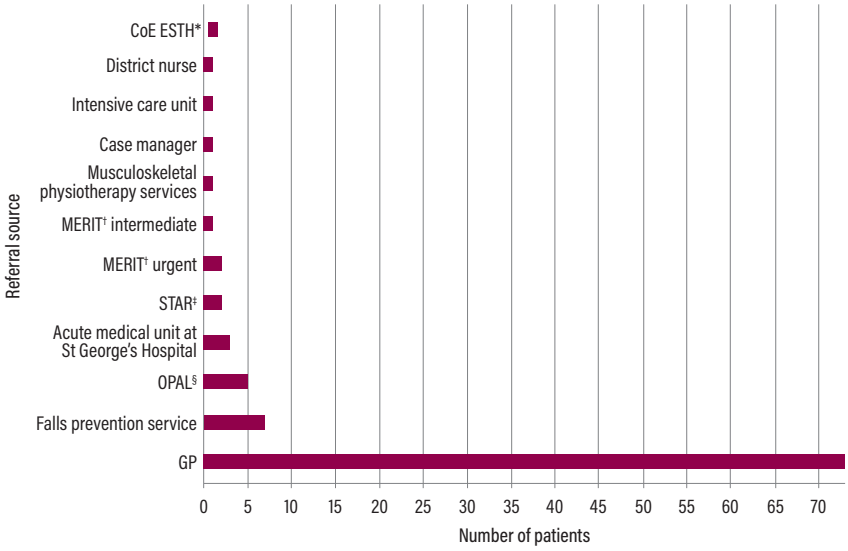
Box 1. Vision and aims of holistic assessment rapid investigation service

The holistic assessment rapid investigation service is a multidisciplinary community service for adults with complex medical and rehabilitation needs. Its vision is to provide a holistic, multidisciplinary, ambulatory care service that supports people with frailty, multiple medical conditions and complex rehabilitation requirements in the community. Its aims are to:

- Keep people well
- Promote health and well-being
- Enable independent living
- Prevent unplanned hospital admissions
- Reduce the risk of falls
- Provide rehabilitation

The aims are achieved by allocating appropriate multidisciplinary team members to see people in a timely manner and using a robust transport system to enable people to attend.

Figure 1. Holistic assessment rapid investigation service referral sources for 100 patients



*Care of the elderly Epsom and St Helier Hospitals †Merton enhanced rapid intervention team ‡Social therapies and rehabilitation at St George's Hospital §Older person's assessment and liaison services at St George's Hospital

Box 2. Comprehensive geriatric assessment

Assessment

- Physical: sensory loss, feet and footwear, gait and balance, lying and standing blood pressure, functional ability, pain/joints, weight and nutrition, rectal and genitalia, underlying illness
- Socioeconomic and environmental: social situation, finances, support structures and environmental assessment
- Functional: assessment of function and timescale of change, including Barthel (scoring for functional ability) and Walsal scales (inclusion of Malnutrition Universal Screening Tool and functional score to assess risk of pressure damage to skin for people in the community)
- Mobility and balance: questions about change in mobility and balance, falls. Assessment including timed up and go
- Psychological and mental: cognition and mood – assess with six-item cognitive impairment test (6-CIT), Montreal cognitive assessment and geriatric depression scale
- Medication review: indications, side effects, benefits and interactions

Creation of problem list

- Developed in collaboration with patient and/or carer

Personalised care plan

- Supports self-management incorporating the multidisciplinary team

Intervention

- Therapy, investigations, referrals, management, medication change

Review

- At holistic assessment rapid investigation service or with GP or specialist

(British Geriatrics Society 2016)

Box 3. Further assessment by therapists

- Timed up and go: patients are timed rising from a chair and walking a distance of 3m and returning to the chair (Lusardi et al 2003)
- Berg balance scale: a 14-item performance measure of balance and postural control (Lusardi et al 2003)
- Visual analogue scale (VAS) fear of falling score: a self-assessment using a validated VAS in which 1 means not afraid of falling and 10 means very afraid of falling (Scheffer et al 2010)
- Geriatric depression scale: a short version of the original scale involving 15 questions in which score of 5 or more indicates a need for further evaluation (Yesavage et al 1982-1983)

Figure 2. Investigations and assessments for 100 patients

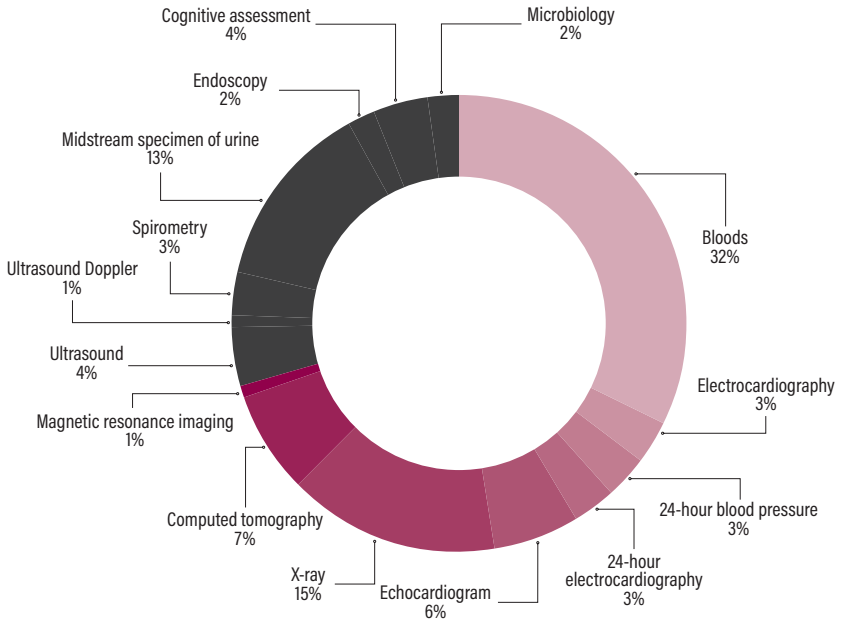
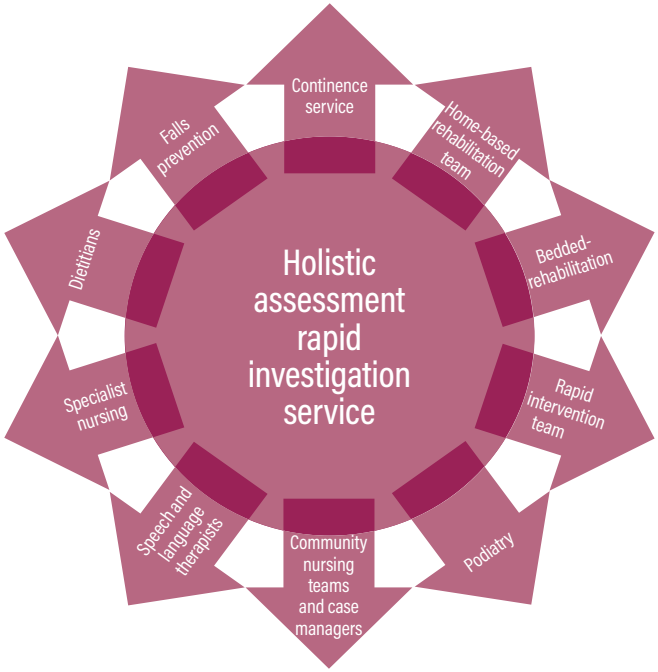


Figure 3. Holistic assessment rapid investigation service collaboration with community providers



In terms of rehabilitation, people are assessed at the HARI service by tests including timed up and go, balance, fear of falling visual analogue scale and further assessment of mood including anxiety and depression and cognition (Box 3).

Medication review

Medication reviews take place as part of CGA, but pharmacological needs, including polypharmacy, medication optimisation, side effects of medication, uncontrolled pain and under-medication, may be addressed by the advanced clinical pharmacist.

Care plans

CGA leads to provision and coordination of an integrated plan for treatment, rehabilitation, support and long-term care (Welsh et al 2014). The planning involves the patients and carers, and is referred to in communication with GPs.

The plan also includes recommendations for investigations, medication changes and therapy. Each patient is given a copy of their plan with actions to follow if their condition deteriorates. The plan also incorporates therapy needs including information about further assessments with a physiotherapist and/or occupational therapist.

Investigations

The unit offers Doppler ankle brachial pressure index testing, electrocardiography (ECG), phlebotomy and spirometry. Cardiac investigations, such as 24-hour ECG and echocardiography, are provided in the health centre, along with radiography and ultrasound, while blood pressure monitoring, computed tomography (CT), magnetic resonance imaging (MRI) and nerve conduction studies are offered off-site. Investigations carried out on a sample of 100 patients seen at the HARI service are shown in Figure 2.

Rehabilitation

Patients are either referred directly for rehabilitation or forwarded to the therapists after clinician assessment. An objective assessment with a physiotherapist and/or occupational therapist allows assessment of baseline function, and sets goals for rehabilitation.

Issues about safety and promoting independence are identified, and home visits allow for environmental and functional assessments, and provision of assistive technology if necessary.

Outcomes

Patients attending for rehabilitation may go on to community-based exercise programmes, the local falls prevention service or a home exercise plan. The community navigator liaises with patients and available local providers to promote social integration, help with accessing services and advice about benefits.

Onward referrals to other community services allow a coordinated approach to meeting patients' needs identified during holistic assessment (Figure 3). The number of referrals to other community services for a sample of 100 patients is shown in Figure 4.

Strong links exist with social services through an extended MDT meeting that incorporates clinicians and therapists in the HARI service and nurse specialists, other community services and representatives from the health liaison social worker team. Patients already under the HARI service are discussed, as well as patients who may need referral to HARI.

Patients whose investigations highlight clinical needs may be referred to secondary care, as shown in Figure 5. Most patients have their needs met by the HARI service or community services, but a small number (18 of a sample of 100 patients) require referral to a secondary care specialist. These types of referrals, especially referrals to a memory clinic, or neurology and cardiology departments, are to be expected in an older population, and most patients referred to HARI are aged over 60 (Figure 5).

Some people attending initial assessments are acutely unwell and are admitted to hospital from the HARI service or after management and further assessment with the domiciliary clinical assessment team in the community. The HARI service exists to serve people with complex medical and rehabilitation needs. Evaluation of referrals showed that most people referred are over the age of 60 years. It would be expected that the people seen by the HARI service have complex conditions, frailty and multiple comorbidities.

Figure 4. Holistic assessment rapid investigation service referrals to community providers for 100 patients

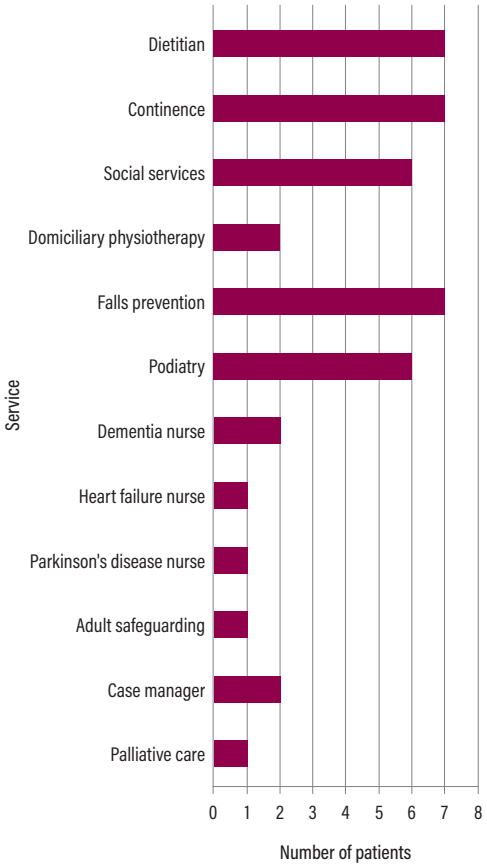
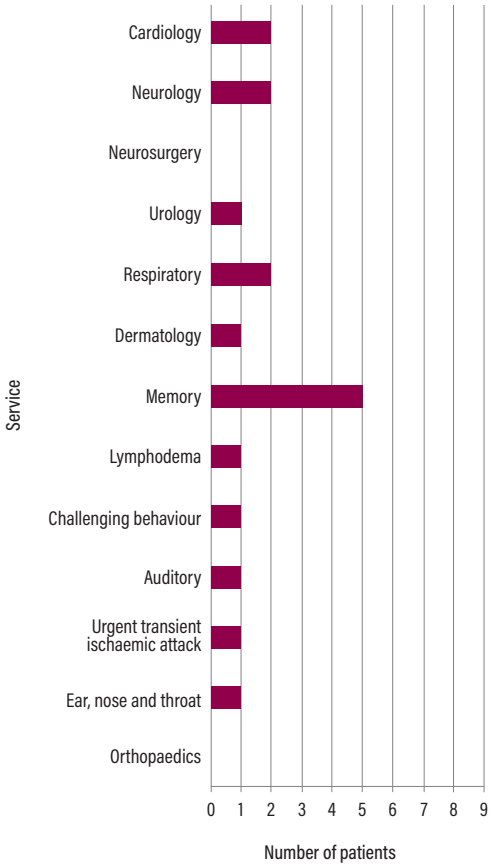


Figure 5. Holistic assessment rapid investigation service referrals to secondary care for 100 patients



Identifying dementia and frailty

Case finding in dementia allows early recognition, diagnosis and collaborative care (van den Dungen et al 2012). Proactive identification of dementia and frailty by asking questions about memory occurs as part of CGA (Box 2). Therapists, as part of their holistic assessment of patients attending for rehabilitation, identify health and cognitive needs that are then addressed by clinical members of the team. Occupational therapists, along with consultants and ANPs, also contribute to cognitive assessment.

Identifying dementia is an essential aspect of early recognition and management for people and their families or carers, not least because it helps them to make plans (Prince et al 2011). NHS England Analytical Services Dementia Team (2017) guidance makes the following recommendations for the early detection of dementia:

- Find.
- Assess.
- Investigate.
- Refer.

People given holistic assessments at the HARI service who are found to have undiagnosed cognitive impairment are given physical and neurological examinations, and formal cognitive assessments using the six-item

Box 4. Diagnosis of delirium

Arousal
- Increased sleepiness
- Less alert or active
- Hard to wake up

Thinking
- Reduced concentration
- Slow responses
- Increased confusion

Perception
- Seeing things
- Hearing things
- Paranoid

Function
- Decreased mobility or restless and agitated
- Less movement
- Not eating
- Sleep problems

Behaviour
- Refusing to cooperate
- Withdrawn
- Change in attitude
- Change in communication

(Dean 2017)

Box 5. Frailty spectrum

- Instability
- Immobility
- Incontinence
- Intellectual impairment

(British Geriatrics Society 2018)

Box 6. Frailty syndromes

- Falls
- Immobility
- Delirium
- Incontinence
- Susceptibility to medication side effects

(British Geriatrics Society 2018)

Box 7. List of 36 deficits in the electronic frailty index

Disease state
- Arthritis
- Asthma or chronic obstructive pulmonary disease
- Atrial fibrillation
- Cerebrovascular disease
- Chronic kidney disease
- Diabetes
- Foot problems
- Fragility fracture
- Heart failure
- Hypertension
- Hypotension/syncope
- Ischaemic heart disease
- Osteoporosis
- Parkinsonism and tremor
- Peptic ulcer
- Peripheral vascular disease
- Respiratory disease
- Skin ulcer
- Thyroid disease
- Urinary incontinence

Signs and symptoms
- Dizziness
- Dyspnoea
- Falls
- Memory/cognitive problems
- Polypharmacy
- Sleep disturbance
- Urinary incontinence
- Weight loss and anorexia

Abnormal laboratory value
- Anaemia and haematinic deficiency

Disability
- Activity limitation
- Housebound
- Hearing impairment
- Mobility/transfer problems
- Requirement for care
- Social vulnerability
- Visual impairment

(De Baise 2017)

cognitive impairment test (6-CIT) and the Montreal cognitive assessment (Brooke and Bullock 1999, Nasreddine et al 2005, Reece et al 2014). Further investigations involving blood tests and CT or MRI of the head may rule out other causes of impaired cognitive function and reversible factors.

The HARI service has strong links with the local memory service, and refers people with suspected dementia for more in-depth assessment and management, as well as support, education and access to local dementia services for patients and carers.

Differentiating between dementia and delirium

In patients who may have underlying dementia, chronic conditions or frailty, it is important to diagnose, manage and review delirium quickly because early identification and treatment can prevent hospital admission. Assessment according to the five domains of arousal, thinking, perception, function and behaviour can facilitate the consideration of underlying reversible causes (Box 4).

Meeting unmet need

Gawande (2015) notes: 'As the defects in a complex system increase, the time comes when just one more defect is enough to impair the whole, resulting in the condition known as frailty. It happens to power plants, cars, and large organizations. And it happens to us: eventually, one too many joints are damaged, one too many arteries calcify. There are no more backups. We wear down until we can't wear down anymore.'

Frailty should be identified to improve outcomes and prevent harm (BGS 2018). Using age alone as an identifier for frailty is too narrow. Use of the frailty spectrum (Box 5) or frailty syndromes (Box 6) can aid detection of frailty but these too can miss people who are at risk. GPs in the borough use a clinical records-based system to identify patients as mild, moderately and severely frail, incorporating 36 deficits corresponding to disease states, signs and symptoms, disability and with or without anaemia (Box 7).

However frailty is recognised it should be seen as a long-term condition, however, the challenge is whether the effects of frailty can be mitigated (BGS 2018). Certainly, interventions like strength and balance training, reversal of vitamin D deficiency and nutritional support can be used (Cameron et al 2015). These strategies have been found to be effective in reversing frailty in pre-frail and frail older people (Cameron et al 2015, Ng et al 2015).

A helpful holistic model is the frailty fulcrum developed by the Nottinghamshire frailty and supported self-care education programme (Moody 2016) (Figure 6).

The frailty fulcrum presents frailty as a long-term condition with six domains: acute health events, multimorbidity (long-term conditions), psychological status, social environment, physical environment and systems of care. In someone living with frailty these six domains are in fine balance and the person is susceptible to ill health or confusion due to, for example, breakdown of care networks or medication issues.

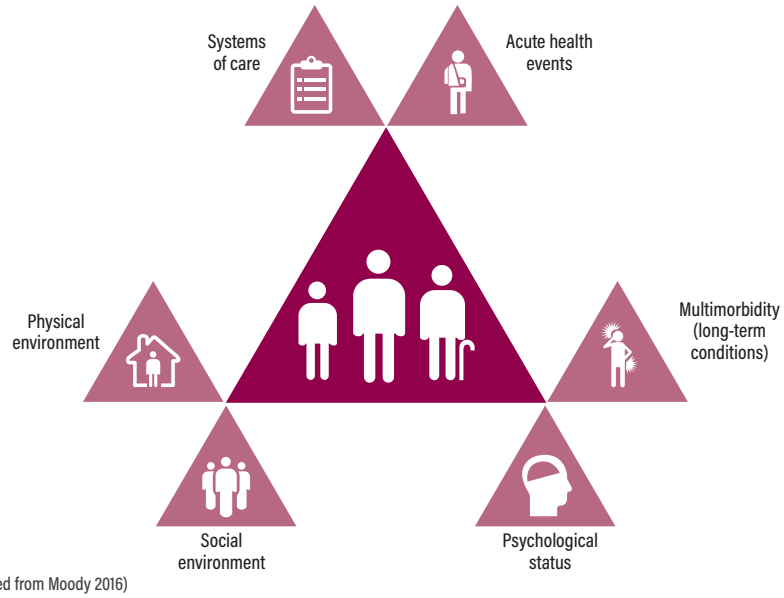
The HARI MDT works together to identify frailty and promote supportive self-care with the aim of recognising people who are vulnerable to frailty-mediated early death or hospitalisation, and to enhance their resilience and promote their independence.

The MDT identifies frailty through holistic evaluation, including a CGA, and provides physiotherapy and occupational therapy in relation to rehabilitation, prevention of falls, enabling independence and providing links with social services for care support.

Optimisation

Clinicians and therapists in the HARI service seek to optimise reversible elements, such as long-term or acute conditions, physical function, pharmacology, and psychological and cognitive issues, as well as social aspects of living with frailty, such as carer breakdown and reducing hazards in the home.

Figure 6. Frailty fulcrum



(Adapted from Moody 2016)

Implications for practice

- Working as a multidisciplinary team (MDT) can facilitate the assessment of people with complex medical and rehabilitation needs
- Comprehensive geriatric assessment can help identify people with frailty and dementia with the aim of early diagnosis, support and intervention
- A cohesive and collaborative MDT can lead to holistic assessment and interventions and cooperation across community services, primary and secondary care

Working as a responsive, flexible, community service the HARI service links with various ambulatory and domiciliary teams to keep people in their own homes, support carers and enhance independence. A care plan developed with each individual and their carers aims to restore control, preserve dignity, facilitate person-centred care and support self-management (BGS 2018), as well as communicate with GPs and other community services.

Future plans

The HARI service plans to:

- Increase and consolidate links with referrers by promoting the service to new GP trainees and communicating with GP practices who seldom refer.
- Strengthen ties with local hospital ambulatory assessment services to continue to prevent unplanned admissions. This will be achieved by providing the consultants who deliver sessions in HARI, and work in older person's assessment and liaison services, with access to the clinical records system.
- Develop smoother processes and strengthen relationships with other community services through attendance of HARI team leads at an integrated leadership monthly meeting in the borough.
- Expand links with bedded rehabilitation units through liaison with team members and referrals from the GP covering the unit.
- Develop the team with clinical supervision, evidence-based learning and supportive collaboration through team meetings, multidisciplinary meetings, case study presentations from the team and external providers.

Conclusion

A student on placement with HARI described the service as 'a gem in the community'. Its vision is to promote health and enable independent living for adults with complex medical and rehabilitation needs. It does this by working as an integrated MDT, using CGA to recognise frailty and undiagnosed dementia, assessing people for rehabilitation potential, and assessing their living environments.

The service aims to identify reversible medical and pharmacological issues, and rehabilitate according to people's unique needs and goals, enabling independence and supporting choice in where people wish to live. For people with dementia, early diagnosis ensures referral for intervention, education, and support and advanced planning.

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