Mental Health Network NHS CONFEDERATION

Centre for Mental Health

Mental Health Economics Collaborative

Nick O'Shea

A new approach to complex needs

Primary Care Psychological Medicine First year evaluation

Executive Summary

Primary Care Psychological Medicine (PCPM) operates in Rushcliffe, Nottingham. It offers psychological interventions in primary care settings for people who use high levels of health care because they have unexplained or persistent physical symptoms of illness. The theory is that offering a psychological intervention will identify and resolve the root causes of unusually high levels of health care use and that a reduction in demand for primary and secondary care will result. Healthy mind, healthy body.

PCPM was created in 2016. The original evaluation was planned to assess and describe the impact of PCPM in 2021, at the end of three years of full-scale delivery. However, because the results of the early work of the scheme appeared to be very positive, this interim report offers preliminary and indicative findings which may prove useful to the current development of health policy in this area. There is significant interest in the concept of mental health care impacting on physical symptoms, but limited evidence to substantiate enquiries.

The evidence presented is from three small samples:

- 181 patients of PCPM for whom there is secondary care data (2017/18 data)
- 140 patients of PCPM for whom there is primary care data (2017/18)
- 32 patients who completed PCPM treatment and have been discharged (2019).

Together, they demonstrate extremely encouraging reductions in health care use for patients using the PCPM service, both during and after treatment. Because of the potential for the programme to be an effective intervention to not only reduce costs, but also – much more importantly – to improve the health of the people it treats, this interim evaluation describes the early findings from the first phase of work.

New services often take many years to demonstrate a saving, yet in its first phase PCPM is able to evidence reductions in health care use of £153,566 (greater than the staffing costs of the programme) and, very tentatively, show annualised, post-discharge savings of £524 per person.

PCPM is one to watch. It is hoped that this report clearly explains why and makes a conservative but robust case for learning from its work and expanding its influence, including for the new Primary Care Networks which are well-placed to use the learning from this programme.

The Mental Health Economics Collaborative

Centre for Mental Health is working with four areas in England which are testing new ways of delivering mental health support and treatment within a primary care setting. The Centre is evaluating the economic impact of these pilots as part of the Mental Health Economics Collaborative (MHEC).

The Mental Health Economics Collaborative is an exciting partnership between the NHS Confederation Mental Health Network, Centre for Mental Health and the London School of Economics Care Policy and Evaluation Centre (formerly the PSSRU). This is part of a series of briefings and reports that will be published as part of the Collaborative's work.

MHEC aims to support the identification and spread of innovative approaches to delivering high quality, efficient mental health services. It highlights the importance of economic measures of success and provides the opportunity to test, prove and celebrate promising service models.

Economic evidence has historically been at the forefront of changes in services and investment. Our ambition is to stimulate change by steering investment to where it can relieve pressure on the system and make a real difference for people with mental health problems.

Introduction

Primary Care Psychological Medicine (PCPM) in Rushcliffe is a service for people with complex persistent physical symptoms (PPS) which includes people with complex long-term conditions and medically unexplained symptoms. Prior to the service, patients were seen across various specialities without an overarching assessment or treatment plan that combined their whole presentation, from a mental and physical health perspective.

Table 1 shows the proportion of people who attend specialist medical outpatient clinics in Nottingham who have persistent physical symptoms (Joint Commissioning Panel for Mental Health, February 2017).

PCPM offers a new approach. This report describes the first findings from our initial work, focusing on observable changes to health care use by people who have received treatment through PCPM. This includes primary, secondary and post-treatment care. Further savings to the public purse, such as social care, will be the subject of the final evaluation report in 2021.

Table 1: Proportion of people with PPS in outpatient clinics

Outpatient clinic	Proportion of people with PPS
Gynaecology	66%
Neurology	62%
Gastroenterology	58%
Cardiology	53%
Rheumatology	45%
Respiratory	41%
Dental	37%
Total*	**52%** (of which 42% are men, 57% women)

* From a study of 550 patients

The Rushcliffe Primary Care Psychological Medicine Service

The Rushcliffe Primary Care Psychological Medicine Service (PCPM) is initially funded as a two-year pilot as part of Rushcliffe Multispeciality Community Provider (MCP) Vanguard Programme, and is provided by Nottinghamshire Healthcare NHS Foundation Trust. It provides a liaison psychiatry service to the population of Rushcliffe for patients with persistent physical symptoms and those with severe physical health problems where liaison psychiatry would be considered useful. There is currently no PCPM equivalent for people with similar needs outside of Rushcliffe or in most parts of the country.

The service offers a holistic, integrated service to improve the health of patients identified by the primary care clinician as having:

- Complex persistent physical symptoms
- Diagnosis of complex mixed medical and psychiatric morbidity such as patients with complex persistent physical symptoms
- Multiple referrals to secondary services
- Distress and functional impairment
- Frequent admissions as inpatients where a clear diagnosis has not been made
- Negative diagnostic tests which have failed to show a cause for the symptoms being presented
- Polypharmacy – the concurrent use of multiple medications by a patient.

A Patient Health Questionnaire 15-Item Somatic Symptom Severity Scale (PHQ-15) is used to assess the impact of somatic symptoms on people who are first coming to the service.

Service model

The PCPM is delivered in a primary care setting by two experienced liaison nurses and two sessions per week of a liaison psychiatrist who also works in the local acute (hospital) trust. The team are supported by administrative and data analyst staff. The staffing was at a cost of £136,427 per annum (2017/18 pay rates).

Patients are assessed in a primary care setting by a team member using a biopsychosocial approach. A formulation is developed and a provisional diagnosis is made. The benefits of such an approach are clear for this patient group:

> *"[a formulation] can help patients and families feel understood. They can support patients in making sense of their problems in a way that reduces self-blame and stigma, support self-esteem in situations where this is challenged, and help people find meaning in their experience, maintain a sense of agency and develop coherent life narratives"* (Royal College of Psychiatrists, 2017)

A person-centred treatment and care plan is then agreed and commenced to address the different biological, psychological and social elements of the person's needs. Each plan is tailored to the person's individual needs meaning they are seen by the team at varying levels of intensity, at an average of once a fortnight.

Treatment can include:

- Management and review of medication
- A mixed model of psychological interventions including distress tolerance, mindfulness and cognitive behavioural therapy (CBT) approaches
- Identifying and reducing barriers to social participation.

The team also provides training, supervision and support for GPs and other professionals.

Robert's story

Robert is a 30 year-old man, who presented via his GP with persistent diverse physical symptoms for which, despite an extensive array of investigations, a convincing explanation was not found.

Robert suffered a background nagging pain in his upper and lower back and legs, persistent tension headache, numbness and 'pins and needles' in the perineal area and shins, as well as frequent feelings of "sinking", among other experiences.

He had sought help from renowned medical centres and was investigated – sometimes privately – for an array of rare neurological, autoimmune and metabolic conditions. He presented to the PCPM reluctantly, strongly feeling that one or more of these rare conditions could account for all his symptoms.

His life had been severely affected – he had already lost his job, and he was struggling financially through lost income and through the cost of private appointments. Robert's partner had left him and he was becoming more and more isolated. His GP reported that, despite exhausting all management options, he still presented very frequently to the GP practice and to the local Emergency Department, complaining of pain.

Robert had brief contact with IAPT, which he did not complete, but no other mental health input from services.

His initial expectation of the PCPM service was that it would quickly exclude psychiatric causes so that the GP could pursue further medical investigations.

During his time at PCPM, and following a period of establishing therapeutic engagement, Robert received a person-centred, multi-disciplinary assessment, including of his circumstances. Gradually, he started considering the psychological aspects of his life, first through his social and personal relationships, and eventually as a component of his presentation. He was eventually able to explore psychological ways of dealing with his issues as well as considering antidepressants as a potential option.

After a while, his GP attendances and emergency presentations at the hospital dropped substantially and he stopped seeking expert opinions. After six months with the service, he is considering a gradual return to work.

Evaluation methodology

This section describes data from the first year of work by the PCPM team and focuses on the costs of the service, versus observed reductions in health care use elsewhere in the NHS, by PCPM patients.

The use of services by patients has been collated and analysed by the Informatics Team at Nottinghamshire Healthcare NHS Foundation Trust, with corresponding tariff data used to cost each intervention received. The results have been verified by Centre for Mental Health through direct analysis of each spreadsheet (with all patient data fully anonymised).

The PCPM programme worked with 211 people in its first 18 months. The secondary care use of 181 patients are considered in this report, along with the primary care use of 140 of those patients.

The core aim of the evaluation is to determine if reductions in health care use are observed amongst patients of PCPM. In the absence of a randomised controlled trial, we compare service use to the two years prior to engagement with the programme. Almost all of the patients have long and consistent histories of significant health care use which means that their previous treatment record is a good estimate of their likely future use had they not engaged with PCPM.

Each person has received treatment for a different length of time. Start dates, treatment lengths and discharge dates are unique to each person. Consequently, there is a need to standardise the outcomes observed to create a comparable set of data on service use.

To account for differences in treatment length, use of different health care services is observed amongst the sample and then converted into per-day units by dividing the number of appointments and admissions by the number of days that they have been engaged with the PCPM service. This gives an average per day measure for each patient.

This figure is multiplied by the specific cost of the intervention they have received to create a cost per day. Local tariffs have been supplied by the Trust, with additional costings from Centre for Mental Health. The cost per day can be summed across the patient group and annualised to project the total cost per year that would be expected if everything else was consistent. Taking the secondary care data, the average length of engagement was 328 days, so annualising the figure only requires the assumption that service use remained similar for an average of a further 37 days per person.

Costs of PCPM

The service costs £210,000 per annum, of which £136,427 is staffing costs. It is worth noting that almost £25,000 is on room rental within other NHS settings, such as GP surgeries.

Technically, this is a funding transfer within the NHS, but for this evaluation, will be considered as a net cost. The same is true for indirect costs and contributions to NHS overheads, which will also be treated as a cost rather than a transfer.

With 181 patients per year, the average cost of PCPM per person is £1,160. Staff costs per patient are £754 per person.

Service costs	WTE	£
1 day/week = 2 sessions medical consultant	0.20	
10 days/week band 6 OT/nurse top of scale	2.00	
5 days/week data analyst/admin; band 4 top of scale	1.00	
	Staff total	**£136,427**
Non pay- travel/training/consumables		£10,000
Contribution to indirect costs & overheads @ 15%		£21,964
Margin @ 10% management and resource use		£16,839
Estates - room rental etc		£24,770
Total cost p/a		**£210,000**

Savings produced by PCPM

This section summarises the recorded changes to health care service use by people seen by the PCPM. It looks separately at savings relating to secondary care, primary care and ambulance services before bringing them together as a composite calculation.

1. Secondary care

Data for patients using PCPM has been collected on service use in:

- Hospital admissions
- Emergency Departments
- Outpatients.

We used a sample of 181 patients for whom:

- There are at least two years' health care data prior to referral to PCPM
- They have been working with PCPM for at least 120 days.

Table 2 shows that there has been a fall in secondary service use for patients using PCPM.

The average number of days each patient has worked with PCPM is 328. The total saving for the 181 patient sample is £116,030 across the three secondary care services. To offer an easily comparable measure, we annualise the saving to project what savings would be expected within a year if the same outcomes were achieved for a further 37 days (to 365 days). The per day savings are simply multiplied by 365 (see Tables 3 and 4).

Table 2: Cost per day per patient

Service	Before	After	Reduction
Hospital Admissions	£1.96	£0.50	£1.45
Emergency Department	£0.25	£0.17	£0.08
Outpatient	£1.31	£0.88	£0.42
Total per day	**£3.51**	**£1.56**	**£1.95**

Table 3: Annualised savings for 181 patients

Service	Before	After	Reduction
Hospital Admissions	£129,284	£33,313	£95,971
Emergency Department	£16,318	£11,148	£5,170
Outpatient	£86,431	£58,453	£27,977
Total per year	**£231,888**	**£103,061**	**£129,119**

Table 4: Annualised savings per patient

Service	Per person
Hospital Admissions	£530
Emergency Department	£29
Outpatient	£155
Total per year	**£713**

The annualised reduction in secondary health care use observed by PCPM patients is £129,119

2. Primary care

Primary care usage has been collated for the 140 people who used PCPM for more than 120 days. As with secondary care, their service use for the previous two years is calculated as a per-day rate and then compared to the per-day rate for each patient since using the service. The difference between the two rates is then annualised to show what a full-year saving would be (Tables 5, 6 and 7).

Table 5. Average primary care cost per patient per day

	Rate before / day	Rate after / day	Reduction
Average Primary Care Contacts	£5.25	£5.12	£0.13
Avg referrals	£0.84	£0.67	£0.17
Avg investigations	£0.88	£0.86	£0.02
Avg emergency GP Consultation	£0.10	£0.14	-£0.03
Avg Med3 (sick note)	£0.23	£0.16	£0.07
Total per day	**£7.31**	**£6.94**	**£0.36**

Table 6: Annualised primary care savings for 140 patients

	Cost before	Cost after	Reduction
Average Primary Care Contacts	£268,224	£261,751	£6,473
Avg referrals	£42,853	£34,089	£8,763
Avg investigations	£45,213	£44,007	£1,206
Avg acute emergency GP Consultation	£5,326	£6,917	-£1,591
Avg Med3 (sick note)	£11,756	£8,073	£3,683
Total per day	**£373,372**	**£354,838**	**£18,534**

Table 7: Annualised primary care savings per patient

Service	Per person reduction
Average Primary Care Contacts	£46.24
Avg referrals	£62.60
Avg investigations	£8.61
Avg emergency GP Consultation	-£11.36
Avg Med3 (sick note)	£26.30
Total	**£132**

The annualised saving for the sample of 140 PCPM patients is £18,534

3. Ambulance services

Data on ambulance use was also measured for 140 people and the cost per day for each patient is shown in Table 8. Overall, the annualised reduction in ambulance use is £4,456 per year for the service as a whole.

Table 8: Costs of ambulance services

	Before	After	Reduction per day	Cost saving per year (all patients)
Ambulances	£34	£21	£12	£4,456

The annualised saving for the sample of 140 PCPM patients is £4,456

Composite saving calculation

The annualised reductions observed among the samples of PCPM patients are summarised in Table 9.

The annualised reduction in healthcare use by the patient sample above is £152,109. To put this into context, it is equivalent to 72.4% of the total costs of delivery of PCPM and 111.5% of staff delivery costs – that is, the reduction in service use is greater than the costs of PCPM's staffing.

To achieve this in the maiden phase of working for a new and untested pilot is highly unusual and a significant achievement. It indicates that this model has the potential to positively affect both the health of patients and their costs to the NHS.

It is expected that developmental improvements to outcomes will be observed in subsequent years as the model is refined, tested and adjusted, which would contribute toward an even greater saving/spending ratio.

There are further savings likely to be achieved by the PCPM pilot which are not calculated for this interim report. These include medical costs, such as prescriptions, and wider public service savings including social care support. It is likely that these would contribute to further savings which add to the financial benefit of the programme. These will be considered in our final report for this project, including the three other primary care services we are evaluating.

Table 9: Annualised savings in all services

Area	Annualised saving	
Secondary Care	£129,119	(181 people)
Primary Care	£18,534	(140 people)
Ambulance	£4,456	(140 people)
Total	**£152,109**	

The financial impact after contact with PCPM

This section presents data on health care use for people who have completed treatment with the PCPM pilot, or disengaged after more than three appointments. For this we had a total sample of 64 people.

An aim of this part of the study is to indicate whether the reductions in health care service use are observed after people stop using PCPM, which would suggest that there is a long-term impact on patients. From a financial perspective, this is important because it means that benefits continue to accrue after spending has ceased. This is sometimes referred to as the 'half-life' of a service and measures the success at sustaining change, as measured by health care use.

The tables below summarise the measurement of health care usage, expressed as a per person per month figure. As with the per day figures used earlier, this is to standardise the cost savings for a group of people who have each used the PCPM programme for different amounts of time. Use of inpatient, outpatient and the Emergency Department are considered.

The key cell to note is 'After' for Treatment Complete. These are the people who have completed the PCPM treatment successfully and therefore are the patients who should show the most change to service use. For completeness, we have also shown those who engaged with PCPM for a minimum of three sessions but did not complete, to gauge the impact.

Across all three measures, use of services is reduced for patients who completed treatment.

Table 10: Annualised savings in all services

Inpatient services	Cost / Patient / Month		
Reason for leaving	**Before**	**During**	**After**
Disengaged >= 3	£63.74	£18.45	£12.75
Treatment Complete	£43.18	£17.36	£14.00

Figure 1: Inpatient service contact among people completing PCPM treatment

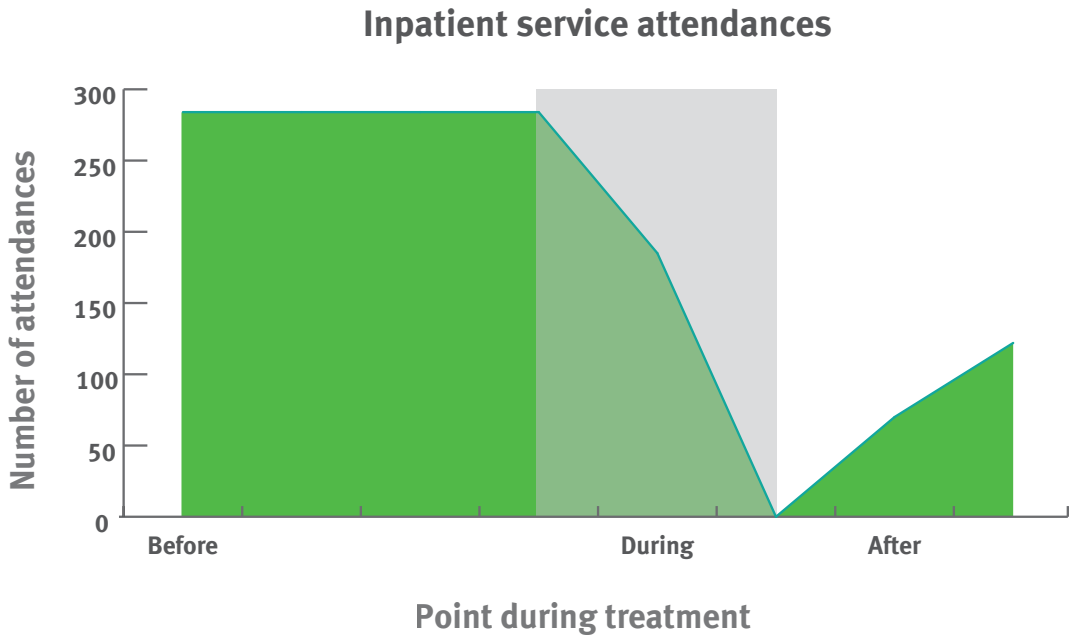


Table 11: Outpatient service cost changes for patients who completed or disengaged from PCPM

Outpatient department	Cost / Patient / Month		
Reason for leaving	**Before**	**During**	**After**
Disengaged >= 3	£27.09	£34.87	£31.05
Treatment Complete	£34.22	£46.43	£22.65

Figure 2: Outpatient department appointments among people completing PCPM treatment

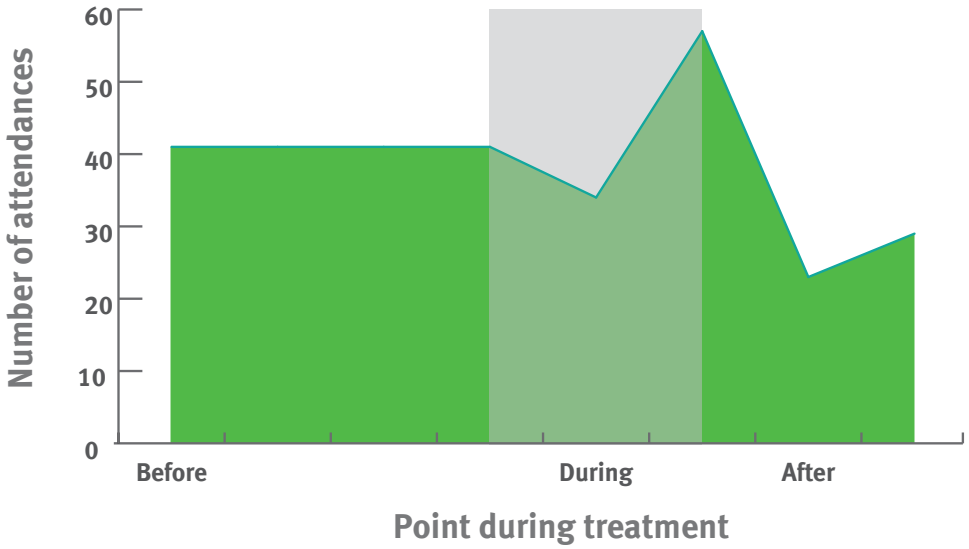
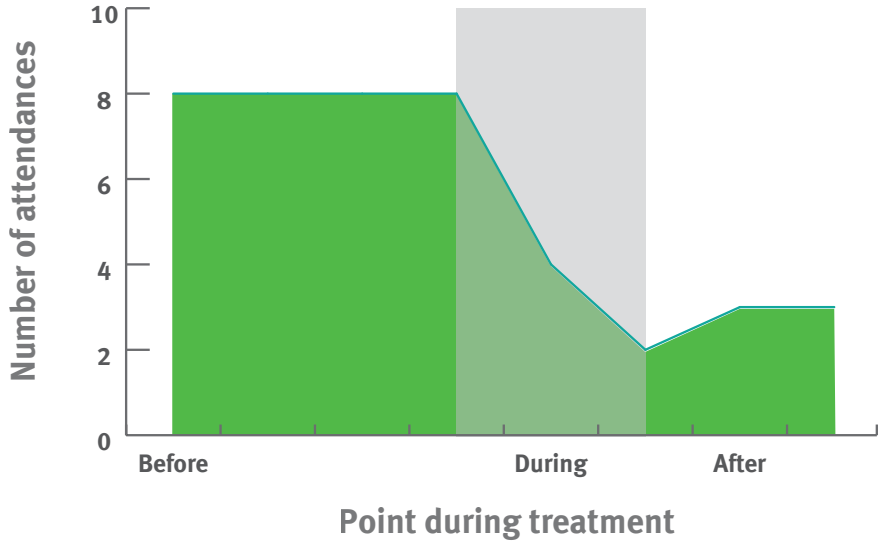


Table 12: Emergency department cost changes for patients who completed or disengaged from PCPM

Emergency department	Cost / Patient / Month		
Reason for leaving	**Before**	**During**	**After**
Disengaged >= 3	£2.54	£3.01	£4.18
Treatment Complete	£4.64	£2.25	£1.75

Figure 3: Emergency Department attendances among people completing PCPM treatment



As the programme is still new, the number of people leaving the PCPM programme is small. Of those 64 patients, half disengaged after three or fewer appointments. Given that this is a limited number of people, that they did not complete the PCPM course and that the savings observed are inconsistent, this report does not draw any financial conclusions from this subsample despite them generating an overall reduction in health care cost.

Similarly, the 32 patients who completed the intervention and were discharged can only offer indicative results at this point. However, their results give tentative findings that across inpatients, outpatients and emergency care, average use consistently falls in the months after the PCPM intervention has ended; on average by £524 per patient, which is approximately 45% of the cost of one PCPM intervention.

Table 13: Cost reductions among patients who completed PCPM treatment

Annual costs per patient				
Treatment completed	**Before**	**During**	**After**	**Difference**
Inpatient	£518	£208	£168	£350
Outpatient	£411	£557	£272	£139
Emergency Dept	£56	£27	£21	£35
Total	**£984**	**£792**	**£461**	**£524**

The average annual saving in health care use for the 32 people who have been discharged from PCPM is £524 per patient

The 'half life' argument is becoming increasingly important in the modelling of health care services. Understanding the long-term impact of support and common patterns in subsequent health is a key component of significant savings that are attributable to programmes such as PCPM.

Two key lines of enquiry for further work will be:

- What happens to this group in years 2 and 3? Are further health care savings recorded?
- Can the results be replicated with the rest of the PCPM cohort? If so, savings would equate to almost half the cost of the service.

Implications for Primary Care Networks

The NHS Long Term Plan requires all general practices in England to come together into clusters covering populations of between 30,000 and 50,000 called Primary Care Networks (PCNs). These networks are beginning to take responsibility for the management of GP services in their local areas and they will be getting additional financial support to develop or expand services for people who need enhanced primary care (for example frail elderly people or those with multiple health conditions). The NHS Long Term Plan Implementation Framework (NHS England, 2019) also asks PCNs to link with local mental health service providers to develop improved primary and community mental health services for their local areas.

Our analysis provides a compelling case for PCNs to review the support they offer to people with complex mental and physical health needs who need more support than existing IAPT services can provide but do not meet current clinical thresholds for secondary mental health services. The PCPM, as with the City and Hackney PCPCS (Parsonage *et al.,* 2014), offers an enhanced service model that improves both physical and mental health. Investing in services like PCPM could help Primary Care Networks to meet the needs of people who have previously not received effective help and form part of a new model for primary and community care.

Conclusion

The Primary Care Psychological Medicine MCP Vanguard Pilot shows early signs of financial success resulting from reductions in use of secondary care among people who have received treatment. The findings are tentative and early because the team is new. However, the figures are an important indication that offering targeted psychological care for patients with complex needs is financially effective. In its inaugural phase, the reduction in health care use equated to 72% of total costs. There is some evidence that the programme has a long-term impact, with a small sample of patients continuing to use fewer services after discharge.

What matters now is whether these results can be repeated or improved in the following two years. Sustaining reductions in health care use – both during and after the PCPM intervention – will determine if it remains a prudent investment decision.

The logic of the model is very clear:

- Identify people who use high levels of health care for symptoms which are unexplained and lack signs of recovery
- Offer them a psychological intervention to see if the cause may be psychological rather than (or as well as) physical
- Measure if improved mental health leads to a reduction in healthcare use.

Thus far, the financial model underpinning the programme is equally encouraging. Time is now the key factor in determining if these successes are sustainable and the national learning that can result from the team's innovative work. This early evaluation indicates that PCPM:

- Saves money within the NHS
- May reduce spending in other public services
- Offers Primary Care Networks a model that they can adapt or replicate in order to meet patient needs in their areas.

References

Joint Commissioning Panel for Mental Health (2017) *Guidance for commissioners of services for people with medically unexplained symptoms* [Online] Available from: https://www.jcpmh.info/good-services/medically-unexplained-symptoms/ [Accessed 18 September 2019]

Parsonage, M., Hard, E. and Rock, B. (2014) *Managing patients with complex needs*. London: Centre for Mental Health [Online] Available from: https://www.centreformentalhealth.org.uk/publications/managing-patients-with-complex-needs [Accessed 18 September 2019]

NHS England (2019) NHS Long Term Plan Implementation Framework [Online] Available from: https://www.longtermplan.nhs.uk/wp-content/uploads/2019/06/long-term-plan-implementation-framework-v1.pdf [Accessed 18 September 2019]

A new approach to complex needs

Published September 2019

Photograph: SDI Productions

Centre for Mental Health is an independent charity and relies on donations to carry out further life-changing research. Support our work here: www.centreformentalhealth.org.uk

© Centre for Mental Health, 2019

Recipients (journals excepted) are free to copy or use the material from this paper, provided that the source is appropriately acknowledged.

Centre for Mental Health

Centre for Mental Health

Office 2D21, South Bank Technopark,

90 London Road, London SE1 6LN

Tel 020 3927 2924

www.centreformentalhealth.org.uk

Charity registration no. 1091156. A company limited by guarantee registered in England and Wales no. 4373019.