



Evaluation of 3 Dimensions for Long-term Conditions (3DLC) – Final Report (July 2019)

Acknowledgements

We would like to thank all the patients and staff who kindly gave up their time to contribute to the evaluation, whether by completing questionnaires or talking part in interviews and group discussions.

Contents

Acknowledgements.....	1
Executive Summary	4
Chapter 1 Introduction.....	6
Chapter 2 Methods	8
2.1 Impact Evaluation	8
2.1.1 Setting.....	8
2.1.2 Target Population.....	8
2.1.3 Selection and Withdrawal of Subjects	8
2.1.4 Data Collection.....	9
2.1.5 Statistics	10
2.2 Process Evaluation	10
2.2.1 Non-participatory Observations.....	11
2.2.2 Interviews with Clinicians, Managers and Commissioners	11
2.2.3 Discussion Groups with HF Nurses and Integrated Respiratory Teams	11
2.2.4 Interviews with 3DLC Service Users	12
2.2.5 Interviews with the 3DLC Team	12
2.2.6 Qualitative Analysis.....	13
Chapter 3 Scaling-up to 3DLC	14
3.1 Visibility, Accessibility and Availability.....	14
3.2 Integration	15
3.3 Scaled-up Processes and Systems	16
3.3.1 Screening Process.....	16
3.3.2 Referral Process	17
3.3.3 Information Systems	19
3.3.4 Administrative Support Systems.....	19
Chapter 4 Impact of 3DLC	21
4.1. Patient characteristics	21
Note: Not all participants provided full information.....	22
4.2. Changes in mental health outcomes over the study period	22
4.3. Changes in physical health outcomes over the study period	24
4.4. Changes in generic quality of life over the study period.....	25
4.5. Use of health service resources over the study period	29
4.6. Cost of the 3DLC intervention	32
Chapter 5 Outcomes for Practitioners	36
5.1 Awareness and Confidence	36
5.2 Developing Knowledge and Skills.....	37

5.3 Better Access to Psychosocial Advice, Support and Services.....	38
5.4 Supporting Staff Morale and Resilience	40
Chapter 6 Outcomes for Patients	42
6.1 Improved Mental Health and Quality of Life	42
6.2 Improved Physical Health and Treatment Adherence	44
6.3 Improved Experience of Healthcare.....	45
Chapter 7 Sustainability	47
Chapter 8 Key Findings.....	49
8.1 Scaling up 3DLC – Key Findings	49
8.2 Impact – Key Findings	49
8.3 Recommendations.....	50
Appendix A 3DLC Logic Model	0
Appendix B Referral Pathway	0

Executive Summary

The 3 Dimensions for Long Term Conditions (3DLC) programme is led by Kings College Hospital (KCH), working in partnership with Guy's and St Thomas's NHS Foundation Trust (GSTT) and South London and Maudsley NHS Foundation Trust (SLAM). The programme aimed to scale-up the model of integrated care that was successfully developed by the 3 Dimensions for Diabetes (3DFD) programme. 3DLC provides integrated medical, psychological and social care for people in Lambeth and Southwark who have either heart failure, COPD or resistant hypertension, and a mental health and/or social problem, and for whom co-morbidity is affecting their ability to self-manage.

The 3DLC service is provided by a psychiatrist, a psychologist and a social support worker, and includes outpatient appointments, home visits, and training, support and advice on psychosocial issues to the Respiratory Medicine, Cardiology and Heart Failure Nursing Teams at KCH and GSTT, and the Consultant for Resistant Hypertension at KCH. As part of the programme, patients attending outpatient clinics are screened for depression and anxiety using the IMPARTS screening tool. A referral pathway was developed by the 3DLC team to guide clinicians in the medical teams, when a patient with depression or anxiety is identified.

A joint team from KCH and the Mental Health and Addiction Research Group (MHARG) at the University of York is evaluating 3DLC. The evaluation has two main objectives: to assess if scaling up a condition specific model to a multi-condition model leads to improvements in health and economic outcomes (impact evaluation led by KCH); and identify the processes effective in delivering the scaled-up intervention (process evaluation led by MHARG).

Methods

The impact evaluation used a quantitative approach to assess the effectiveness of 3DLC in improving health outcome and reducing costs. The following data (together with sociodemographic details) was collected at point of referral and at six-month follow-up:

- Condition specific functional status measures: COPD Assessment Test; Minnesota Living with Heart Failure Questionnaire; and New York Heart Association Functional Classification score
- Psychological Measures: Patient Health Questionnaire (PHQ-9); Generalized Anxiety Disorder 7 (GAD-7); and EQ-5D health status measure
- Health Service Use: Client Service Receipt Inventory (CSRI)

For the statistical analysis, 193 patients completed baseline data, 77 in the '3DLC group' and 116 in the 'non-3DLC group' (i.e. IAPT or usual care from GP/medical teams). Six-month follow-up data was available for 114 patients. Changes in condition specific functional status, psychological measures were examined and cost-effectiveness analysis was used to calculate any cost savings in the short term (at six months).

The process evaluation had five main elements: non-participatory observations of the clinical teams' multi-disciplinary meetings (year 1); interviews with healthcare providers and commissioners (years 1 and 2); interviews with 3DLC service users (years 1 and 2); group discussion/interviews with the 3DLC team (years 1 and 2); and discussion groups with heart failure nurses and the Integrated Respiratory Teams (year 2).

Key Findings and Recommendations

The process evaluation showed that in the early implementation phase, the visibility of the 3DLC team, especially at the clinical teams weekly MDMs, was crucial for building

relationships but over the life of the programme, it was their consistent involvement that made the difference. In working across more than one specialty, what appeared to be important was that each clinical team saw 3DLC as part of their team, regardless of who else they worked with. To work effectively with patients and integrate into the clinical teams, the 3DLC team had to develop their knowledge of the three target conditions. In this regard supporting patients with conditions that have some overlap and/or common symptoms was advantageous.

Working across five teams, three specialities and two Trusts meant that processes for screening, referral and information sharing had to be very clear and perhaps more formalised than might have been the case for 3DFD. Screening was central to systematically identifying patients with depression and anxiety and to raising staff awareness. Problems with the resourcing of this towards the end of the project did negatively affect 3DLC.

Recommendation 1 - KHP should reviews the staff time and IT support needed in the clinics, so that IMPARTS screening can be maintained. The stepped care referral pathway had become well established but staff in the clinical teams still felt it was important to have access to advice about referrals, provided by the 3DLC 'duty clinician' and the IMPARTS team. Referrals to 3DCL were made via an email to a 3DLC team email address. The simplicity of the system was welcomed but with it there was no record on the Electronic Patient Record (EPR), which was a concern. *Recommendation 2 - IT systems should modified so that referrals to 3DLC are generated via the patients notes in the EPR system, and there is a facility for the 3DLC team to upload or add a discharge summary.* Better administrative support for the 3DLC team would have freed-up clinical time and improved communication with patients. *Recommendation 3 - The 3DLC team and provided with some administrative support.*

The impact evaluation found that patients in the 3DLC group showed a statistically significant improvement in depression (PHQ-9) and anxiety (GAD-7) scores. In terms of physical health outcomes, at six months there was a small but statistically significant reduction in mean COPD Assessment Test (CAT) score, as well as in the Minnesota Living with Heart Failure mean score. The 3DLC group showed a very slight increase in overall quality of life (as measured by EQ5D). For the anxiety/depression dimensions, the scores moved from extreme to moderate intensity, which supports the PHQ-9 GAD-7 results.

The key finding in relation to service use was that the length of inpatient hospital stays across all admissions reduced from 3.1 at baseline to 1.4 at follow-up in the 3DLC group and the mean number of A & E visits remained stable. However, for the 3DLC group there was an overall increase in health service resource use cost (of £831) at six-month follow-up compared to baseline. This finding should be interpreted in the light of improvement in depression and anxiety and condition specific physical health, and the positive outcomes for staff (i.e. improved confidence to respond to patient psychological needs, and improved staff morale. *Recommendation 4 - The training and support provided by 3DLC to the clinical teams should be retained as part of 3DLC or any similar service going forward.*

Finally, *Recommendation 5* is that a service providing psychosocial support for patients whose needs fall between IAPT and specialist mental health services should be sustained in some form, and should include access to a psychiatric, psychological and social support and advice.

Chapter 1 Introduction

The 3 Dimensions for Long Term Conditions (3DLC) programme is led by Kings College Hospital (KCH), working in partnership with Guy's and St Thomas's NHS Foundation Trust (GSTT) and South London and Maudsley NHS Foundation Trust (SLAM). Together the three Trusts form the Kings Health Partners Academic Health Science Centre. The programme aimed to scale-up the model of integrated care that was successfully developed by the 3 Dimensions for Diabetes (3DFD) programme. 3DLC provides integrated medical, psychological and social care for people in Lambeth and Southwark who have either heart failure, COPD or resistant hypertension, and a mental health and/or social problem, and for whom co-morbidity is affecting their ability to self-manage.

The 3DLC service is provided by a psychiatrist, a psychologist and a social support worker. The whole programme was supported by a project manager and a research assistant, who were also part of the evaluation team. The 3DLC team works closely with the Respiratory Medicine, and Cardiology and Heart Failure Nursing Teams at KCH and GSTT, and the Consultant for Resistant Hypertension at KCH. They provide psychosocial care to the teams' patients, including hospital out-patient appointments (some of which are co-located with medical clinics), and home visits. They also offer training, support and advice to the teams on psychosocial issues. As part of the programme, patients attending out-patient clinics are screened for depression and anxiety. The screening is part of the Kings Health Partners IMPARTS initiative, which is designed to facilitate the integration of physical and mental health care, by identifying patients with physical conditions who may need help with mental health problems. The IMPARTS screening tool can be completed on paper or on an iPad. A referral pathway (see Appendix B) was developed by the 3DLC team to guide clinicians in the medical teams, when a patient with depression or anxiety is identified. Depending on the patient's scores and importantly, the clinician's judgement, the patients are referred either back to their GP, IAPT or 3DLC. Over the life of the project, and together with the stakeholders, the team has managed to screen 2031 patients for anxiety and depression and has also received 814 referrals.

3DLC has been evaluated by a joint team from KCH and the Mental Health and Addiction Research Group (MHARG) at the University of York. The evaluation had two main objectives:

- To assess if scaling up a condition specific model to a multi-condition model leads to improvements in health and economic outcomes
- Identify the processes effective in delivering the scaled-up intervention

Reflecting these objectives, the evaluation had two 'arms' – an impact evaluation being led by the KCH team with health economics support from MHARG, and a process evaluation being led by MHARG. The 3DLC service was fully operational from January 2017 and the impact evaluation began soon after, in March 2017. The process evaluation commenced in June 2017.

An interim evaluation report was produced in January 2018. This report presented emerging findings from the process evaluation, which were specifically intended to inform the operation of the project in its second phase. It also began to identify outcomes for both patients and staff. This final evaluation report builds on the earlier findings from the process evaluation. Most importantly, it presents the findings from the impact evaluation which were not available at the interim stage.

Before the 3DLC went 'live', the project team and other stakeholders developed a logic model for the project. This is presented in Appendix A. The key outcomes for patients, practitioners and the local healthcare system are shown in Table 1 below.

Table 1.1 Outcomes from the 3DLC Logic Model

Patient Outcomes:	<ul style="list-style-type: none"> • Improved quality of life for patients • Improved mental health of patients: depression, anxiety • Improved treatment adherence for LTCs • Improved unscheduled admissions • Improved physical health through improved LTC management • Improved patient experience of healthcare
Practitioner Outcomes:	<ul style="list-style-type: none"> • Improved ability & confidence to respond to patient psychological needs • Increased staff morale
System Outcomes:	<ul style="list-style-type: none"> • Successful Implementation of 3DLC • Adoption of 3DLC by service providers • Appropriate service utilisation – referrals • Clearly defined referral pathway for escalation - manualised • Appropriate training available to all LTC specialists

Broadly speaking, the report is structured around these sets of outcomes. Chapter 2 briefly describes the methods used in both the impact and process evaluations. Chapter 3 provides an overview of key findings from the implementation i.e. the process of scaling up to 3DLC. Chapter 4 presents the findings from the quantitative elements of the impact evaluation, whilst Chapters 5 and 6 complement these with brief qualitative descriptions of outcomes for practitioners and patients. Chapter 7 highlights key issues in relation to sustainability and finally, Chapter 8 sets out the key findings from the evaluation.

Chapter 2 Methods

The evaluation protocol produced in March 2017, set out the detailed methods for both the impact (quantitative) evaluation and the process (qualitative) evaluation. This chapter provide an overview of both 'arms' of the evaluation and highlights the changes to methods it has been necessary to make, since the protocol was agreed.

2.1 Impact Evaluation

Quantitative methods were used to assess the effectiveness of 3DLC in improving health outcome and cost savings.

2.1.1 Setting

The study was set in secondary and community care across Lambeth and Southwark. The 3DLC service is based within five clinical teams (2 heart failure team, 2 COPD and 1 Hypertension) across King's London Hospital (KCH) and Guy's and St Thomas's Hospital (GSTT). Locations of the five main clinics are outlined below. The IAPT psychological therapies services are based in Lambeth and Southwark within the community. These are services for people with low to moderate intensity psychological needs. The 3DLC team are qualified to provide support to people with low to severe psychological needs and thus can take on more complex cases.

Table 2.1 Locations of the five main clinics covered by 3DLC

Condition	Locations	
Heart Failure	King College Hospital	St Thomas's Hospital
COPD	King College Hospital	St Thomas's Hospital
Hypertension	Hypertension, KCH	

2.1.2 Target Population

The sampling frame was outpatient clinics across the two boroughs. The case definition included patients who screened positive for depression and/or anxiety and had one or more of the three LTCs. Following PHQ9 and GAD7 screening through paper-based or electronic tools i.e. the IMPARTS tool, a member of the clinical team invited those who scored positive on the screening to participate in the study. The patients were asked to provide verbal permission to be contacted for research. A researcher then contacted the patient either via telephone or in the outpatient waiting room. Once consented, the participant underwent further screening to validate their eligibility to participate.

2.1.3 Selection and Withdrawal of Subjects

Inclusion Criteria - patients who have one or more long-term condition (heart failure, COPD or resistance hypertension); have been screened positive for depression or anxiety; live in Lambeth or Southwark; are over the age of 18.

Exclusion Criteria - patients who have Dementia or who have a cognitive impairment; are under an existing community mental health team; alcohol or drug misuse as a primary factor; are under the age of 18; do not live within the Lambeth or Southwark borough.

Selection of participants - All patients who had been identified for referral, both to 3DLC or IAPT, were eligible for the research and were invited to take part in the study. The clinician explained at point of referral *'that because this is a new service we would like to collect data on all patients to monitor the processes and outcomes'*. The clinician then asked the patient if they would be happy to speak to/be contacted by a researcher. At this point the patient was approached by a research assistant in the waiting room or called via telephone and was provided with an information sheet and consent form. Consent was sought for their data to be used to evaluate outcome changes.

2.1.4 Data Collection

The following data was collected at the point of referral and at 6 month follow up. Initially the follow up data collection was at 12 months but due to delays in recruitment the team decided to change this to 6 months. We captured 12 month follow up data where time permitted us. The baseline data was collected up until June 2018 and the six months follow up data collection was completed by January 2019.

The data collection questionnaires that were handed to the patient are already provided by the clinical teams as part of the usual care of the outpatient services. Therefore, measures except for EQ-5D and client service receipt inventory are routinely collected.

Sociodemographic

Data on age, gender, marital status, education, employment status, number of dependents, self-report ethnicity.

Condition specific Functional Status measures

- *The COPD Assessment Test (CAT)*: The CAT tool is a patient-completed instrument that complements existing approaches to assessing COPD. It has been designed to provide a simple and reliable measure of health status in COPD. It assists patients and their physicians in quantifying the impact of COPD on the patient's health.
- *Minnesota Living with Heart Failure Questionnaire*: This tool is a reliable and valid patient-oriented measure comprised of 21 items. It asks questions on physical, emotional and socioeconomic ways health failure can adversely affect a patient's life.
- *The New York Heart Association (NYHA) Functional Classification score*: The NYHA is a four-item tool that classifies the extent of heart failure based on how much they are limited during physical activity, and breathing i.e. experiencing shortness of breath.

Psychological Measures

- *Patient Health Questionnaire (PHQ-9)*: The PHQ-9 is the nine-item depression scale of the Patient Health Questionnaire. It assesses symptoms of depression and functional impairment. It derives a severity score (a score greater than 10 suggests a diagnosis of depression) and has been validated for secondary care.
- *Generalized Anxiety Disorder 7-item (GAD-7) scale*: A validated 7-item self-report questionnaire for screening and measuring the severity of generalized anxiety disorder (GAD).
- *EQ-5D*: is a standardised measure of health status developed by the EuroQol Group in order to provide a simple, generic measure of health for clinical and economic appraisal. This covers areas such as mobility, self-care, usual activities, pain/discomfort and anxiety/depression.
- *The 4-item Morisky Medication Adherence Scale (MMAS-4)* is a self-report medication taking behaviour scale used for the resistant hypertension patients only.

Psychological Outcomes

The psychological outcomes were depression, anxiety and quality of life. These were measured at baseline and 6-month follow-up.

Physical Health Outcomes

The physical health outcome was change in condition specific functional status for heart failure, COPD and resistance hypertension from baseline (time of referral to 3DLC group) to 6-month follow-up. The same methods of assessment as at baseline were used at follow-up.

Health Service Use

Client Service Receipt Inventory (CSRI): is a research questionnaire which collects retrospective information about the participant's use of health and social care services in the preceding 6 months. This was supplemented with data from hospital records.

The economic assessment consisted of calculating the difference between the cost of scheduled and unscheduled care prior to 3DLC, versus during 3DLC plus the cost of the intervention to examine costs and benefits.

2.1.5 Statistics

Sample Size

There were 193 participants who completed baseline data at the point of referral. This included patients who received the 3DLC service (n= 77, 39.9%) i.e. the '3DLC group', and patients who received other interventions including the IAPT service, usual physical care like their GP and condition specific services (n=116, 60.1%) i.e. the 'non-3DLC group'. Six month follow-up data was available for 114 patients.

Statistical Analysis

We used both SPSS and STATA to enter and analyse the data. Change in condition specific functional status, psychological measures, number of episodes of unscheduled and scheduled care and length of inpatient stay were calculated as differences before and after referral to 3DLC or other services. Cost-effectiveness analysis was used to calculate any cost savings in the short term (at six months). Data were entered, missing data checked, baseline variables were summarised and described. Paired t-tests were used to compare pre- and post-outcomes.

2.2 Process Evaluation

The process evaluation was designed to address the second of the two overall evaluation objectives i.e. to identify the processes effective in delivering the scaled up intervention. However, it also gathered material that shed light on the impact of the project, in particular the impact on individual patients and clinicians. The process evaluation had five main elements:

- Non-participatory observations of the clinical teams' multi-disciplinary meetings
- Interviews with healthcare providers and commissioners
- Discussion groups with heart failure nurses and the Integrated Respiratory Teams
- Interviews with 3DLC service users
- Group discussion/interviews with the 3DLC team

Each of these elements is described below. Where there have been changes to the original protocol, these are noted.

2.2.1 Non-participatory Observations

The non-participatory observations of the multi-disciplinary team (MDT) meetings, held weekly by the Heart Failure and COPD teams at KCH and GSTT, were primarily used early in the evaluation to understand how healthcare professionals in the teams talked about patients' psychological and social issues, and to gain a sense of the developing relationship with 3DLC. However, they also provide a valuable opportunity to see how new procedures and systems were introduced and embedded.

The observations took place in August/September 2017. Two researchers were involved in the first observation, so that the structure and approach developed for data collection in the meetings can be tested and refined before further observations take place. Notes from the observations were written up by the researchers who conducted them, and these were used to shape the topic guide for the first round of clinician interviews, and to inform the Interim Evaluation Report.

2.2.2 Interviews with Clinicians, Managers and Commissioners

In total 21 interviews were conducted with managers, commissioners, and senior clinicians from the from the respiratory and heart failure clinical teams. They took place at two time points. Nine interviews (one face-to-face and eight by telephone) were conducted with key clinicians early in the life of the project, in autumn 2017. The second round of 12 interviews (all by telephone) took place in late summer/early autumn 2018. Table 2.2 below provides a breakdown of the professional background/role of the interviewees.

Table 2.2 Professional background/role of the interviewees

Profession/Role	Round 1	Round 2
Consultant	5	5
Senior Nurse	2	2
Senior Physiotherapist	2	2
Manager/Commissioner	0	3

The topic guide for the interviews focused on:

- Barriers and/or facilitators to implementing and delivering the 3DLC service
- Team/individual awareness of psychosocial issues
- Scope for supporting patients with psychosocial issues/service change
- Working with the 3DLC Team
- Benefits of the 3DLC service for patients and staff
- Sustainability

The interviews lasted between 20 and 60 minutes, and they were all digitally recorded and transcribed in full.

2.2.3 Discussion Groups with HF Nurses and Integrated Respiratory Teams

Whilst the interviews with senior clinicians and managers were valuable, the evaluation team felt that to understand more fully how staff worked with the 3DLC team, and capture any benefits/outcomes for staff, we needed to talk to the heart failure nurses and staff in the

Integrated Respiratory Teams. In September 2018 three discussion groups were held with the Community Heart Failure Nurses (who work across both boroughs/hospitals) and the KCH and GSTT Integrated Respiratory Teams. In total 16 staff took part in the discussions including nurses, physiotherapists and a Tobacco Liaison Specialist.

The topic guide for the discussions had 10 main questions grouped under five topic headings:

- Awareness of psychosocial issues
- Working with the 3DLC Team
- Supporting patients with psychosocial issues
- Impact/outcomes for patients and clinical teams
- Sustainability and the future

Each group lasted approximately an hour. They were all digitally recorded and transcribed in full.

2.2.4 Interviews with 3DLC Service Users

As patients came into the 3DLC service they were asked for their consent to take part in both the quantitative and qualitative parts of the evaluation. The patients who consented to be involved formed the pool from which the patients for interview were drawn. The original intention was to purposively sample, taking into account the characteristics indicated in the protocol including: condition; gender; ethnicity; borough of residence; and socioeconomic status. The recruitment challenges faced by the project team meant that the pool of patients for interview was relatively small but the sample did largely reflect the characteristics set out in the protocol. Eighteen patients were eventually interviewed by telephone – six in autumn 2017 and twelve in late spring/summer 2018. In terms of condition, the group was equally split between COPD and heart failure. Ten patients were from KCH and eight were from GSTT. Twelve patients were from Lambeth and Southwark (six from each) with the remaining six from other areas. Eleven interviewees were women.

Service users were typically in contact with the 3DLC service for around 12 weeks, although this did vary with patient need and could be extended to take account of other events/interruptions (e.g. hospital admissions). As far as possible patients were interviewed soon after they complete their involvement with 3DLC. The topic guide for the interviews focused in six main areas:

- Experiences of previous services and their prior expectations of 3DLC
- Perceptions of the treatment received
- What worked well about the service and why
- What worked less well about the service and/or what would they change
- Any factors that stopped or made it difficult for patients to receive care or make the most of the care provided
- If/how services and professionals worked together and with the patient to meet their needs

The interviews lasted between from 20 to 50 minutes. They were digitally recorded and transcribed in full.

2.2.5 Interviews with the 3DLC Team

The original protocol for the evaluation did not include any data collection with the Psychiatrist, Clinical Psychologist and Social Support Worker providing the 3DLC service, but the evaluation team felt that they were likely to have important perspectives on the

implementation and delivery of the 3DLC service. So, a group discussion, which focused particularly on implementation, was held with them in November 2017. The following year it was not possible to bring the team together for a discussion group and so individual telephone interviews were used to gather the views of the Psychiatrist and the Social Support Worker. The discussion and interviews were recorded and transcribed in full.

2.2.6 Qualitative Analysis

All the transcripts from the interviews and discussion groups were up-loaded into NVivo. They were then analysed thematically, with the clinician interviews, staff discussion groups and patient interviews initially being analysed separately and then brought together at the writing-up stage. The topic guides provided an initial framework from the analysis but within this the data was then analysed inductively. Throughout the report staff names have been replaced with codes and patients' names have been replaced with pseudonyms.

Chapter 3 Scaling-up to 3DLC

Summary

- The consistent and visible involvement of the 3DLC team, especially at the clinical teams weekly MDMs, was crucial for building relationships
- Working across specialties or conditions that have some overlap and/or common symptoms was advantageous.
- Joint working, in the form of joint visits and joint appointments or even co-located clinics was important in creating a sense of integration
- Working with several teams and specialities meant that processes for screening, referral and information sharing had to be very clear and formalised
- Screening was central to systematically identifying patients with depression and anxiety and to raising staff awareness
- The stepped care referral pathway had become well established but staff in the clinical teams still felt it was important to have access to advice about referrals
- The simplicity of the email referral system was welcomed but with it there was no record on the Electronic Patient Record (EPR) which was a concern

In thinking about the processes that have been effective in delivering 3DLC, it is helpful to begin by setting out what 'scaling-up' meant in the context of this project. The 3DFD model of integrated physical, psychological and social support was shown to be successful in one specialty (diabetes) in one Trust. The 3DLC project took this model and implemented it across three (new) long-term conditions, in three specialties and two Trusts. The project certainly benefited from the knowledge and experience of those involved in 3DFD but in effect, 3DLC was a completely new and separate project. As such, many of the processes involved in successfully delivering 3DLC are common to any new improvement project. However, there is much to learn from the 3DLC experience about providing an integrated service to patients with different long-term conditions and across specialties.

3.1 Visibility, Accessibility and Availability

Unlike 3DFD, which worked with one team, 3DLC had to establish working relationships with the four teams in Respiratory Medicine and Cardiology (heart failure), and with the Consultant leading the resistant hypertension service. In the early stages of the project, they placed a priority on this, trying to be visible and accessible. One important way they achieved this was to have a regular presence at the teams' weekly multi-disciplinary meetings (MDM), with either the psychiatrist or psychologist attending every week and the Social Support Worker attending most meetings approximately once a month. This was challenging because the clinical teams meet in four different locations but 3DLC maintained its presence at the MDMs over the whole life of the project.

Attending the MDMs made the 3DLC clinicians more visible but it was their *consistent* involvement that made the difference. Increasingly, they were simply seen as part of the team (rather than a separate service):

"I also just think the longer something is there and the less quickly it goes away probably the more sustained things will be. If things have staying power and continue to be part of the team and/or be available and visible...even if you were sceptical, you begin to accept that this is just part of what work is. It's about working with

psychologists and psychiatrists and making sure we have a more holistic view on things". (Doctor 2)

"Definitely they feel part of our team, they don't feel external in any way...we all know who they are, how they work, what they can offer, how to contact them, where to find the outcome of their assessments, etc. so it feels completely integrated". (Doctor 4)

However, there were differences between the specialties. 3DLC appeared to be well integrated into the Respiratory Medicine teams, with one team even changing the format of its monthly psychosocial MDM to make the most of 3DLC's involvement. In Cardiology there was a sense that 3DLC was still seen as somewhat separate. One interviewee felt that this was because the Cardiology MDMs were very medically driven and so it was sometimes hard for both 3DLC and the Heart Failure Nurses to get their voices heard. Nevertheless, across both specialties, clinicians really valued being able to discuss patients face to face, especially patients with more complex needs: *"I think the MDM presence does work well, particularly for the complex patients, and I think that's definitely missed when we don't have someone there representing 3DLC"* (Doctor 3). The MDMs also provided a place where clinicians could seek advice and information about patients from 3DLC more informally, without the patient being referred to them.

More generally, because the 3DLC team was not based with any of the clinical teams, ensuring accessibility and availability was important in establishing the scaled-up service. Whilst there were a few concerns about getting hold of the team by phone, especially when they were busy, most contributors felt that communications had been good. In particular, they appreciated the prompt response to phone calls and emails, and one contributor provided an example of this:

"I can think of one of the patients we had, typically on a Friday evening home visit. One of my team saw them and they were quite suicidal - spoke to Abby on the phone and got really good advice of 'this is what you need to do'. So almost like instantaneous support, because you're thinking 'well, you are part of the team so I can ring you and, you know, it's a working week and we've got your numbers...If we didn't have them, that would never have happened, that would have been a whole A&E duty". (Therapist 2)

What appeared to be important was ensuring that each clinical team saw 3DLC as part of *their* team, regardless of who else they worked with.

3.2 Integration

Joint working, in the form of joint visits and joint appointments or even co-located clinics (i.e. 3DLC clinicians seeing patients in the Respiratory Medicine or Cardiology out patients clinics) was important in creating a sense of integration. The Community Heart Failure nurses and Integrated Respiratory Team staff who work in the community, particularly valued being able to do joint home visits. They felt they enabled them to provide better patient care but they also created opportunities for shared learning.

"They have done some joint visits with [name], who does our IRT community visits and she has found that very helpful. We don't see patients jointly with them in any other settings so it's been interesting for her to see how Abi in particular manages the patient and directs her questioning and things". (Therapist 1)

Whilst some joint appointments had taken place, one interviewee explained that they were not as helpful as might be imagined, because of the very different nature of mental health

and medical consultations. However, what they did find helpful was having the 3DLC clinicians seeing patients in the same clinic. It benefitted both doctors and patients and made the service feel much more integrated:

“The positives are that it means something to the patients that they can see a psychiatrist or a psychologist who effectively works as part of the team. I think that says something important to the patients [and] it does mean that if there is a problem we can resolve it”. (Doctor 3)

However, the lack of clinic space at Kings College Hospital in particular, meant it was often difficult to co-locate clinics.

To work effectively with patients and integrate into the clinical teams, the 3DLC team had to develop their knowledge of the three target conditions. Many contributors felt that their involvement in the MDMs played an important part in this: *“I think by them coming to our MDTs and listening to patient cases, and having a realisation of what the trajectory is of heart failure, I think that’s massive, just in itself” (HF Nurse)*. Conversely, the psychosocial knowledge that the 3DLC team brought helped to strengthen working relationships because it influenced decisions about the physical care of patients:

“The benefits in terms of interactions - well I think having a psychiatrist or a psychologist in your MDT can raise issues or give perspectives about patients’ care that are really impactful on the decisions you make about their physical care”.
(Senior Nurse 1)

The fact that 3DLC was working with patients with three long-term conditions, was in fact seen as a benefit rather than a problem. More specifically, focusing on patients with COPD and heart failure appeared to have made the process of scaling-up to work across conditions easier. Breathlessness was a unifying symptom and tobacco dependence was a common issue but also a high proportion of patients known to the teams have both COPD and heart failure.

3.3 Scaled-up Processes and Systems

Working across three specialities and two Trusts meant that processes for screening, referral and information sharing had to be very clear and perhaps more formalised. Administrative support for the 3DLC team was also an issue.

3.3.1 Screening Process

As part of the 3DLC programme, COPD, heart failure and hypertension patients attending out-patients clinics were screened for depression and anxiety. The screening system was part of IMPARTS, a wider Kings Health Partners initiative designed to facilitate the integration of physical and mental health care by identifying patients with physical conditions who may need help with mental health problems. There were clearly advantages to being part of this bigger initiative. On a practical level it meant that existing tools and process could be adapted and implemented relatively quickly, and IMPARTS staff could support the rollout to the specialties working with 3DLC. Furthermore, the screening process itself helped to increase clinicians’ awareness of psychosocial issues and so make them more receptive to 3DLC. This is discussed further in Chapter 4.

However, as was noted in the Interim Evaluation Report, there were some difficulties with the screening system. There were concerns about the additional time required before or during clinics to introduce and complete the screening questionnaires, and act on the findings. There were also issues about the availability of i-Pads for electronic collection of

screening data, and the impact on clinic staff who often had to help patients complete the screening tools. Initially the Research Assistants in the 3DLC project team assisted with data collection in the clinics but this was not sustainable long term, and at times in certain clinics, the number of patients screened and referred declined:

“The research assistant identified those that tallied up a sufficient number of points to warrant a referral, so then, yeah, I was then making the referrals...So since there’s no live screening going on because there’s no-one to conduct it...in the waiting area environment. Then obviously there’s no referrals being made because the patients aren’t being picked up”. (Doctor 5)

It was clear from the second round of clinician interviews that resentment about the practical problems with the IMPARTS system was beginning to have a negative impact on 3DLC (e.g. a fall in the number of patient being screened in clinics and so a decline in referrals to 3DLC). The evaluation suggests that if the process of scaling up a project is partially dependent on another wider system, any problems with that system need to be addressed. Otherwise, the scaling up process may be compromised, as happened towards the end of 3DLC.

3.3.2 Referral Process

The interim findings from the process evaluation suggested that a year into the project, the stepped care referral pathway was gradually becoming established. Working across four teams together with the interface with IAPT meant that the referral pathway needed to be very clear, and overall contributors felt this was the case. In the out patients clinics staff had access to decision support through the IMPARTS system and they found this helpful. Staff working in the community did not have access to IMPARTS and it took longer for them to feel confident about the type of patients and the type of issues they should refer to 3DLC. 3DLC did take a flexible approach to referrals, recognising the interaction of the patients physical, psychological and social needs, not just their screening scores. In addition, the introduction of a 3DLC ‘duty clinician’ and 3DLC involvement in the MDMs gave staff ways to seek advice prior to making a referral. Nevertheless, some still felt unsure about the crossover with IAPT.

“I think most times it’s OK. Sometimes it feels a bit confusing so like if we’d referred to 3DLC we might get an email back saying, ‘actually we don’t think that this person’s anxiety or depression or mental health is impacting on their respiratory disease so therefore we wouldn’t accept them’. But then someone that doesn’t come from a psychological background it’s kind of hard to understand how they cannot kind of play into each other. So it’s sort of sometimes difficult to understand why referrals are being rejected”. (IRT member)

More generally, a few contributors had doubts about the suitability of IAPT for their patients and/or were unhappy if a patient they referred to 3DLC was subsequently advised to contact IAPT.

“IAPT functions in a completely different way and it’s quite hard to get patients to engage with IAPT actually...and a lot of its telephone, which is not necessarily what our patients want and so I think that’s difficult - the two services function separately at the moment. I think there does need to be a little bit of to and fro about the fact that some people aren’t able to engage with IAPT and that then means that they need to be picked up” [by 3DLC]. (Doctor 3)

Again, this highlights the challenge of interfacing with other services over which the scaled up project has little or no influence.

The actual process of referring to 3DLC was very straightforward - just an email to a team email address. Some contributors liked the simplicity and direct nature of this system i.e. no electronic forms to fill in, a sense that the referral was going to known individuals etc. However, many were concerned that email referrals did not show up on the Electronic Patient Record (EPR) so there was no automatic record of when and who had made the referral (other than in individual email accounts). This made it difficult to check whether another member of the team had already referred a patient. In addition, sometimes secretarial staff emailed referrals on the clinicians' behalf, and with no record on the EPR it was hard for them to check that the referral had been sent. One contributor felt very strongly that there should be *"a traceable way to see that this referral was made"*. She explained:

"The doctor...may ping an email to 3DLC team to say, 'I've seen this patient today and I was worried about this, this and this' or 'I discussed this and this and the patient has these concerns'. Now that is not at any place in the patients records, it's on an email, so that's wrong and that needs to stop...If that doctor doesn't turn up to work next week or he's a locum then nobody else sees that communication, and if the patient doesn't pick up on 3DLC or doesn't answer the phone, then nobody knows that that discussion has been had or that referral has been made". (Senior Nurse 2)

A few contributors suggested that given these concerns (and need for consistency across teams) it would be better if referrals were generated by the patient's clinical notes in the EPR system.

The other important learning point to emerge in relation to referrals was the need for formal feedback about progress or the outcome of a referral. Working within one team, it is relatively easy to provide feedback about the outcome of referrals (e.g. through team meetings, shared office space etc.) but this is much harder when working across several teams. A number of contributors highlighted this issue

"I find that I'd quite like to sometimes know what's happened afterwards...I don't know how soon they get in contact with the patient or whether they have done, cos sometimes when you then see the patient you're a bit like, 'well have they contacted you or not, or have you seen them or what's the plan'. I know it's difficult because we have all these different systems and they sometimes document in different places that we don't have access to. But that's what I find. Sometimes I'd like to know what's happened in their process and sometimes they have emailed me to let me know but that hasn't always been the case". (HF Nurse)

They wanted to know that 3DLC had received the referral and whether they had seen the patient, or referred them on to IAPT or another service. In particular, they felt it was important that when they saw a patient subsequently they were aware of the support (if any) they were receiving from 3DLC and/or how they were progressing. Others emphasised that they wanted to be involved in looking after their patients' physical and mental health: *"So it could seem as if we've referred to them, like that's my bit done. They're gonna look after their sort of mental health...[But] I still want to be involved in kind of supporting them"* (HF Nurse).

A few contributors observed that because 3DLC was working across several teams, they found it hard to know how much capacity they had to take on new referrals:

“I don’t really know what their caseload is like and how many patients they’re seeing at the moment. So if I was to refer a patient, I’ve actually got no idea when to tell them to expect to hear from them, whether it’s going to be within the next week or the next three weeks. So I guess to be able to have a bit more of their capacity and when they’ll be able to pick up patients and see them, just so I can reassure patients my end”. (IRT member)

Establishing a way to inform teams on a regular basis about capacity and likely response time would have been helpful.

3.3.3 Information Systems

3DLC’s situation was perhaps unusual in relation to information systems, in that the Cardiology and Respiratory Medicine teams and 3DLC all have access to the Local Care Record. This enables clinicians working in any of the Kings Health Partners Trusts to see the records from a partner Trust and from primary care in Lambeth and Southwark. This certainly facilitated the scaling-up process, as it enabled the teams to share information more easily. However, some issues about recording information still arose. For example, the 3DLC Psychiatrist and Psychologist documented their activity with patients in the referring acute hospital’s notes, whilst the Social Support Worker uses the Thames Reach information system. The community heart failure nurses used a different system, which the 3DLC team could not directly add to but the nurses can access the acute hospital’s notes. The difficulties were not major but just made sharing information a little more complicated. One clinician described this: *“I know that it’ll be in EPR or it’ll be on the SLaM record, but it’s not always there in real time...I sometimes struggle to find out exactly where they are with the person and just have to ask in the MDM”* (Doctor 4). She went on to suggest that at the end of 3DLC’s involvement with a patient it would be helpful to have a kind of ‘discharge summary’ available in the EPR. This serves to highlight the complexity of information sharing and information systems when the scaled-up service span Trusts, and hospital and community services.

3.3.4 Administrative Support Systems

Although 3DLC were working closely with the clinical teams, there was no facility for them to draw on the teams’ administrative support and they had very little dedicated administrative support of their own. Several contributors observed that this lack of administrative support sometimes created difficulties for the 3DLC team and the clinical teams they worked with. In particular, there was a sense that better administrative support would have given the 3DLC psychiatrist and psychologist more time to work with the clinical teams.

“My sense is that they could have been better supported by some instructions actually cos I think they’ve got an awful lot of administrative work to do which is perhaps taking their time away from doing the feedback and that sort of thing”. (IRT member)

Contributors also suggested that there were other ways in which administrative support would have helped e.g. around confirming or reminding patients about appointments or changing appointment dates.

“I have to say 3DLC weren’t really aware that if you give patients a date and a time on the phone that they’re not going to remember it, that they actually need a real letter and they need a reminder...people have now become dependent on this text messaging or reminder letters”. (Senior Nurse 2)

Without a central 3DLC number to ring, patients who wanted to change their appointment sometimes rang their Cardiology or Respiratory Medicine team but they did not have access to the 3DLC team's diaries. One contributor felt that in some ways this was good thing because the patients clearly saw the services as integrated but that it was also a "*front door*" issue that needed addressing.

Finally, it is important to note that during the time 3DLC was being implemented the NHS organisations involved and their partner local authorities were experiencing severe financial pressures. This, coupled with high level of unmet social need in the communities the clinical teams serve, made the context for the project more challenging. However, it also meant that the clinical teams especially welcomed the additional support for both patients and staff, which the 3DLC team provided.

Chapter 4 Impact of 3DLC

Summary

- Patients in the 3DLC group showed a statistically significant improvement in depression (PHQ-9) and anxiety (GAD-7) scores.
- For physical health outcomes, at six months there was a small but statistically significant reduction in mean COPD Assessment Test (CAT) score, as well as in the Minnesota Living with Heart Failure mean score
- The 3DLC group showed a very slight increase in overall quality of life (as measured by EQ5D)
- In the 3DLC group the length of inpatient hospital stays across all admissions reduced from 3.1 at baseline to 1.4 at follow-up in the and the mean number of A & E visits remained stable
- There was an overall increase in health service resource use cost (of £831) at six-month follow-up compared to baseline for the 3DLC group

The objective of the impact analysis was to evaluate within-group changes in mental and physical health outcomes before and after being allocated to one of the two study groups, i.e. 3DLC or the non-3DLC group. It should be noted that assignment of patients was not random but was rather based on severity of mental health condition at baseline (as discussed in Chapter 2). As a result, the 3DLC and non-3DLC groups cannot be directly compared with each other; instead, within-group change is evaluated separately for each group. This chapter presents descriptive statistics of the study sample and changes in health outcomes over the study period.

4.1. Patient characteristics

In total 193 participants were enrolled in the study. Seventy seven (39.9%) received 3DLC service while 116 (60.1%) received other interventions which includes the IAPT service, usual physical care like their GP and condition specific services etc. For the purpose of the study, this group of patients are referred to as 'non-3DLC'. At the point of referral, 193 participants completed baseline data and then 114 at the 6-month follow-up point. It should be noted that response rate varied between questionnaires and the sample sizes used for each analysis are given in the tables or text as appropriate.

Table 1 presents baseline characteristics. For most characteristics the 3DLC and non-3DLC groups were broadly similar. However, balance between male and female patients was markedly different, with 3DCL seeing proportionately more women. There was also a difference in primary condition, with 3DLC seeing proportionately more patients with Heart Failure.

Table 4.1: Baseline characteristics of 3DLC and non-3DLC participants

	3DLC (n=77)	Non-3DLC (n=116)	Total (n=193)
Sex (%)			
Male	27(35.1)	66(56.9)	93(48.2)
Female	47(61.0)	45(38.8)	92(47.7)
Primary Condition (%)			
COPD	39(50.6)	79(68.1)	118(61.1)
Heart Failure	34(44.2)	34(29.3)	68(35.2)

Treatment resistant hypertension	4(5.2)	3(2.6)	7(3.6)
Ethnic group (%)			
British	37(48.1)	71(64)	108(56.0)
Irish	5(6.5)	11(9.9)	16(8.3)
White Other	7(9.1)	13(11.7)	20 (10.4)
White and Black Caribbean	1(1.3)	1(0.9)	2(1.0)
Indian	1(1.3)	0	1(0.5)
Pakistani	2(2.6)	0	2(1.1)
Any other Asian background	1(1.3)	2(1.8)	3(1.6)
Caribbean	6(7.8)	7(6.3)	13(6.7)
African	6(7.8)	2(1.8)	8(4.1)
Any other Black background	3(3.9)	0	3(1.6)
Other	1(1.3)	1(0.9)	2(1.0)
Education (%)			
No Qualifications	32(41.5)	50(43.1)	82(42.5)
GCSE/O Level or equivalent	19(24.7)	26(22.4)	45(23.3)
A Levels or equivalent	10(13.0)	9(7.8)	19(9.8)
University Degree	4(5.2)	16(13.8)	20(10.4)
Masters	2(2.6)	2(1.7)	4(2.1)
Doctorate	1(1.3)	1(0.9)	2(1.0)
Employment status (%)			
Full time	4(5.2)	7(6)	11(5.7)
Part time	4(5.2)	5(4.3)	9(4.7)
On sick leave	3(3.9)	4(3.4)	7(3.6)
Unemployed	17(22.1)	13(11.2)	30(15.5)
Medically retired	22(28.6)	27(23.3)	49(25.4)
Housewife/Househusband	0	2(1.7)	2(1.0)
Retired	21(27.3)	52(44.8)	73(37.8)
Student	1(1.3)	0	1(0.5)
Living arrangements (%)			
Family unit	39(50.6)	62(53.4)	101(52.3)
Parents	0	1(0.9)	1(0.5)
Flat shares/residential home	5(6.5)	2(1.7)	7(3.6)
Alone	24(31.2)	42(36.2)	66(34.2)
Other	3(3.9)	2(1.7)	5(2.6)
Smoking status (%)			
Yes, regular basis	24(31.2)	27(23.3)	51(26.4)
Yes, once in a while	2(2.6)	5(4.3)	7(3.6)
Not anymore, I quit	29(37.7)	63(54.3)	92(47.7)
No never	17(22.1)	15(12.9)	32(16.6)
Use of alcohol (%)			
Never	33(42.9)	40(34.5)	73(37.8)
Monthly or less	19(24.7)	32(27.6)	51(26.4)
2-3 times per week	7(9.1)	13(11.2)	20(10.4)
2-4 times per week	6(7.8)	14(12.1)	20(10.4)
4+ times per week	5(6.5)	7(6)	12(6.2)

Note: Not all participants provided full information.

4.2. Changes in mental health outcomes over the study period

Table 4.2 presents mean PHQ-9 and GAD-7 scores for the 3DLC group at baseline and 6 months and the within-group change in these scores during the follow-up. Sixty one patients had PHQ-9 and GAD-7 data available at baseline and 48 of them had follow-up data available at 6-months. Table 4.3 presents PHQ-9 and GAD-7 scores for the non-3DLC

group. Eighty five patients in the non-3DLC group had data available at baseline and 65 patients had follow-up data available at 6-months for both measures.

At baseline, the mean PHQ-9 score in the 3DLC group was 16.9 compared to 14.3 in the non-3DLC group. This is in line with how patients were allocated to the two groups, i.e. patients with mild-moderate depression were allocated to non-3DLC group while those with moderate to severe depression were allocated to the 3DLC intervention. At 6-month, the mean PHQ-9 score in the 3DLC group was 13.2, i.e. a reduction of 3.7 points (SE = 1.1) over the follow-up period – this was statistically significant at 5% level (p-value = 0.004; based on within-group t-test).

For GAD-7 (anxiety measure), the mean score at baseline in the 3DLC group was 12.3 (SE = 1.0) which reduced to 9.3 at 6-month follow-up, i.e. a reduction of 3.0 points. This was also statistically significant at 5% level (p-value = 0.001; based on within-group t-test).

In summary, when comparing pre- and post-intervention scores in the 3DLC group, both psychological measures used in this study showed statistically significant improvement in depression and anxiety-related scores. However, it can be noted that the average PHQ-9 and GAD-7 scores at follow-up remained above the threshold score for depression (PHQ-9 \geq 10) and anxiety (GAD-7 \geq 8).

Table 4.2: Within-group change in PHQ-9 and GAD-7 scores from baseline to follow-up (at 6 months) in the 3DLC intervention group

PHQ-9 (depression)

Time point	Mean	SE	95% CI		p-value
Baseline	16.9	1.1	14.6	19.2	-
Follow-up	13.2	1.1	10.9	15.5	-
Difference	3.7	1.2	1.3	6.0	0.004

GAD-7 (anxiety)

Time point	Mean	SE	95% CI		p-value
Baseline	12.3	1.0	10.3	14.3	-
Follow-up	9.3	1.0	7.4	11.3	-
Difference	3.0	0.8	1.4	4.6	0.001

* 61 patients had baseline data and 48 had follow-up data; within-group t-test was conducted using patients with available at both time points

In the non-3DLC group (see Table 4.3), the mean PHQ-9 score at 6-month was 12.2, i.e. a relatively smaller change of 2.1 points over the follow-up period – this was statistically significant at 5% level (based on within-group t-test). It should be noted that PHQ-9 changes in the two groups cannot be directly compared because of non-random assignment of patients to 3DLC and non-3DLC groups. Moreover, the larger reduction in PHQ-9 score in the 3DLC group maybe due to higher baseline score in the 3DLC group.

For GAD-7, the mean score at baseline in the non-3DLC group was 9.5 (SE = 1.0) which reduced only slightly to 8.9 at 6-month follow-up, i.e. a reduction of 0.6 points. This was not statistically significant at 5% level (p-value = 0.561; based on the within-group t-test).

Table 4.3: Within-group change in PHQ-9 and GAD-7 scores from baseline to follow-up (at 6 months) in the non-3DLC group*

PHQ-9 (depression)

Time point	Mean	SE	95% CI		p-value
Baseline	14.3	0.9	12.6	16.0	-
Follow-up	12.2	0.8	10.5	13.9	-
Difference	2.1	0.9	0.3	3.9	0.026

GAD-7 (anxiety)

Time point	Mean	SE	95% CI		p-value
Baseline	9.5	0.9	7.7	11.3	-
Follow-up	8.9	0.8	7.4	10.5	-
Difference	0.6	1.0	-1.4	2.5	0.561

* 85 patients had baseline data and 65 had follow-up data; within-group t-test was conducted using patients with available at both time points

4.3. Changes in physical health outcomes over the study period

Patients completed the following physical condition-specific questionnaires: i.e. COPD Assessment Test (CAT); Minnesota Living with Heart Failure (HF) Questionnaire; New York Heart Association (NYHA) Functional Classification score; and Blood pressure for Resistant Hypertension (HPN). The CAT questionnaire was primarily completed by COPD patients (i.e. out of 96 patients who completed baseline CAT, 92 had COPD while 4 had heart failure). Similarly, out of 63 patients who completed HF questionnaire, 58 had heart failure and 5 had COPD. NYHA questionnaire was only completed by 7 patients at baseline (6 with heart failure and one with COPD). Finally, HPN questionnaire was only completed by 7 respondents at baseline (6 with hypertension and 1 with COPD). Here the results will focus on the CAT and HF questionnaires because the sample size for NYHA and HPN responses are too small to draw any conclusions.

Table 4.4: Within-group change in CAT and HF questionnaires from baseline to follow-up (at 6 months) in the 3DLC intervention group

CAT score (COPD)

Time point	Mean	SE	95% CI		p-value
Baseline	29.9	1.4	26.9	32.9	-
Follow-up	27.4	1.7	23.9	30.9	-
Difference	2.5	1.1	0.3	4.7	0.030

Heart failure (Minnesota)

Time point	Mean	SE	95% CI		p-value
Baseline	72.7	3.3	65.7	79.8	-
Follow-up	62.6	3.1	56.0	69.2	-
Difference	10.1	3.8	2.0	18.2	0.017

Table 4.4 presents mean CAT and Minnesota scores at baseline and 6 months and the within-group changes in these questionnaires during the follow-up in the 3DLC group. At baseline, the mean CAT score in the 3DLC group was 29.9. At 6-month, this score reduced by 2.5 points, i.e. a small reduction which was statistically significant at 5% level (based on the within-group t-test). Similarly, the Minnesota score reduced by 10.1 points in the 3DLC

group over the follow-up period – this was also statistically significant at 5% level ($p = 0.017$).

Table 4.5 presents mean CAT and Minnesota scores at baseline and 6 months in the non-3DLC group. At baseline, the mean CAT score in the non-3DLC group was 28.9. At 6-month, this score reduced by only 0.6 points, i.e. a small reduction which was not statistically significant ($p = 0.601$). The Minnesota score increased slightly by 0.9 points in the non-3DLC group over the follow-up period – this was also not statistically significant at 5% level ($p = 0.862$).

Table 4.5: Within-group change in CAT and HF questionnaires from baseline to follow-up (at 6- months) in the non-3DLC intervention group

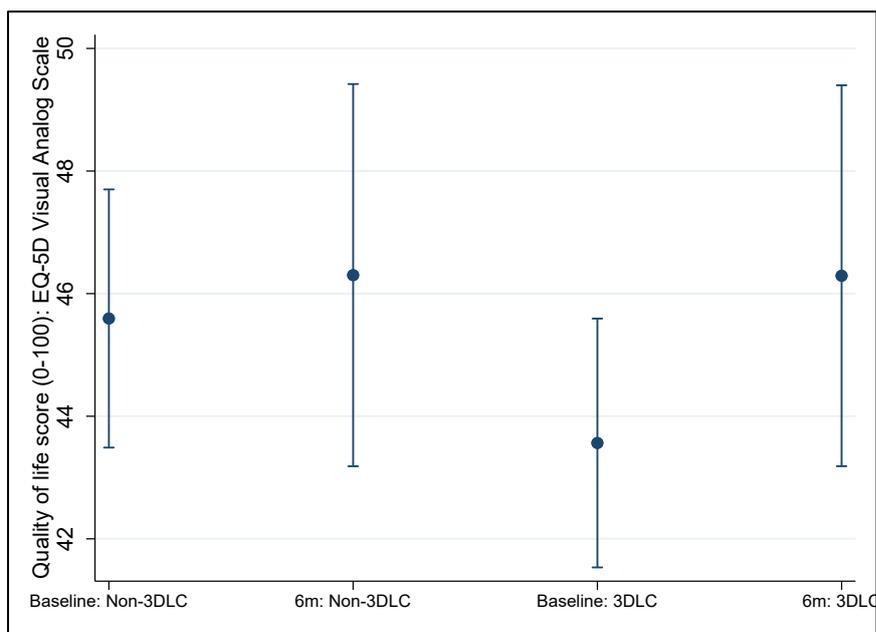
CAT score (COPD)					
Time point	Mean	SE	95% CI		p-value
Baseline	28.9	1.1	26.7	31.1	-
Follow-up	28.3	1.2	26.0	30.6	-
Difference	0.6	1.1	-1.6	2.8	0.601

Heart failure (Minnesota)					
Time point	Mean	SE	95% CI		p-value
Baseline	47.5	6.2	34.0	61.0	-
Follow-up	48.4	6.8	33.7	63.0	-
Difference	-0.9	4.8	-11.3	9.6	0.862

4.4. Changes in generic quality of life over the study period

Figure 4.1 presents baseline and follow-up quality-of-life scores based on the visual analogue scale (VAS) associated with EuroQol 5-dimensions (EQ-5D) questionnaire. This provides a score of overall quality of life between 0 (death) and 100 (perfect health). At baseline, the non-3DLC group had a mean quality-of-life score of 45.6 (95% CI: 41.4 to 49.7) which increased slightly to 46.3 (95% CI: 40.1 to 52.5) at follow-up; however, the confidence intervals overlapped. In the 3DLC group, the baseline VAS score was slightly lower at 43.6 (95% CI: 39.5 to 47.6) – this is not surprising given that 3DLC patients had higher level of depression/anxiety. The VAS score increased by almost 3 points to 46.3 (95% CI: 40.0 to 52.5) in the 3DLC group; however, again the confidence intervals overlapped.

Figure 4.1: Baseline and follow-up quality-of-life score based on the visual analogue scale (VAS)



Figures 4.2a and 4.2b present the quality-of-life scores on the EQ-5D descriptive system which evaluates quality-of-life on the following five domains: mobility; self-care; usual activities; pain/discomfort and anxiety/depression.

In the 3DLC group, there was very little change in the proportion of patients experiencing mobility and self-care problems from baseline to 6-month follow-up (Fig. 4.2a and 4.2b). For instance, on the mobility domain, approximately 86% of patients reported moderate or extreme problems at baseline and follow-up. However, a significant proportion of patients with severe problems or no problems with usual activities or pain/discomfort at baseline shifted towards moderate problems at follow-up. Regarding the depression and anxiety domain, it was noted that there was a reduction of 10.5 percentage points in the proportion of patients with extreme problems – this is in line with findings on the PHQ-9 and GAD-7 scores which showed a move from extreme to moderate intensity of depression and anxiety.

Figure 4.2a: Baseline EQ-5D scores for patients receiving 3DLC intervention

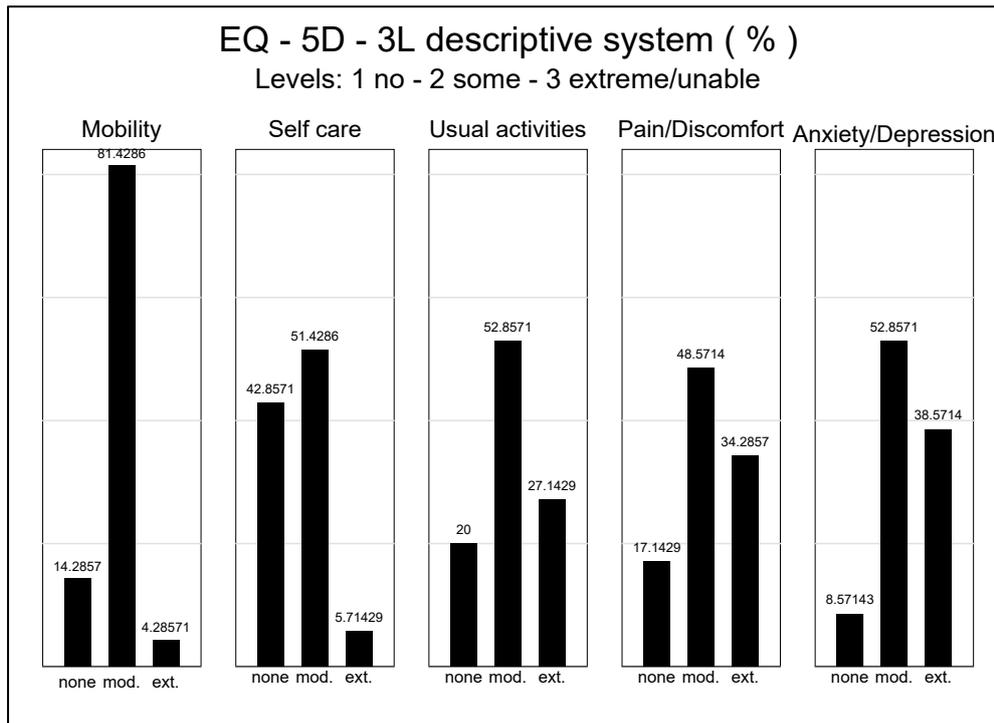
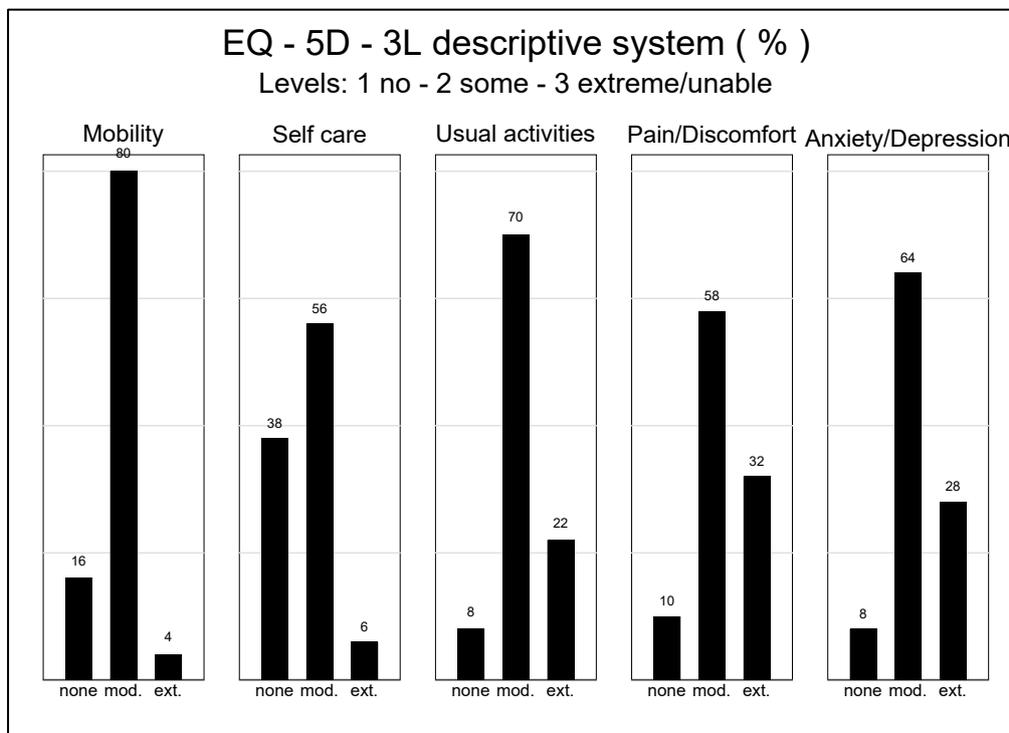


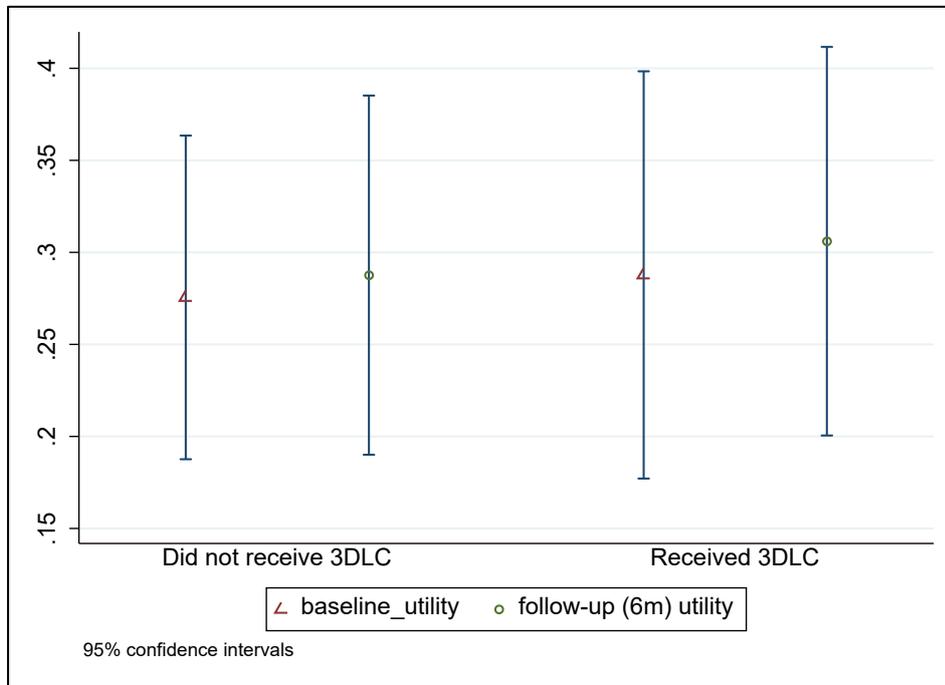
Figure 4.2b: Follow-up EQ-5D scores for patients receiving 3DLC intervention



These domains are then evaluated together to produce an overall quality-of-life index, i.e. 'utility' index (which uses population preferences for reducing problems on the five domains). The utility index ranges from 0 (dead) to 1 (full health). Figure 4.3 presents utility index

values at baseline and follow-up. For the 3DLC group, the utility (quality-of-life) value at baseline was 0.29 (95% CI: 0.18 to 0.40) which improved slightly to 0.31 (95% CI: 0.20 to 0.41) at 6-month follow-up. However, the improvement in utility value of 0.018 was not statistically significant.

Figure 4.3: Change in utility score between baseline and follow-up (6 months)



In the non-3DLC group, there was a small change from baseline (Fig. 4.4a) to follow-up (Fig. 4.4b). For instance, on the mobility domain, 77.9% of patients reported moderate or extreme problems at baseline which increased to 84.4% at follow-up. In the usual activities domain, there was a reduction in moderate problems (from 63% to 50%) but a similar increase in extreme problems (from 20% to 33%) which had a negative impact on overall quality of life. For pain/discomfort, there were fewer patients with no problems at follow-up, compared to baseline. For anxiety/depression, there appeared to be a shift in patients who had moderate problems at baseline – there was about 5% increase in ‘extreme problems’ with anxiety and depression and a similar percentage increase in patients reporting ‘no problems’. When all domains were analysed together using utility values (see figure 4.3 above), the results showed that the quality-of-life (utility) score at baseline was 0.28 (95% CI: 0.19 to 0.36) which improved very slightly to 0.29 (95% CI: 0.19 to 0.39) at 6-month follow-up. However, the improvement in utility value of 0.012 was not statistically significant.

Figure 4.4a: Baseline EQ-5D scores for patients receiving non-3DLC care

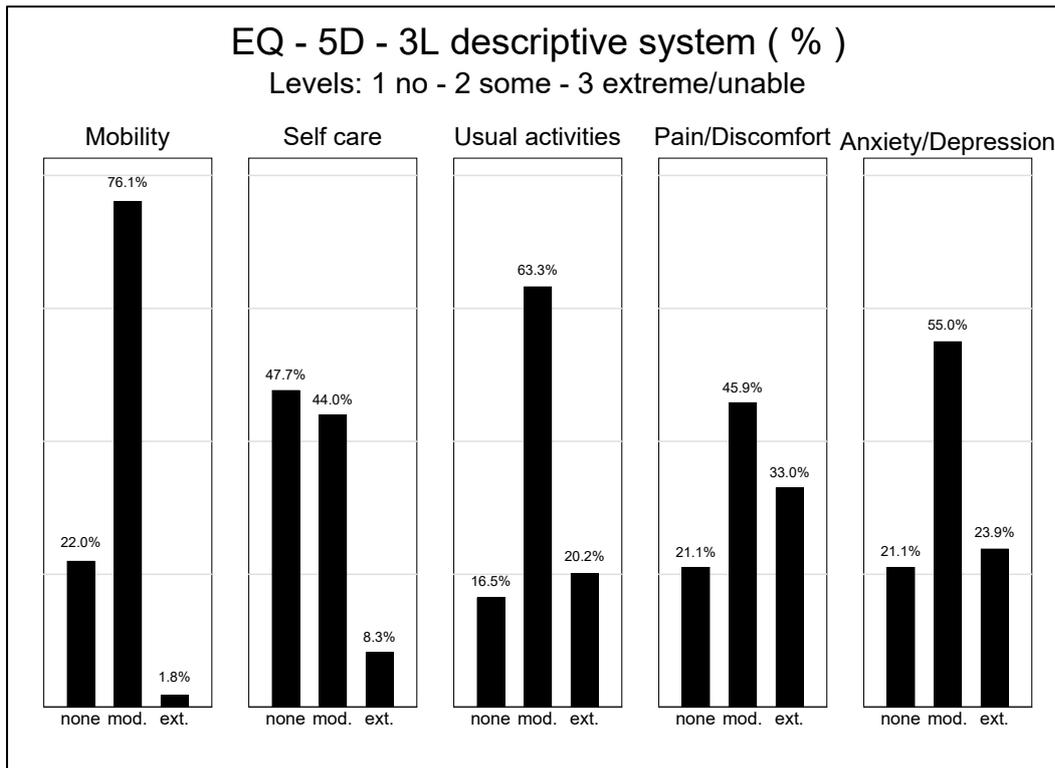
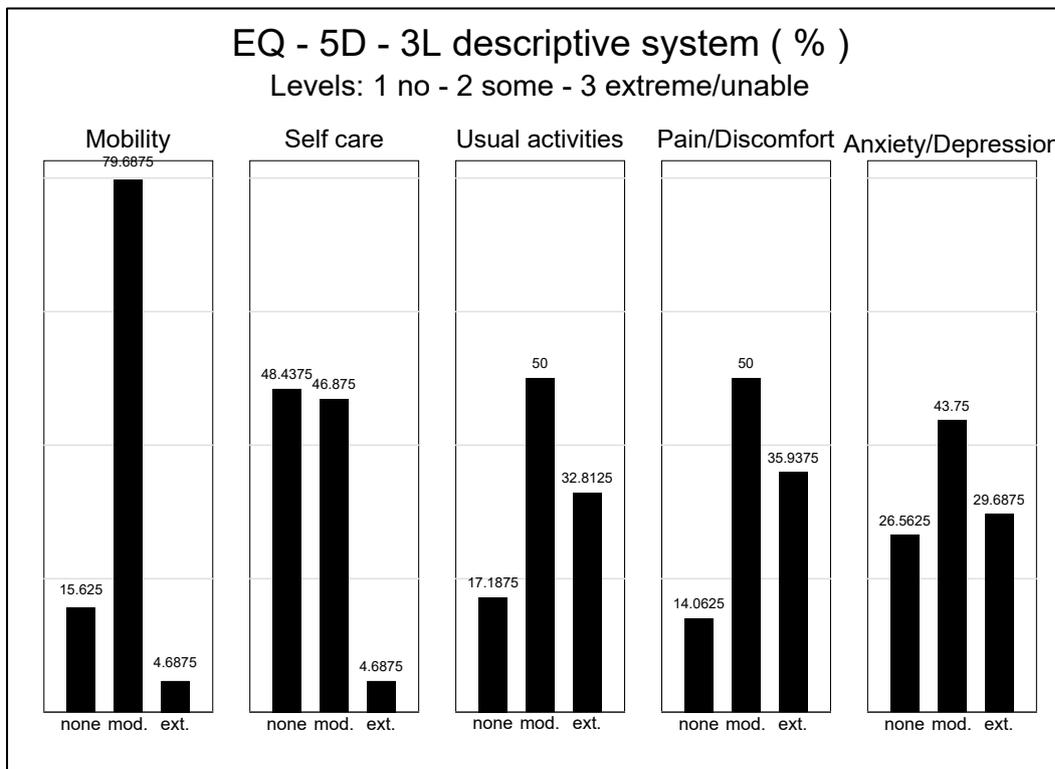


Figure 4.4b: Follow-up EQ-5D scores for patients receiving non-3DLC care



4.5. Use of health service resources over the study period

Table 4.6 shows the frequency of use of community care in the last six months, at baseline and at follow-up in the 3DLC group.

At baseline, the mean number of GP and nurse consultations (including district, practice and community mental health nurse visits) were 3.3 and 1.7 in the 3DLC group over six months. This increased to 5.0 and 2.6 visits at follow-up time point. There were no health visitor visits at either time points. The mean number of psychiatrist and psychologist visits over six months increased from 0.2 and 0.0 at baseline to 0.9 and 1.2 visits at follow-up respectively. Number of visits to counsellors, occupational therapists and social workers remained low and did not change between baseline and follow-up; however, there was a small increase in physiotherapist visits from 0.3 and 0.7 from baseline to follow-up.

Table 4.6: Community care visits in the last 6 months in the 3DLC group at baseline and follow-up (6-months)

Baseline*				
Number of visits in the last 6 months	Mean	SD	Min	Max
General Practitioner	3.3	5.7	0	26
District nurse	0.4	2.5	0	15
Practice nurse	1.3	4.0	0	24
Community Mental Health Nurse	0.0	0.0	0	0
Health Visitor	0.0	0.0	0	0
Psychiatrist	0.2	1.6	0	13
Psychologist	0.0	0.1	0	1
Counsellor	0.1	1.0	0	8
Occupational Therapist	0.1	0.4	0	3
Physiotherapist	0.7	3.4	0	26
Social Worker	0.0	0.1	0	1
6-months**				
Number of visits in the last 6 months	Mean	SD	Min	Max
General Practitioner	5.0	5.0	0	24
District nurse	0.8	2.8	0	15
Practice nurse	1.6	3.9	0	24
Community Mental Health Nurse	0.2	0.7	0	4
Health Visitor	0.0	0.0	0	0
Psychiatrist	0.9	2.9	0	15
Psychologist	1.2	2.9	0	12
Counsellor	0.1	0.8	0	6
Occupational Therapist	0.1	0.4	0	2
Physiotherapist	0.3	1.2	0	6
Social Worker	0.1	0.8	0	5

* N = 70 at baseline' ** N = 50 at 6-months

Table 4.7 shows the frequency of use of community care in the non-3DLC group, at baseline and at follow-up. At baseline, the mean number of GP and nurse consultations were 3.0 and 1.6 in the non-3DLC group over six months – this is comparable to the baseline in the 3DLC group. However, the number of GP visits increased to 6.2 at follow-up time point, although

the number of nurse visits did not change much. Use of all other community services was low and remained stable from baseline to follow-up.

A direct comparison of 3DLC and non-3DLC groups is not appropriate because the study is not a randomised design, and, more importantly, the two patient groups are different from each other.

Table 4.7: Community care visits in the last 6 months in non-3DLC group at baseline and follow-up (6-months)

Baseline*				
Number of visits in the last 6 months	Mean	SD	Min	Max
General Practitioner	3.0	3.5	0	24
District nurse	0.9	3.0	0	24
Practice nurse	0.7	2.2	0	20
Community Mental Health Nurse	0.0	0.2	0	2
Psychiatrist	0.2	0.8	0	6
Health Visitor	0.1	0.7	0	7
Psychologist	0.0	0.0	0	0
Counsellor	0.5	2.4	0	20
Occupational Therapist	0.1	0.5	0	5
Physiotherapist	0.4	2.1	0	18
Social Worker	0.4	3.1	0	30
6-months**				
Number of visits in the last 6 months	Mean	SD	Min	Max
General Practitioner	6.2	11.5	0	77
District nurse	0.7	1.9	0	8
Practice nurse	1.1	2.8	0	16
Community Mental Health Nurse	0.0	0.0	0	0
Psychiatrist	0.1	0.5	0	4
Health Visitor	0.1	0.7	0	6
Psychologist	0.1	0.4	0	3
Counsellor	0.3	1.7	0	12
Occupational Therapist	0.0	0.2	0	2
Physiotherapist	0.6	2.7	0	14
Social Worker	0.3	1.1	0	6

* N = 107 at baseline' ** N = 65 at 6-months

Table 4.8 shows the frequency of use of hospital care in the last six months, at baseline and at follow-up in the 3DLC group. The mean number of A & E visits over six months remained stable in the 3DLC group but day hospital visits showed a small increase of 0.6 visits at follow-up. The length of inpatient hospital stays across all admissions reduced from 3.1 at baseline to 1.4 hospital stays at follow-up. However, outpatient visits increased from 3.4 at baseline to 5.2 visits at follow-up.

Table 4.8: Hospital visits in the last 6 months in the 3DLC group at baseline and follow-up (6-months)

Baseline				
Number of visits in the last 6 months	Mean	SD	Min	Max
A & E visits	1.0	1.9	0	10
Day hospital visits	0.0	0.2	0	1
Inpatient hospital stays	3.1	11.0	0	70
Outpatient care visits	3.4	6.2	0	25
6-months				
Number of visits in the last 6 months	Mean	SD	Min	Max
A & E visits	0.9	1.1	0	4
Day hospital visits	0.6	2.9	0	20
Inpatient hospital stays	1.4	3.4	0	14
Outpatient care visits	5.2	5.4	0	24

* N = 72 at baseline; ** N = 50 at 6-months

Table 4.9 shows the frequency of use of hospital care in the last six months, at baseline and at follow-up in the non-3DLC group. At baseline, the mean number of A & E visits over a 6-month period was 0.5 (i.e. half of the 3DLC group) which increased to 1.4 at follow-up time point. Hospital day visits and inpatient stays increased only slightly from baseline to follow-up, but the number of outpatient appointments increased from 4.4 at baseline to 5.5 at follow-up.

Table 4.9: Hospital visits in the last 6 months in the non-3DLC group at baseline and follow-up (6-months)

Baseline*				
Number of visits in the last 6 months	Mean	SD	Min	Max
A & E visits	0.5	2.5	0	25
Day hospital visits	0.2	1.0	0	8
Inpatient hospital stays	1.0	3.5	0	30
Outpatient care visits	4.4	9.5	0	60
6-months**				
Number of visits in the last 6 months	Mean	SD	Min	Max
A & E visits	1.4	3.3	0	18
Day hospital visits	0.4	1.4	0	10
Inpatient hospital stays	1.2	3.8	0	20
Outpatient care visits	5.5	7.8	0	40

* N = 107 at baseline; ** N = 65 at 6-months

4.6. Cost of the 3DLC intervention

The 3DLC intervention consisted of consultation(s) with a psychiatrist, psychologist and/or social worker. 3DLC was designed to be a time-limited intervention of up to 12 weeks (similar to 3DFD) but in practice, the number and frequency of consultations varied according to patients needs with some patients being seen for more than 12 weeks. Altogether, intervention data were available for 81 patients who had a minimum of one consultation with one of the above professionals. Table 4.10 summarises the number of consultations: 36 patients had at least one consultation with a psychiatrist (mean consultations = 2.2; max = 6 visits) while 47 patients had at least one consultation with a psychologist (mean = 4.1; max =

17 visits). Besides delivering the sessions, additional preparation time was spent by psychologists or psychiatrists, with a mean of 2.4 hours per patient (min = 0.5; max = 5.8) over the course of the intervention. In addition, 14 patients received support through social workers for the following services:

- Emotional and mental health support
- Tenancy/Accommodation
- Managing money
- Meaningful occupation/training/work
- Moving-on
- Personalisation and Choice
- Physical health
- Referral to other services
- Safeguarding action
- Social network/relationships

For these 14 patients who received support from social workers, the mean number of hours of support time was 24.8 (min = 4.4; max = 77.3 hours).

Table 4.10: Intervention-related resource use: number of visits and hours of consultations*

Type of service	No. of patients	Mean visits	SD	Min	Max
Psychiatrist consultations	36	2.2	1.4	1	6
Psychologist consultations	47	4.1	4.2	1	17
Type of service	No. of patients	Mean hours	SD	Min	Max
Session preparation time	38	2.4	1.2	0.5	5.8
Social worker support time	14	24.8	21.1	4.4	77.3

N = 81 patients with available data

Unit costs were obtained from national databases, when available, and otherwise from other published sources. Sources and assumptions for unit costs are presented in Table 4.11.

Table 4.11: Unit costs of health services resource use

Service use (consultation/visit)	Unit cost	Source
General practitioner	37.4	PSSRU 2018 (p. 127)
Practice nurse	12.4	PSSRU 2018 (p. 18)
District/community nurse	39.5	PSSRU 2018 (p. 18)
Psychiatrist	107.0	Osumili et al. 2019 (appointment lasting 45 mins: DOI: 10.1080/09638237.2019.1581332)
Psychologist	124.0	As above (appointment lasting 54 mins)
Health visitor	27.2	Lang et al 2018 (doi:10.1136/bmjopen-2017-019649)
Counsellor	58.0	Salisbury et al 2017 (doi: 10.3310/pgfar05010)
Occupational Therapist	78.0	PSSRU 2018 (p.89)
Physiotherapist	54.0	PSSRU 2018 (p.89)
Social Worker	29.0	Osumili et al. 2019
Accident and Emergency visit	160.0	NHS Reference Costs 2016/17 (outpatient)
Day hospital visit	742.0	PSSRU 2018 (p. 89)
Inpatient hospital stay (per night)	1,603.0	NHS Reference Costs 2017/8 https://improvement.nhs.uk/documents/1972/1 - Reference costs 201718.pdf
Outpatient care visit	134.0	PSSRU 2018 (p. 89)

Table 4.12 presents mean cost of the intervention in the 3DLC group. The highest cost was due to psychologist consultations, with the mean cost per patient being £256.6 (with minimum cost being zero as not all patients had a consultation with a psychologist, see Table 4.10). The total cost per patient of the 3DLC intervention was £643.1 with a significant variation (range: £71.3 to £3,421.7).

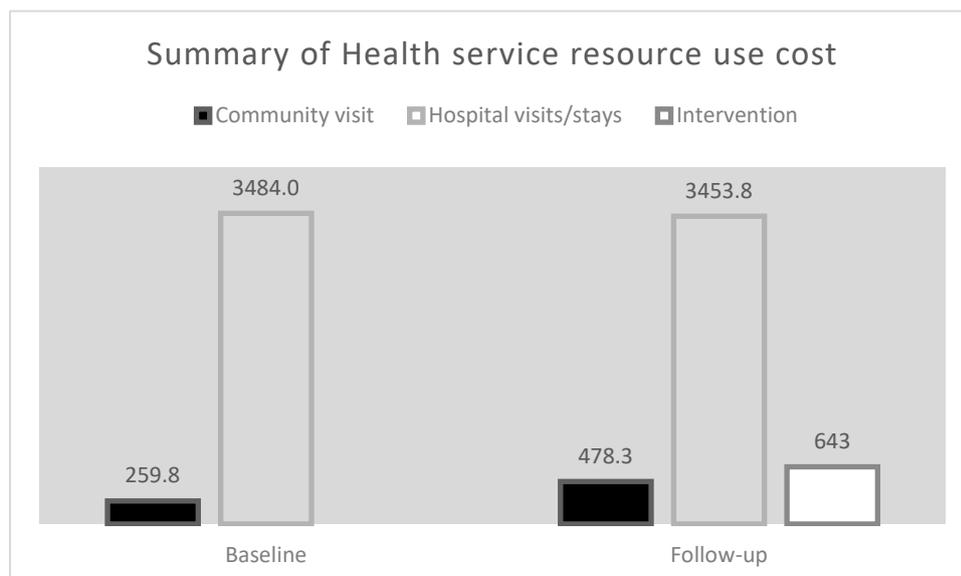
Table 4.12: Cost of intervention-related visits and the total cost of the intervention*

Type of service	Mean cost	SD	Min cost	Max cost
Psychiatrist consultations	97.2	135.7	0	677.7
Psychologist consultations	256.6	380.5	0	2342.2
Session preparation (psychologist)	156.3	200.7	0	792.2
Social worker consultations	133.1	394.5	0	2397.8
Total intervention cost	643.1	647.1	71.3	3421.7

* N = 81

Finally, figure 4.5 presents the total health services resource use cost in the last 6 months for 3DLC group at baseline and at 6-month time points. In summary, at follow-up, the community-based resource use cost was £478 compared to £260 at baseline, i.e. an increase of £219 per patient. However, the cost of hospital based services was very similar, i.e. £3,484 per person at baseline and £3,453 at follow-up. Taken together, the health service resource use cost at follow-up in the 3DLC group is only £188 higher compared to baseline. In addition to this, the intervention cost of 3DLC is £643 per person. This overall increase in cost (i.e. £831) should be interpreted in the light of improvement in mental health (as measured by PHQ-9/GAD-7 scales) and physical health (as measured by CAT and Minnesota scales).

Figure 4.5: Health service resource use cost in the 3DLC intervention group, by time point



Finally, two limitations of the above analyses should be noted: (a) the analysis is based on a relatively small sample; and (b) since this is not a comparative study involving two groups, a full cost-effectiveness analysis was not feasible.

Chapter 5 Outcomes for Practitioners

Summary

- 3DLC brought substantial benefits for staff, including improved ability and confidence to respond to patient psychological needs
- Some of these benefits (e.g. improved staff morale) are in the 'here and now' but others (e.g. improved knowledge and skills) have the potential to make a lasting difference, for both individuals and teams

This chapter briefly describes the benefits that 3DLC brought for practitioners. Specifically it explores the outcomes for practitioners set out in the 3DLC Logic Model: improved ability and confidence to respond to patient psychological needs; and increased staff morale.

5.1 Awareness and Confidence

Although increased awareness of psychological issues was not identified as a specific outcome in the 3DLC Logic Model, it was in effect a precursor to one of the main outcomes i.e. improving the ability and confidence of staff to respond to patient psychological needs. The interim evaluation report found that the Respiratory Medicine teams started out with a higher level of awareness of psychological issues than the Cardiology teams, although the heart failure nurses were an exception to this. The KCH Respiratory Medicine team had been working with a specialist clinical psychologist for some years and they felt this had enhanced their understanding of psychological issues. It was clear that over the life of the project, awareness of psychological issues gradually increased and deepened. In the resistant hypertension services the Consultant said that simply screening had changed his perception: *"I was certainly surprised...I found maybe about a third of the patients who were screened were identified as having other issues that [they] needed a help with"*. Even the teams which had started out with a higher level of awareness, felt their awareness had developed further as a result of working with 3DLC. In particular, in addition to depression and anxiety, they now had better awareness and understanding of other mental health problems such as dementia.

Many staff from the heart failure and integrated respiratory teams talked about having more confidence that they could respond to their patients' psychological needs. For some it was around feeling more confident about just raising mental health concerns, whilst others felt more able to explain the link between physical and mental health.

"So for me it's made a huge difference. So something that I don't think I was very confident in addressing or bringing up, and I think having those sort of the PHQ-9 and GAD-7 as a tool, to sort of initiate those kinds of questions, was really helpful, and then having someone to turn to when something came up...the amount of suicide thought, suicidal thoughts that I think I would never have picked up, because it's not something that was volunteered...but when you use the tools then it comes up and then you go 'oh I can see'. And then having like the 3DLC team to call upon".
(HF Nurse)

Others also noted that although supporting patients with psychological needs had always been part of their role, having a more structured approach to exploring psychological needs had made a significant difference:

“If you’ve got no structured follow-up or no place to take that then there’s no point, other than, you know, the usual care that you do. It does make an enormous difference to your willingness and your confidence to take things a little bit further. Now it’s part of our care, it always has been part of our care to support people psychologically, it’s what heart failure nurses do, but there’s something about, you know, the way we would question, the types of questions we would ask, the type of information we would try and find out, that is happening in a more structured way, a more purposeful way, that really makes, really makes the difference”.

(Senior Nurse 1)

However, as the quotation below indicates it was not just about having awareness of patients’ psychological needs or having the confidence to respond to them, it was also about knowing what could actually be done to help them:

“There is more of an awareness now of what is out there...more awareness of what we need to be thinking about and how to manage these people. Previously we would have sort of stumbled along and tried to do what we could do, until we reached a point where everything we could do from a respiratory point of view was done and the patient was still frequently being admitted to hospital and we could see that there was unmet need in terms of their psychological condition but couldn’t really decide what could be done about it or who we could approach.” IRT member

5.2 Developing Knowledge and Skills

From the outset the 3DLC team were involved in providing training for staff in the clinical teams. They delivered formal training as part of the IMPARTS programme but also provided more informal training, often as part of the MDMs. Working with 3DLC inspired some staff to undertake further training (e.g. the 5 day IMPARTS training programme): *“I’d already got an interest in psychology etc. but 3DLC starting sort of got me to a point of thinking well actually I’ll take this further, so I went and did the IMPARTS course”* (IRT member). Others explained that they had already learnt a great deal from the 3DLC clinicians about difference aspects of mental health and from how their approach patients:

“What I found most interesting is between the psychological aspect of mental health and the psychiatric. So sometimes some of our substance misuse patients have psychiatric issues, schizophrenia, bipolar...it was always a grey area for me, I’d never really sort of know, and I found that very interesting, very useful; sometimes it’s a combination of both. And the other thing I found the most helpful, I think, is doing home visits, and we were asked to do the PHQ and the GAD-7 and I always find them very hard questions to ask in a, how often over the last, have you felt like this over the last week/two weeks, whatever; and I’ve actually watched how they, how Lindsay does it, and rather than just going through a questionnaire she makes a conversation out of it, and it’s a lot easier”. (IRT member)

However, one contributor was concerned that the focus on training staff about psychological issues was pushing out training on other topics. In addition, some doctors were unhappy about a perceived expectation that they might deliver low level mental health care

“So you’ve got a pyramid, with lots of [patients] with lower level problems, some with moderate and a few with very severe. There were some session where it was suggested that we should provide mental health treatment and interventions for the low level group. Well that’s not what we trained to do...we’ve got 10 minutes to do everything and do all our paperwork for each appointment. It’s pretty tricky to treat

someone's heart properly, and as well as that, think about their mental health, and have a meaningful intervention on that". (Doctor 2)

The 3DLC Social Support worker had also done a number of teaching and/or information sessions for the clinical teams about benefits, housing, PIP assessments and social care provision. A few contributors explained that small but practical things like information about the wording of letters had been especially helpful:

"I would write quite a medical letter thinking that, saying that this person has, you know, centrilobular emphysema might carry some weight but not knowing that the person reading that at the other end had no idea what that is, and they're not that interested...Hugh said, you need to say whether the patient can or can't reliably and consistently do X, Y and Z and you know, it's just those words 'reliably and consistently' that I wouldn't have thought to use, which is what they're looking for, or to really quantify distances that people can walk and whether they can lift a kettle and whether they can carry a bin bag out...All these things that I would never have put into my letters." (Doctor 4)

A few commented that just having a little more knowledge of the benefits and the social care system meant they were able to signpost patients to services and support or recognise when they needed more substantial help.

5.3 Better Access to Psychosocial Advice, Support and Services

One of the main benefits of 3DLC for staff, was much better access to advice and support when their patients had psychological and/or social needs. The MDMs were an important forum for seeking informal advice. For patients known to mental health services, the 3DLC clinicians had access to notes that the clinical teams did not and so they were able to give the team background information about the patient and their diagnosis and suggest what approaches might work best. The Community Heart Failure Nurses had monthly supervision sessions with the 3DLC psychologist and they had found these particularly valuable, especially in relation to patients that they had found challenging. This is discussed further in section 5.4 below.

Several participants mentioned how much they had valued support and advice from the 3DLC team when patients were in very difficult situations: *"Before we maybe would have felt completely overwhelmed by a situation, like if a patient's phoning up suicidal" IRT. Brian's story below illustrates this:*

Evaluation Story

Brian, a man in his thirties, had very severe emphysema linked to his addiction to drugs. Despite referrals and support from the IRT, he had never really engaged with addiction services, suggesting that the service offered weren't right for him or they didn't want to see him. He had reached a point where he urgently needed help with his addiction, if he was to live long enough to have a lung transplant but his key worker was at a loss as to how to help him. He was referred to the 3DLC Psychiatrist who was able to assess him and offer his key worker advice. She explained:

"To have somebody from a mental health perspective to objectively assess his understanding and motivation for treatment...I think otherwise we would be spending the next three years batting his problem backwards and forwards... it's been really helpful to have the

support of somebody that knows and understands, so we're sort of very a united front and can say 'this is what needs to be done'."

Specifically the 3DLC psychiatrist had run teaching sessions and provided written information on what to do when a risk of suicide or self-harm emerged.

"Abi created a 'what to do if a patient has suicidal intensions', a pathway for us for clinic patients. That's invaluable to know exactly who to turn to and when. That's something that wasn't necessarily even on their 'to do' list but has been an added bonus because we don't just see a patient in hospital. We'll see them at home sometimes and in clinic, and knowing what to do when you're not from that field can be quite scary". (Therapist 1)

As was noted in the interim report, prior to 3DLC being established, some staff almost felt reluctant to explore their patients' psychosocial needs because, especially in relation to social needs, there was little they could offer patients. The two quotations below illustrate this:

"Where I used to work we were always aware of the social issues, we always knew they were there but I didn't have a team that I could easily refer to...It was so, so hard to get any kind of help for my patients, so it almost did become something that you didn't really wanna broach with patients". (IRT member)

[I had] "an awareness that there were psychological issues but because there was nowhere to send these patients, it wasn't a topic we addressed because, you know, you bring something up, you should be able to offer something, but now, you know, it's very much part of the everyday conversation". (IRT member)

There was a strong view that access to psychological support for patients had substantially improved through 3DLC. Previously, (except for the KCH Respiratory Medicine team) clinicians either contacted the patients GP or referred them to the local IAPT service. Many contributors felt that IAPT was of limited value for their patients, partly because of the constraints of the service (e.g. no home visits; not accepting patients with addictions) but also because patients had to be motivated contact IAPT. There was also a view that because of their combined physical and psychological problems, some patients needed a higher level of support than IAPT but they would not meet the threshold for mental health services. Being able to refer these patients to 3DLC had been particularly valuable.

"So we knew what to do with anybody who was floridly psychotic or had active suicidal ideation, you know, we'd, we'd take the appropriate emergency actions with those patients, but that's the tip of the iceberg. The larger ground in heart failure is mild to moderate depression, and depression and anxiety...that over years would become significant, embedded and, and deleterious to not only their sort of own wellbeing and sense of quality of life, but actually, ultimately, their heart failure care and prognosis. So before 3DCL, we had no idea where to take that...Patients would come in [but] you know, most of us didn't really know about IAPT. Unless you've worked in community and you'd had involvement with mental health services, you don't know what's out there". (Senior Nurse 1)

There were mixed views about in-patients having access to 3DLC. The commissioners questioned whether 3DLC should be seeing in-patients at all, whilst some contributors felt that in-patient wards were not a good environment in which to start discussing psychological

needs. However, others felt that for patients who are reluctant to engage, having initial contact with the 3DLC psychiatrist or psychologist whilst they were an in-patient, made them more likely to accept help after they left hospital.

The improved access to help for patients with social needs also brought benefits for staff in terms of their workload and morale. Many described trying to help patients with these problems but finding it very hard either because of the magnitude of the patient's problems or because they simply did not have the knowledge or time.

“Sometimes we go to people who live in very deprived areas...some estates where you can sort of come out thinking ‘well it’s no wonder that something’s impacted on their mental health’, you know, people drug misusing, people banging on their doors all times of the night. Just poor housing, say damp problems [and] their living standards are very poor...whilst we can help them with their breathing, sometimes we felt a bit powerless in the past, you know, like this is a more social problem, they need to be re-homed”. (IRT member)

“When patients talk about stuff like PIP, I’m like ‘I don’t even know what that is’...So knowing that you can refer to someone that’s got that knowledge and can help them, yeah it does help and makes you manage them better”. (HF nurse)

5.4 Supporting Staff Morale and Resilience

Several contributors commented on the impact the 3DLC team had had on staff morale and the clinical teams' resilience or coping skills. There was recognition that respiratory medicine and heart failure can be emotionally difficult areas to work in but with 3DCL new staff support arrangements had been put in place. The 3DLC psychologist provided regular supervision for the Community Heart Failure Nurses and this had made a huge difference. One contributor described it as a space where staff could “decompress”, whilst one of the Heart Failure nurses said:

“I think it’s a really great forum to discuss how you coped with a situation, what you learnt from it, to drag out any learning points. So I think sometimes as nurses we beat ourselves up about why I didn’t do that well enough or I could have done that better, and just to have a safe environment to discuss a case or a situation, or even a difficult conversation is, is very valuable, and having an expert there to guide you through it is really valuable, for me personally”. (HF Nurse)

There was a view that it was important to have the protected time “to reflect on our own practice and support each other” which the group supervision session provided. Without it there was a concern that other work would take priority. Although the respiratory medicine teams didn't have the same formal supervision arrangements, they suggested that 3DLC's involvement in the teams and especially the MDMs had increased staff reliance:

“I think the team are much less variable, more stable...and better able to cope with patients passing away for example... now they are able to see that these patients are passing away where they want to pass away with the care that they should have got and things happening the way they should happen, so it’s a much more positive thing. I don’t know whether that’s just happened over time and has just coincided with Abi and Lindsay but I doubt it. I think they have made the team a bit more robust and better able to cope.” (Therapist 1)

The other way in which 3DLC supported staff morale was by easing workload pressures. As was noted above, several contributors explained that in the past they had spent a lot of time

trying to get help for patients with psychosocial needs: *“It’s so frustrating when you see that there’s a problem but you just have no idea where to go to address it or you’ve got to chase a million people, and then you get nowhere”* (Doctor 4). Simply having access to 3DLC’s support and services saved staff time. Others described how patients with quite complex, physical, psychological and social problems, who had needed high levels of input from staff, had changed as a result of seeing 3DLC. The Team Story below illustrates this:

Evaluation Story

The KCH Integrated Respiratory Team described one patient Anne, who had COPD with a very high symptom burden. She used to ring the team almost every day, whenever she had difficulty breathing. The calls were often long and stressful and took up a lot of staff time. Her breathlessness was made much worse by anxiety but she refused to accept that she was anxious and would get very angry and upset if staff tried to talk to her about it.

Initially she did not want any psychological help but eventually she agreed to see the 3DLC psychologist. The psychologist agreed a behavioural contract with Anne, which set out the things she would do first, before ringing the team, and gradually the frequency of her calls reduced. She still rings from time to time but she is much calmer and the calls are for good reasons.

The evaluation suggests that 3DLC brought substantial benefits for staff, over and above those identified in the original logic model for the project. Some were very much in the ‘here and now’ such as improved staff morale but others, such as improved knowledge and skills are likely to have the potential to make a lasting difference, for both individuals and teams.

Chapter 6 Outcomes for Patients

Summary

- The majority of patients who contributed to the evaluation felt that 3DLC had made a difference to their mental health and quality of life
- Feedback from patients about their experience of the service was very positive

3DLC aimed to achieve six outcomes for patients (see page 6). This chapter draws together the findings from the qualitative evaluation in relation to five of these: improved quality of life; improved mental health; improved treatment adherence; improved physical health; and improved patient experience of healthcare.

6.1 Improved Mental Health and Quality of Life

One of the primary aims of 3DLC was to improve the mental health of patients with COPD or heart failure, regardless of the root causes of their problems. For some patients it was clear that their depression or anxiety was closely linked to their physical health conditions: understanding or coming to terms with their illness; dealing with difficult symptoms such as breathlessness; accepting medication or treatment (e.g. oxygen); coping with their lives becoming more limited; and the fear of dying. Linda's story illustrates this:

Evaluation Story

Linda was diagnosed with COPD a few years ago but had never really understood her illness or come to terms with it. Last year her condition worsened and she was admitted to hospital several times. She began to have doubts about her treatment; *"I just thought, I'm taking all this medicine and I'm being ill, you know, so I wasn't taking any medicine as well so that was making me even iller"*. She was finding everyday tasks difficult and needed more help, which she felt was eroding her independence:

"It's just like everyday tasks, you know, like washing up or, you know, dressing yourself and that, you know; and then one time I was admitted twice in one week...I was coming to terms with the oxygen as well, cos I'm walking, you know, when I'm walking I walk with oxygen".

One of the physiotherapists from the IRT spotted that she was feeling very low and suggested referring her to the 3DLC psychologist. Initially she was reluctant: *"Well at first I said 'I've not really got any mental problems'...[but] I did feel a bit, you know, if I'm like this then I don't really want to live"*. Her physiotherapist was able to explain how the 3DLC could help her with her depression and so she decided to try it.

Others described how life events, both recent and in the past, had combined with their physical health problems to bring them to a low point. Terry, who is in his 60s, explained how a series of family bereavements, combined with his physical health problems, led to his depression: *"These past few years has been terrible really because of bereavements... [and] I had a problem with my legs...and I was kinda housebound and that, and the oxygen and the breathing and yeah, it was just a bad time really"*.

At the point that they were referred to 3DLC most patients were not receiving treatment for their mental health problems. However, a few said that they were getting some help, usually anti-depressants but often these were either not helping or even making their overall health worse. One participant described being unhappy that her GP had prescribing anti-depressants, on top of the medication she was taking for her heart condition: *“By this time I was so tired of medication and I had side effects”* (Mary). So when her Heart Failure Nurse suggested psychological therapy with 3DLC she welcomed it. For many patients, being referred to 3DLC by their consultant or another member of the respiratory or cardiology teams, was an important factor in them accepting help with their mental health problems. A participant who had been reluctant to see the 3DLC psychiatrist, partly because of concerns about the stigma said: *“I had to try something because I was at a low ebb really, and Dr Patel has been terrific and if she’d referred me, then I thought right, I’ll give it a, give it a shot”* (Terry). Others said they felt apprehensive about seeing a psychologist or psychiatrist or questioned whether they would be able to help. For these patients it was important that the health care professional had some understanding of the 3DLC service and what it could offer i.e. referral was not just a paper exercise, and they didn’t give up if the patient initially declined. As one clinician put it: *“there are some who decline first time and second time but then let the walls down and did go and see Abi or Lindsay.”* (Therapist 1)

The vast majority of the patients interviewed for the evaluation felt their mental health had improved as a result of help from 3DLC. One participant said that 3DLC had made her feel *“normal”*, whilst others described changing their thinking. Many talked about feeling more able to cope both with their illness and life in general, although they often acknowledge that this was an on-going process:

“I won’t say, you know, it has all gone, it hasn’t disappeared but at least I feel able to deal with it...and then various techniques that I’m trying it’s clearing my tension and clearing my thoughts, and I’m feeling so good for that”. (Mary)

Staff also commented on the change in their patients’ mental health as the evaluation story below highlights:

Evaluation Story

Jenny is in her 40s and has two children. She was having problems with her benefit payments and there were also difficulties within her wider family. She had recently been diagnosed with heart failure and was really struggling to cope with everything that was happening to her. Her Heart Failure Nurse explained that a high PHQ-9 score opened up the conversation about how she was feeling: *“she became quite tearful during our first initial conversation, so I spoke to her about 3DLC and we referred her”*. After a number of sessions with the 3DLC psychologist her mental health really improved. Her HF Nurse said:

“She came back into clinic I think after a few sessions and she looked like a completely different person, literally like the weight of the world had been lifted from her shoulders. I mean she just looked so much happier... [that] was one person that I really felt that we had all made a difference to”.

Staff also described the process of patients coming to terms with their condition and being more able to cope with life. They highlighted the complexity of many patients needs and

therefore the importance of addressing the patient's physical and mental health needs simultaneously:

"I've got another guy who was really struggling with engaging with his disease and not wanting to talk about it. He's a 50 year old guy with huge problems with anxiety and depression around his diagnosis and he's doing really well. I think in huge part due to a combination of good medical care and really involved and proactive mental health care". (Doctor 3)

Just one patient said that he didn't think his mental health had improved but that he was convinced that he would never get over the loss of his wife, and he acknowledged that his mind had become "fixed".

Some patients talked about the impact of their long term condition, and social problems, on their quality of life. It was clear that the psychological and social support they received from 3DLC had been a turning point for many. One patient simply said: *"the laughter all just seemed to go out of my life, you know. Now I'm beginning to start getting a bit back in"*. For many the help the 3DLC Social Support Worker was able to provide was particularly valuable, as Greg's story illustrates:

Evaluation Story

Greg has COPD. He is only able to walk short distances and when he becomes anxious he has great difficulty breathing. He lives in social housing and was having problems with his neighbours. His consultant referred him to the 3DLC Social Support Worker, who went to see him at his home. He worked with Greg to tackle several problems: he got his mobility scooter to be repaired, which meant that he could get to the local shops; arranged for an optician to do a home visit as Greg had broken his glasses and couldn't see properly without them; he found him a cleaner, as he was unable to cope with his housework; and he started the process of applying for Greg to be rehoused. Greg described the Social Support Workers help as *"a weight off me shoulders"* explaining that:

"He does stuff for you that you can't do; it's like, sort of like, well how can I explain it?...The person you wanna be, you can't be, because you're like knackered like, you know what I mean? So he just does things for you that you can't".

6.2 Improved Physical Health and Treatment Adherence

3DLC was designed to provide a more integrated service for patients whose psychological and/or social problems were having a significant effect on their physical health. Improved mental health facilitated improved physical health in different ways. Several patients described positive lifestyle changes they had made such as having a more healthy diet, losing weight, stopping smoking or taking appropriate exercise. One patients explained that he had been drinking two or three big bottles of Lucozade a day rather than eating regular meals. He had put on a lot of weight and was struggling to control his blood sugar levels. After seeing the 3DLC psychiatrist, he began to make lifestyle changes: *"I'm eating better, that's without a doubt. I've got that Wiltshire Foods in, and that's all vegetables and stuff, and things like that, and I do eat fruit"* (Terry). Other talked about taking steps to manage their condition e.g. pacing themselves or not waiting until they are really unwell to seek help.

For many patients, as their mental health improved, so did their ability to cope with the symptoms of their long term condition. This not only helped the patient, it made it easier for the clinical teams to care for them. One clinician talked about a patient in his 60s who had both COPD and heart failure:

“He’s had some treatment from Lindsay and is very much a different person. He’s still got the same disease but he’s very much more accepting of his symptoms, and he’s very much more easy to deal with now, ...he’s not challenging in a difficult sense in a consultation, but he’s challenging in that he’s very negative and nothing is ever going to make it better, or that’s how, you know, he comes across, and so it means it’s very, very difficult to manage his long-term health problems because you really feel that whatever you do isn’t gonna improve the situation for him. He’s had some great benefits from talking through his symptoms and now he’s sort of beginning to cope and he’s sort of come out from underneath the rock...he was in a really, really bad place but he’s now sort of beginning to cope with life despite his significant symptom burden”. (Doctor 2)

Improved mental health often led to patients becoming more willing to accept or adhere to treatment plans, and this in turn helped their physical health. Many patients talked about not taking their medication or not using oxygen as directed or missing appointments. Those with more than one condition often found adjusting to symptoms and coping with treatment particularly hard, as John’s story shows.

Evaluation Story

John is in his 40s and has a number of health problems. He explained that he became reluctant to go and see health professionals because each time he saw someone, he was given more medication. He said: *“I started to stop taking my medication because I just couldn’t face it”*. The 3DLC psychologist helped him find strategies for managing his medication.

He was also finding it hard to accept that he needed to slow down a little and pace himself if he was to cope with his symptoms but gradually his thinking changed:

“Don’t feel guilty about having a rest, don’t feel guilty about sitting down on the underground, you know, all these things I’ve never done before, cos I was big and strong and you know, ready to conquer the world. It’s been, what, nearly eighteen months now and I’m now getting back to feeling normal... If I hadn’t seen Lindsay I would probably have [still] been struggling, trying to do too much”.

A few clinicians noted that as a result of support from 3DLC several patient had agreed to attend the pulmonary rehabilitation course, having previously been reluctant. For some this was helped by having appointments with their 3DLC clinician before or after the course.

6.3 Improved Experience of Healthcare

Many patients commented on the attitude and approach of the 3DLC team. They found them easy to talk to and felt really listened too. Some used words like *“calming”* and *“gentle”*. The quotations below illustrate this:

"I really enjoyed talking to her [3DLC Psychiatrist] and I opened up. In my first session I actually cried - I haven't cried for years". (Rosemary)

"The other great thing I think was because Lindsay knew me she knew what would and wouldn't work for me and so that made me feel safe and understood". (John)

Importantly, many patients felt that the treatment and support they had from 3DLC had left them better equipped to deal with difficulties in the future. This was partly because they gave them tools and strategies they could use - *"She's given me a few tools to deal with things"* (Sharon) but also because they had more confidence in their capacity to cope.

The fact that the 3DLC team had an understanding of patients' long term conditions, the symptoms and how these might affect people was very important. They were able to offer more specific or appropriate advice. One patient who developed epilepsy linked to his heart condition described how this helped him:

"I think having someone there to explain that it's gonna take time, you know, it's not gonna be a ten minute fix and explaining that you will have good days you will have bad days...with the epilepsy medication it makes you very angry, and though I wasn't outwardly angry, inwardly I was very angry, angry with the most stupidest things, and it was great to talk to Lindsay about those things...she was able to say 'Well this is the epilepsy medication and that's what it does to you, but again you will get over it' and, you know, within three weeks I was fine". (John)

This understanding of their patients long term conditions was also important for the way in which 3DLC delivered their service. As was noted in the Interim Evaluation Report:

"Indeed, one of the things which the 3DLC team has had to work with is the fluctuating nature of the conditions and the implications this has for patients' engagement and duration of treatment. 3DLC is a time limited intervention and initially they assumed that they would have similar timescales to 3DFD (c12 weeks). However, the team have recognised that sometimes treatment has to be extended because it is interrupted by a hospital admissions or a period of poorer health or events in the patient's wider life. Importantly, patients really valued this flexible, and non-judgemental approach." (p33)

Most patients felt that the length of the sessions was about right. Those who had experience of counselling or other psychological therapies in the past liked the fact that the 3DLC sessions were usually longer (around an hour). They also liked having face to face sessions, although additional phone and email contact was helpful. For a few patients who were housebound, home visits were essential as they would not have been able to access the service without them.

A few patients mentioned that their 3DLC clinician had discussed their 'case' with colleagues in the clinical teams and they were comfortable with this. Sometimes it even made it easier for them when they next saw their Cardiologist or Respiratory Medicine Consultant.

The qualitative evaluation clearly suggests that 3DLC was able to deliver many of the patient outcomes it set out to achieve. Certainly those patients who contributed to the evaluation were very positive about the service and the majority felt that it had made a difference to their mental health and quality of life.

Chapter 7 Sustainability

This short chapter briefly highlights the key points to emerge from the evaluation about sustainability. Sustainability and spread were of course key concerns for the implementation team. In the April 2018 3DLC Implementation Report they explained that they had been working to ensure the spread and sustainability of the service through their work with staff in the clinical teams: *“Formal and informal training and education has been embedded into medical team’s routine, such as weekly multidisciplinary team meetings and continuous professional development”*. They also highlighted their efforts to: *“ensured that all teams implementing the screening tool within their clinics are screening as part of routine care independently from the 3DLC team”*. However they recognized that maintaining screening levels and continuing to provide education and training as staff ‘turnover’ would be challenging. In terms of work at an organisational level the report noted:

“The collaboration between 3DLC and the IMPARTS team has enabled the implementation and spread of the electronic mental health tool across clinics and across the different hospitals. The Mind and Body programme support us to keep engaged with CCGs and Chief executives of GSTT and KCH. The Mind and Body team have helped us spread the important message of integrating psychosocial care within the wider KHP, going beyond respiratory and cardiovascular teams. We continue to connect to the larger integration plan between primary and secondary care across GSTT and KCH as well as speaking to local care networks and organisations such as the Health Innovation Network who are both very supportive and interested in our intervention”.

A number of the clinicians and managers who contributed to the process evaluation reflected on the sustainability of the service and the implications of it ceasing after the project phase. There was a strong view that despite increased skills and confidence amongst staff in dealing with psychological issues, there was a continuing need for access to more specialist advice and help, especially for patients with complex needs.

“I do think, you know, if we’re serious about managing these high intensity service users, then, you know, we need a holistic approach and we can’t just add in a bit more to a general physician’s job or a cardiologist’s job...this is a defined group of people who are much more complex than we can manage, and that expert input is incredibly important. Yeah, yeah, I genuinely believe it will save lives”. (Nurse 1)

Most contributors saw no problem with a future 3DLC type service working across a number of specialties but they emphasised that this needed to be kept manageable so that the mental health clinicians could build up a degree of expertise in the condition and establish good working relationships with clinicians in the specialty teams. They also felt that ideally the specialties or conditions would have some overlap and/or common symptoms (e.g. breathlessness).

There was recognition that the service would probably need to change if it was to be sustained, and certainly that was the perspective of commissioners: *“So what we were saying as commissioners in Lambeth and Southwark is it is unlikely that we could scale up or sustain the programme as it’s currently configured because it’s very, it is a very expensive offer”*. For example, they questioned whether 3DLC should see any in-patients but others felt that having the flexibility to see patients when they are in hospital was important, especially when they hadn’t engaged with services in community.

Most commonly, contributors suggested that it might not be feasible to have a full time psychiatrist, or if they were full time they would need to work across more specialties or be part of the liaison psychiatry team. However, they felt that the level of psychology input to each clinical team could easily be justified

“I think there’s a lot to be gained from having a psychologist working with one particular symptom, if you like, you know, your breathlessness team, rather than issues that come with long-term diabetes and that sort of thing. I think that makes a lot of sense but whether or not the psychiatrist could cover other long-term conditions I don’t know”. (Doctor 2)

The other observation was that there might be scope for some changes in the 3DLC service model, such as the level of attendance as the MDMs:

“It’s difficult because it depends what hat I’ve got on. I suppose in terms of efficiency, for Abi and Lindsay to come to our clinic and only have a couple of queries is probably not ideal and not the most efficient but what’s good about it is that we know they will be there every week and so if we change that, they’ll be less of a team member. So I would like things to continue how they are but I would understand that that may not be possible, certainly not the frequency that they attend MDMs currently. I guess there’s probably a half-way house in there somewhere, where they come to MDM every two weeks and we can still refer to them in between.” (Therapist 1)

There was also strong support for having access to a Social Support worker but two important questions were raised: 1) what is right the balance between case work, which is time consuming but hugely valuable for people with very complex needs, and advice/signposting?; and 2) what might be the scope for more collaboration with the Boroughs given that the Social Support Worker was in effect sometimes providing support that their services might otherwise have had to provide?

Finally, it was clear that there was a real fear, especially amongst the Heart Failure Nurses and the respiratory teams, that their ability to meet the needs of patients with more complex physical and psychosocial needs would “go backwards” if 3DLC disappeared completely.

Chapter 8 Key Findings

This chapter briefly draws together the key findings from the evaluation. We begin by highlighting the findings from the process evaluation and then identify the headline findings from the impact evaluation. Finally, we make a number of recommendations, both operational and more strategic.

8.1 Scaling up 3DLC – Key Findings

- In the early implementation phase, the visibility of the 3DLC team, especially at the clinical teams weekly MDMs, was crucial for building relationships but over the life of the programme, it was their *consistent* involvement that made the difference.
- Working across more than one speciality was challenging for the 3DLC team on a practical level but what appeared to be important was that each clinical team saw 3DLC as part of *their* team, regardless of who else they worked with.
- Working across specialties or conditions that have some overlap and/or common symptoms was advantageous. For example for COPD and Heart Failure, breathlessness is a unifying symptom and tobacco dependence a common issue.
- Joint working, in the form of joint visits and joint appointments or even co-located clinics was important in creating a sense of integration. However, to work effectively with patients and integrate into the clinical teams, the 3DLC team had to develop their knowledge of the three target conditions.
- Working across five teams, three specialities and two Trusts meant that processes for screening, referral and information sharing had to be very clear and perhaps more formalised than might have been the case for 3DFD.
- Screening was central to systematically identifying patients with depression and anxiety and most clinicians supported the initiative. However, towards the end of the programme, practical difficulties with the screening system (e.g. impact on clinic staff time, problems with i-Pads) were beginning to have a negative impact on the 3DLC.
- The stepped care referral pathway had become well established but staff in the clinical teams still felt it was important to have access to advice about referrals, provided by the 3DLC 'duty clinician' and the IMPARTS team.
- Referrals to 3DLC were made via an email to a 3DLC team email address. The simplicity of the system was welcomed but with it there was no record on the Electronic Patient Record (EPR) which was a concern.
- Better administrative support for the 3DLC team would have freed-up clinical time and improved confirming or reminding patients about appointments or changing appointment dates.

8.2 Impact – Key Findings

- Mental health outcomes - Patients in the 3DLC group showed a statistically significant improvement in depression (PHQ-9) and anxiety (GAD-7) scores. However, the average PHQ-9 and GAD-7 scores at follow-up remained above the threshold score for depression (PHQ-9 \geq 10) and anxiety (GAD-7 \geq 8).

- Physical health outcomes - At six months there was a small but statistically significant reduction in mean COPD Assessment Test (CAT) score, as well as in the Minnesota Living with Heart Failure mean score.
- Generic Quality of Life – The 3DLC group showed a very slight increase in overall quality of life (as measured by EQ5D). For the anxiety/depression dimensions, the scores moved from extreme to moderate intensity, which supports the PHQ-9 GAD-7 results.
- Service Use - The mean number of A & E visits over six months remained stable in the 3DLC group but the length of inpatient hospital stays across all admissions reduced from 3.1 at baseline to 1.4 at follow-up.
- Costs - The health service resource use cost at six month follow-up in the 3DLC group was £188 higher compared to baseline. In addition to this, the intervention cost of 3DLC was £643 per person. This overall increase in cost (i.e. £831) should be interpreted in the light of improvement in depression and anxiety and condition specific physical health.
- Patient perspective - The qualitative evaluation clearly suggests that 3DLC was able to deliver many of the patient outcomes it set out to achieve. Certainly those patients who contributed to the evaluation were very positive about the service and the majority felt that it had made a difference to their mental health and quality of life.
- Outcomes for staff - The qualitative evaluation showed that 3DLC brought substantial benefits for staff, including those identified in the original logic model (i.e. improved ability and confidence to respond to patient psychological needs). Some of these benefits, such as improved staff morale, are very much in the 'here and now' but others, such as improved knowledge and skills have the potential to make a lasting difference, for both individuals and teams.

8.3 Recommendations

Recommendation 1 - Systematically screening patients for depression and anxiety was important both for identifying patients who needed additional help with mental health problems, and for raising staff awareness. We recommend that KHP reviews the staff time and IT support needed in the clinics, so that IMPARTS screening can be maintained.

Recommendation 2 - 3DLC referrals and discharge summaries should ideally be visible on the Electronic Patient Record (EPR) system. We recommend that if possible, the IT system is modified so that referrals to 3DLC are generated via the patients notes in the EPR system, and there is a facility for the 3DLC team to upload or add a discharge summary.

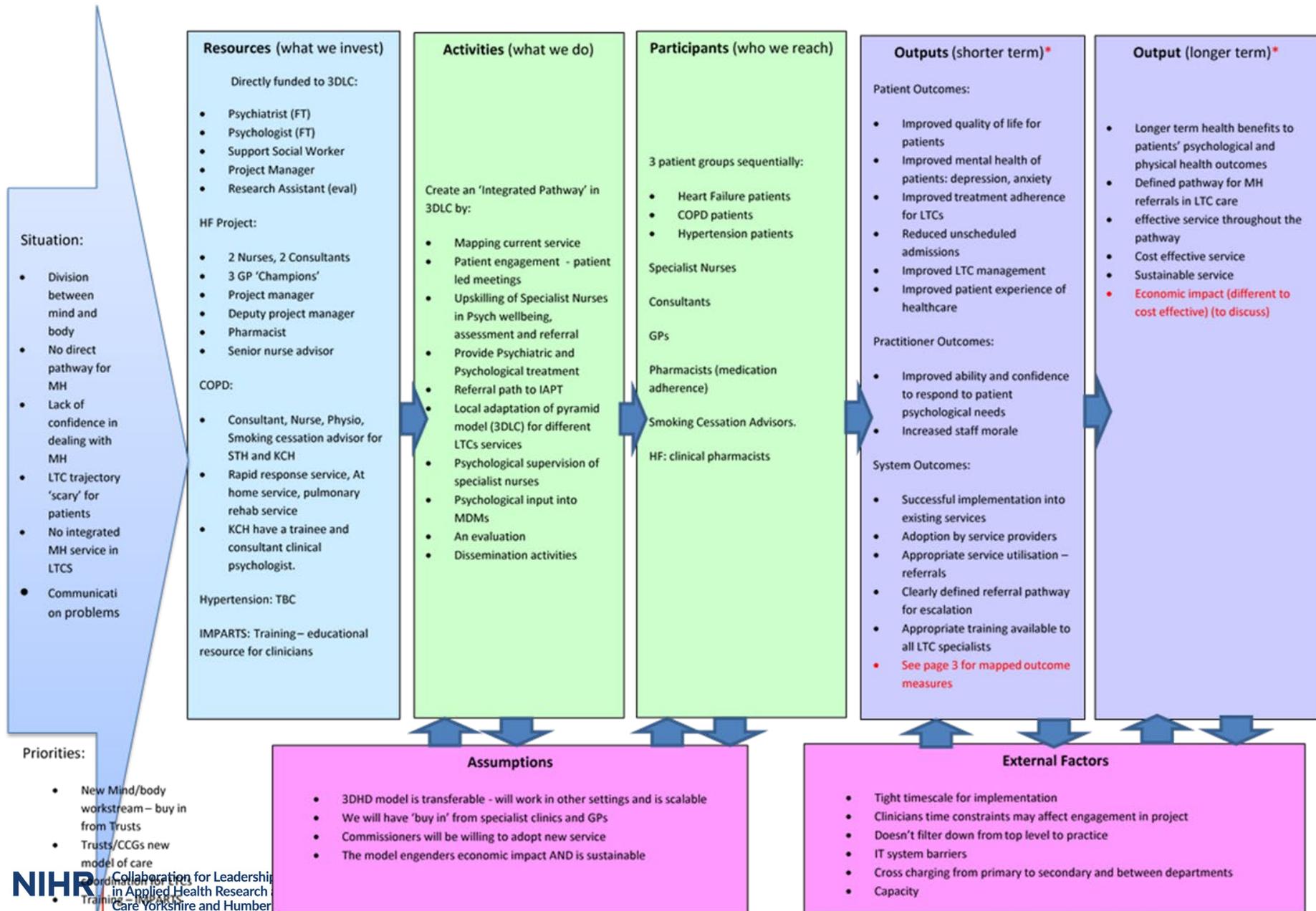
Recommendation 3 - We recommend that the 3DLC team are provided with administrative support, as this would free up valuable clinician time and facilitate better communications with patients.

Recommendation 4 - The training and support provided by 3DLC to the clinical teams was highly valued by staff and brought tangible benefits. We recommend that this is retained as part of 3DLC or any similar service going forward.

Recommendation 5 - Access to psychosocial support for patients (especially patients with complex needs) who need more than IAPT can offer but who do not require specialist mental health services was clearly valued by staff and patients. However, from the health economics evidence currently available it might be difficult for providers and commissioners to sustain the service in its present form. Nevertheless, we recommend that the service

should be sustained in some form, and should include access to a psychiatric, psychological and social support and advice, as this combination of support is central.

Appendix A 3DLC Logic Model



Appendix B Referral Pathway

