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Evaluation of Managing Cancer and Living Meaningfully (CALM) in people with advanced non-small cell lung cancer treated with immunotherapies or targeted therapies: protocol for a single-arm, mixed-methods pilot study

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ABSTRACT

Introduction People with advanced non-small cell lung cancer (NSCLC) treated with immunotherapies (IT) or targeted therapies (TT) may have improved outcomes in a subset of people who respond, raising unique psychological concerns requiring specific attention. These include the need for people with prolonged survival to reframe their life plans and tolerate uncertainty related to treatment duration and prognosis. A brief intervention for people with advanced cancer, Managing Cancer and Living Meaningfully (CALM), could help people treated with IT or TT address these concerns. However, CALM has not been specifically evaluated in this population. This study aims to evaluate the acceptability and feasibility of CALM in people with advanced NSCLC treated with IT or TT and obtain preliminary evidence regarding its effectiveness in this population.

Methods and analysis Twenty people with advanced NSCLC treated with IT or TT will be recruited from Peter MacCallum Cancer Centre, Melbourne, Australia. Participants will complete three to six sessions of CALM delivered over 3–6 months. A prospective, single-arm, mixed-methods pilot study will be conducted. Participants will complete outcome measures at baseline, post-intervention, 3 months and 6 months, including Patient Health Questionnaire, Death and Dying Distress Scale, Functional Assessment of Cancer Therapy General and Clinician Evaluation Questionnaire. The acceptability of CALM will be assessed using patient experiences surveys and qualitative interviews. Feasibility will be assessed by analysis of recruitment rates, treatment adherence and intervention delivery time.

Ethics and dissemination Ethics approval has been granted by the Peter MacCallum Cancer Centre Human Research Ethics Committee (HREC/82047/PMCC). Participants with cancer will complete a signed consent form prior to participation, and carers and therapists will complete verbal consent. Results will be made available to funders, broader clinicians and researchers through conference presentations and publications. If CALM is found to be acceptable in this cohort, this will inform a potential phase 3 trial.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ The use of mixed methods will capture detailed qualitative and quantitative information on the acceptability of Managing Cancer and Living Meaningfully in this cohort.
⇒ The inclusion of outcome measures at multiple time points allows for full evaluation of the feasibility of this study design to inform a larger trial.
⇒ The primary limitation of this study is the small sample size limiting interpretations on efficacy.
⇒ A second limitation is that people who did not speak, read or write fluently in English were excluded.

INTRODUCTION

Advanced non-small cell lung cancer (NSCLC) has historically had a poor prognosis, with 5-year overall survival approximately 6%.[1] In recent years, however, improved understanding of molecular subtypes of metastatic NSCLC and the introduction of immunotherapies (IT) and targeted therapies (TT), (subsequently referred to as 'novel therapies'), has improved the prognosis for a subset of people with metastatic NSCLC. For example, 5-year overall survival rate is now 62.5% for people with advanced NSCLC with anaplastic lymphoma kinase translocations who received first-line alectinib,[2] and 31.9% for people with cancers that have a programmed death ligand-1 with Tumour Proportion Score ≥50% who received first-line pembrolizumab.[3] This growing number of people living with advanced NSCLC who experience durable tumour responses to modern treatment approaches may have unique psychological needs.[4–7]

A recent qualitative study of people with NSCLC treated with immunotherapy or targeted therapy found significant unmet needs, including: difficulty managing treatment side effects and toxicities; uncertainty regarding prognosis and treatment duration; not fitting into the 'sick' role; and the emotional strain of seeking tailored health information.[4] Similar concerns have been identified in this cohort in the USA,[5 6] the UK and Denmark.[5] These concerns can have a significant impact on quality of life, decision-making and health information-seeking behaviours.[5] There is therefore an urgent need to address the unique psychological concerns of people with advanced NSCLC treated with these novel therapies.

The few psychological interventions trialled in people with metastatic cancer treated with novel therapies have limited their focus to a single area, such as fear of cancer recurrence,[8] or promoting hope,[9] or have been limited to a single psychological consultation delivered to only two participants.[10] While these have shown promise in addressing these specific areas, they are unlikely to address the broader range of needs identified in the qualitative studies specific to people with advanced NSCLC who have been treated with novel therapies. Managing Cancer and Living Meaningfully (CALM) is a brief evidence-based intervention for people with advanced cancer that has potential to address broader psychological concerns in this population related to four content domains.[11] These are: (1) symptom management and communication with healthcare providers; (2) changes in identity and relationships; (3) sense of meaning and purpose; (4) sustaining hope and facing mortality. CALM is intended to help people attend to the dual tasks of preparing for progressive disease and end-of-life, while simultaneously focusing on living (a challenge identified by this cohort[5]). CALM has been shown to reduce depressive symptoms, improve preparation for end-of-life[12] and is associated with subjective improvements in relationships, communication, values identification and reduced concerns about the future.[13]

Though CALM is currently being trialled in other cohorts, such as people with primary malignant brain tumours,[14] it has not yet been specifically studied in people with advanced cancer treated with novel therapies. Unlike the cohort in the original CALM randomised controlled trial (RCT)[12] who had a 12–18 months prognosis, people with advanced NSCLC treated with novel therapies may live longer with their disease. It is essential to examine the feasibility and acceptability of CALM in this unique population before undertaking larger-scale studies to evaluate its efficacy.

The overall aim of the present study is to assess the acceptability, feasibility and preliminary evidence of potential impact of CALM in people with advanced NSCLC treated with novel therapies. The specific objectives of this project are to:

- Assess the feasibility of the CALM intervention, outcome measures and study design to guide the development of a possible subsequent phase 3 RCT.
- Explore the acceptability of CALM for people with advanced NSCLC treated with novel therapies, their carers, as well as for therapists delivering the CALM intervention.
- Provide preliminary evaluation of the potential impact of CALM in this population.

METHODS AND ANALYSIS

Study design

This study is a prospective, single-arm pilot study. A mixed-methods design will be used. The study protocol adheres to the Standard Protocol Items: Recommendations for Interventional Trials checklist[15] (see online supplemental file 1).

Patient and public involvement

This pilot study was conceived and designed by a multidisciplinary group of clinicians, researchers and people with a lived experience of lung cancer ('patient representatives'). Patient representative co-investigators were intimately involved in the design of this project and will continue to be involved in management oversight through membership of the steering committee. Feedback from participants with cancer and their carers will be provided through a patient experiences survey and qualitative interviews regarding their experience of the intervention and their satisfaction and level of burden with the intervention. This will inform the intervention delivery in a future RCT.

Participants

Twenty people with advanced or metastatic NSCLC treated with novel therapies will be recruited from outpatient clinics at an Australian comprehensive cancer centre. This target number is in line with numbers that have been recruited to the treatment arm in a previous pilot study for people with advanced cancer.[16]

Inclusion criteria

- ≥18 years old.
- Diagnosis of unresectable, locally advanced NSCLC or metastatic NSCLC.
- ≥6 months post initiation of immunotherapy or targeted therapy or combination chemotherapy/immunotherapy (to avoid sampling individuals immediately after initial diagnosis or immediately on learning about IT/TT).
- Expected prognosis of ≥6 months.
- Able to read and write in English.
- Able to commit to three to six sessions.

Exclusion criteria

- Major communication difficulties that would impair ability to engage in a time-limited talking therapy such as significant speech or hearing difficulties.
- Cognitive impairment on the basis of a Short Orientation-Memory-Concentration Test (SOMCT) score ≥7 or indicated by the clinical team or medical record.

- Currently receiving any ongoing formal psychological therapy according to self-report for their cancer or other concerns at the time of consent. If a patient wants to pause their current therapy to participate in the CALM project for the duration of their CALM participation, this may no longer be an exclusion criteria if deemed clinically appropriate by the research staff member.

Recruitment and consent

Participants will be recruited from outpatient lung cancer clinics, over an anticipated 6-month period at a comprehensive cancer centre in a large urban setting. Potential participants will be identified by a member of the research team via review of the relevant clinical lists. Eligibility and appropriateness for each potential participant to take part will be confirmed with a lung cancer clinical nurse consultant. The potential participant's treating oncologist may advise the patient of the study, and seek agreement for the research team to contact the potential participant.

Eligible individuals will be called and invited to take part in the study following their lung outpatient appointment unless the treating team advises that the individual does not wish to be contacted. The research team member will describe the study to eligible individuals, conduct the verbal informed consent process and complete cognitive screening. If the person is eligible and interested in taking part in the study, informed consent will be obtained in accordance with Good Clinical Practice guidelines. Signed consent will either be provided in person (if the patient provides consent at time of introduction of the study in person), via mail using a reply-paid envelope to return, or online via email link to a Research Electronic Data Capture (REDCap) consent form (see Supplementary file 4). Recruitment commenced in July 2022 and is ongoing at the time of submission.

Intervention

CALM is a semi-structured, manualised, individual psychotherapy designed for people with advanced cancer and their loved ones. It shares features with manualised supportive-expressive,[17 18] cognitive-existential[19] and meaning-centred[20] group psychotherapies applied to people with advanced and terminal disease. It was developed based on empirical data, clinical observations and the theoretical foundations of relational,[21] attachment[22] and existential[23] theory. It is informed by the founding team's funded longitudinal research aimed at identifying the antecedents and course of psychosocial morbidity in individuals with metastatic cancer.[13 24–28]

CALM includes three to six individual therapy sessions, each approximately 45–60 min in length, delivered over 3–6 months. Additional sessions may be offered if clinically indicated. The sessions cover four domains: (1) symptom management and communication with healthcare providers; (2) changes in self and relations with close others; (3) sense of meaning and purpose; and (4) the future and mortality.[11] All modules will be addressed with each participant, but the sequencing and time devoted to each domain will vary, based on the concerns most relevant to each person. The caregiver of the person with NSCLC (eg, spouse, adult son/daughter, family member), or other persons accompanying the participant with cancer, are encouraged to participate in one or more of the therapy sessions, as deemed appropriate by the participant with cancer and therapist. CALM can be delivered by specially trained therapists from a wide range of disciplines, including social work, nursing, psychiatry, psychology and medicine.[11] CALM will be delivered in person, via telehealth (video call) or by telephone if no alternative is available. The CALM therapists will be provided with a copy of the participant's measures completed at each time point while the therapist is still treating the participant, including Patient Health Questionnaire-9 (PHQ-9), Death and Dying Distress Scale (DADDS) and Functional Assessment of Cancer Therapy-General (FACT-G). These are provided to inform clinical treatment and for therapists to discuss with the participant as applicable.

Qualitative interviews

Qualitative interviews employing cognitive interviewing methodologies will be conducted to assess acceptability of the intervention to people with advanced NSCLC treated with novel therapies.

1. All therapists delivering CALM to study participants will be invited to participate in qualitative interviews through a phone call or email. Therapists involved in this study will be clinical psychologists or clinical nurse consultants who are part of the research team (including authors FAL, MD and MF) and who are: (i) involved in the care of people with advanced or metastatic cancer; (ii) ≥18 years of age; (iii) able to provide informed consent; (iv) fluent in English; (v) willing/able to engage with training in the CALM therapy and attend online supervision meetings (based on feasibility of attending and scheduling in conjunction with concomitant usual role responsibilities). Therapists will complete verbal consent at the start of their interview (online supplemental file 2). Interviews will be conducted following the completion of CALM training. Potential participants will be invited to take part in a semi-structured interview in person, over Microsoft Teams or over the telephone; verbal consent will be obtained from participating therapists. Consenting therapists' interviews will include questions regarding the therapist's experience with CALM in this cohort, any adaptations they consider needed and intervention implementation. Therapist–patient relationships and the therapist's perspective of CALM will also be explored. Interviews will be audio-recorded and transcribed for analysis. Demographics will be collected.
2. All participants with cancer will be invited to take part in a semi-structured interview in person, over the telephone or via telehealth. If participants with cancer

agree, their primary carer will also be invited to take part with them. When participants agree, the research team will call the carer to discuss the project in more detail and determine if they wish to participate in the joint interview with the person with cancer. Carers will complete verbal consent at the start of the qualitative interview (online supplemental file 3). Participants with cancer and carers will be asked detailed questions about their experience of the illness and the intervention. They will be asked how they experienced or evaluated: the overall CALM therapy; each of the four CALM dimensions; the therapeutic alliance; and the structure and time frame of CALM. Interviews will be conducted at completion of the CALM intervention or following study withdrawal.

Interviews will be semi-structured and the interview guide will be revised on a reflexive ongoing basis relative to feedback and responses from participants. All interviews will be audio-recorded and transcribed. Recruitment of participants in the qualitative substudy will continue until thematic saturation is reached.

Evaluation measures and data collection

The measures and data collection, according to the project aims, are described below. Demographic and medical data will be collected, and evaluation measures will be administered to determine the acceptability and potential impact of the intervention. Feasibility of delivering the intervention and of the study protocol will be assessed by evaluation of the uptake, adherence to the intervention and therapist fidelity in administering the intervention.

Demographics and medical history

Demographic and clinical characteristics of the participant with cancer will be collected from the participant's medical record and liaison with the treating team after the patient has consented to the project. Data collected will include:

- Age of patient.
- Sex.
- Treatment received.
- Disease status including date of diagnosis with NSCLC, date of diagnosis with advanced or metastatic NSCLC (if not de novo metastatic), date of most recent restaging imaging and outcome (stable disease; partial response; complete response; progressive disease), cranial involvement.
- Demographic information such as ethnicity, marital status, education level and previous psychotherapy received will be obtained through participant verbal self-report during the assessment part of the CALM sessions or at screening.

Measures

Patient Health Questionnaire-9

The PHQ-9 is a widely used self-report measure of depression with strong reliability and validity.[29] Scores range from 0 to 27. Higher scores represent higher levels of depression.[29]

Functional Assessment of Cancer Therapy-General

The FACT-G[30] is a 27-item self-report questionnaire that measures health-related quality of life across four domains in people with cancer: physical, social, emotional and functional well-being. The FACT-G produces scores on each of the four subscales, as well as a total score. Higher scores indicate higher quality of life. The FACT-G has previously been demonstrated as having high reliability and validity.[30]

Death and Dying Distress Scale

The DADDS is a validated 15-item self-report scale measuring death anxiety in people with advanced cancer. The DADDS addresses fears about the dying process and distress about lost opportunities and self-perceived burdens placed on others as a result of the possibility of the person with cancer dying from their disease. The DADDS has shown good construct validity with two factors, one related to distress about the shortness of time and the other to distress about dying and death.[31 32]

Clinician Evaluation Questionnaire

The Clinician Evaluation Questionnaire (CEQ) is a 7-item validated patient-reported experience measure[33] that will be completed by participants with cancer to evaluate the extent to which they perceived benefit from the components of the CALM intervention. The CEQ has shown strong internal consistency (Cronbach's alpha=0.94–0.95), factor structure and concurrent validity.[33] The CEQ will be administered post-intervention.

Patient experiences survey

This survey has been purpose-built based on previous studies (eg, [8]), in consultation with the lead Principal Investigator of CALM, Gary Rodin, to determine the experience of participants with cancer of the intervention, including which aspects they found helpful or unhelpful and any changes in their well-being following the intervention. This survey consists of nine questions and is expected to take approximately 10 min to complete. Participants will be invited to complete the survey within 2 weeks of completing the CALM intervention, or earlier if they withdraw prior to completion of the intervention.

CALM Treatment Integrity Measure

The CALM Treatment Integrity Measure (CTIM)[12] is a 32-item questionnaire that assesses treatment integrity of the CALM intervention using 8 subscales: 13 items on the therapeutic process subscales: (1) Therapeutic Relationship; (2) Modulating Affect; (3) Shifting Frame; (4) Interpretations; and 19 items on the therapeutic content subscales: (5) Symptom Management and Communication with Healthcare Providers; (6) Changes in Self and Relations with Close Others; (7) Spirituality, Sense of Meaning and Purpose; (8) Preparing for the Future, Sustaining Hope and Facing Mortality. The CTIM will

be completed by the CALM supervisor at each supervision session for each therapist who has presented and will be used to assess fidelity to the intervention and therefore the appropriateness of the CALM intervention for this population. Adherence to the item is estimated on a 3-point Likert scale with '1=needs improvement', '2=satisfactory', '3=excellent' implementation of the CALM therapy technique. Items that were not observed in the supervision presentation are left blank indicating that they were not applied. Adherence to the protocol is defined as administering 10/19 items on the therapeutic content subscales in at least 30% of the CTIMs, and 4/19 of these to a satisfactory or excellent extent in at least 30% of the CTIMs, consistent with previous research analysing the treatment integrity according to the first and last CALM sessions.[34]

Appropriateness and acceptability

The appropriateness and acceptability of the intervention will be assessed by evaluation of the (1) patient experiences survey, (2) CEQ, (3) transcribed qualitative interview data.

Feasibility

Feasibility of the intervention will be assessed by (1) a review of supervisor-rated treatment fidelity using the CTIM completed after each supervisory session, (2) audio recording all sessions and then reviewing sections of therapy sessions during supervision to check compliance with protocols using the CTIM.

Referral rates/uptake and adherence

A case report form (CRF) will be used by the researcher and/or therapist to assess referral rates into the study, uptake of the intervention and participant adherence to the intervention. Reasons for declining to participate will also be noted. The project team, using the CRF will collect variables listed in online supplemental table 1.

Feasibility outcome criteria are presented in online supplemental table 2.

Therapist time

Time and cost of delivering the intervention will be determined based on the number of minutes or hours spent per task costed according to the role of the staff member. An outline of the variables to be collected is presented in online supplemental table 3, and this data will be collected on the screening log and CRF.

Impact

The PHQ-9, FACT-G and DADDS will be used for preliminary evaluation of the impact of the intervention and to assess the feasibility of the trial methodology.

As illustrated in online supplemental table 4, participants will be asked to complete PHQ-9, FACT-G and DADDS at baseline (T1), immediately post-intervention (T2), 3 months (T3) and 6 months (T4).

Data analysis

Data will be managed through REDCap[35 36] and quantitative data analysed using SPSS (V.24) or Excel.

Quantitative analysis

Descriptive statistics

Descriptive statistics (eg, count/percentage, mean/SD, median/IQR as appropriate) will be used to summarise demographic, clinical, feasibility data (including time measures), treatment details (modality; if carers were present) and responses to outcome measure questionnaires.

Feasibility

Feasibility data (including time measures) will be analysed using count/percentage. Feasibility outcome criteria are presented in online supplemental table 2 and these figures are based on previous CALM studies.[12 37–40]

Impact

Change scores will be calculated for participants who complete at least three sessions of CALM as well as for the full sample. Participants who reported a reduction of ≥5 points on the PHQ-9[12] at T2, T3 and T4 compared with baseline will be summarised with a proportion of the sample and 95% CI for the full sample and separately for participants with a baseline PHQ-9 ≥8. The proportion and CI will be reported for participants experiencing a 10% or more reduction on the DADDS, or 10% or more increase on the FACT-G. This is consistent with accepted guidelines for interpreting clinically significant changes in patient-reported outcomes.[41] The number and proportion of the sample who have a remission in depressive symptoms of at least threshold severity (indicated by PHQ-9 ≥8 points) in those participants with PHQ-9 ≥8 at baseline will be reported (as per[12]). Continuous variables will be compared using a paired samples t-test or Wilcoxon signed-rank test as appropriate before and after the intervention, and a Kazis effect size will be reported.

Qualitative analysis

Free text items from the patient experiences surveys and transcribed interviews will be analysed using summarising content analysis. A deductive content analysis approach will be used for coding data. Predefined categories will be formulated based on the research questions informing the study. Additional inductive codes will be identified from the survey responses.

ETHICS AND DISSEMINATION

Ethics approval and consent to participate

This study, protocol (V7 as of writing), and all instruments including the informed consent document, have been approved by the Peter MacCallum Cancer Centre Human Research Ethics Committee (HREC) in Melbourne, Australia, HREC reference number: HREC/82047/PMCC. Protocol modifications will be communicated to

the reviewing HREC, steering committee and principal investigators.

All participants with cancer will complete a signed consent form prior to participation, and carers and therapists will complete verbal consent with a written explanatory statement provided (see online supplemental files 2–4).

Data storage and privacy issues

A unique study identification number system will be used for data collected for this project. This system involves keeping a 'key' that specifies and links the patient's personal identifying information (eg, names, unique record numbers) with the patient's corresponding study identification number (eg, PT01/PR01). The key will be kept electronically (in a password-protected Excel spreadsheet) on a Peter MacCallum Cancer Centre server separate from all hardcopy and softcopy data collected. Electronic data will be stored in password-protected folders on Peter MacCallum Cancer Centre's secure servers. Identifying information of the patient's name and contact details will be obtained from the medical record and/or consent form only to maintain contact with the patient. This information will not be used in data analysis, and will be deleted from the database at the conclusion of the project.

Only members of the project team and therapists will have access to this data, in accordance with the National Statement on Ethical Conduct in Human Research 2007 and the Australian Code for Responsible Conduct of Research 2018. Hardcopy data will be stored in locked filing cabinets within the Peter MacCallum Cancer Centre Department of Psychosocial Oncology. Five years after publication or dissemination of project outcomes, hardcopy and electronic data will be destroyed.

CALM therapists will complete a short documentation on the patient's medical file of each therapy session. This medical file documentation will provide a brief summary of the session as relevant to the treating team. A more detailed therapy note will be completed by the CALM therapist and kept in a password-protected file in the research folder accessible only by the research team members. This more detailed note will be sent to Associate Investigator Professor Gary Rodin before the patient is presented at group supervision to evaluate fidelity of CALM. Research team members will document on the medical file any attempted contact with the patient or research status change (eg, completed, withdrawn).

Withdrawal criteria

It is not expected that patients will be withdrawn by the research team or therapist involved in delivering the intervention as the intervention and/or assessment schedule can be modified depending on patient needs. If patients require referral to other practitioners for complementary care (eg, medication), or care for unrelated morbidity, this will be recorded on the database.

Should a participant withdraw from the study, it will be confirmed if they wish to withdraw from: (1) all components of the study; (2) completing questionnaires and interview, but wish to continue therapy sessions; (3) therapy sessions, but willing to complete questionnaires or interviews; or (4) the qualitative substudy. Patients who opt to withdraw from the study will be asked if they would consent to continue completing follow-up measures, evaluation and for any of their existing data to be included in analyses. If consent is not given for the latter, their data will be deleted from the database except reasons for withdrawing and demographic details including treatment, sex, age, marital status, highest level of education completed and previous psychotherapy received. Any electronic or paper records pertaining to their involvement will be destroyed at the completion of the study, except medical notes that have been committed to the electronic system. A record of patients who have withdrawn from the study will be maintained in a secure database until the completion of the study, to ensure that these patients are not approached again by the project team. Patients will be unable to withdraw their data after the completion of the study as their data may have already been used in analyses.

Confidentiality

It is not expected that participating in this project will pose any risks of harm to participants. If any disclosures of risks to safety (eg, suicidal ideation) occur during any stages of the project, standard clinical processes will be followed including safety planning with the participant and, when needed, advising an appropriate support person such as a member of the participant's treating team and/or a family member. This limit to confidentiality is included in the participant information and consent form.

Safety reporting

The potential for adverse events is deemed to be low in this study. Should participants report suicidal ideation while completing the questionnaires (specifically by answering 'yes' to question #9 in the PHQ-9), a member of the research or clinical team will follow distress protocols as per usual clinical practice. Specifically, research staff or psychologist will: (i) immediately inform the principal investigator and/or most responsible clinician; (ii) contact patient to assess risks and offer a referral to acute services if needed. Any additional action(s) suggested by the principal investigator(s) or most responsible clinician will be implemented and documented in the participant's medical file. If a patient scores ≥1 on item 9 of the PHQ-9 completed online via REDCap, an automatic alert will be sent to three members of the clinical research team or clinical psychology CALM project therapists if initial contacts are on leave. The REDCap questionnaires will be turned offline when the project team or clinicians are unable to review the PHQ-9 (eg, shared leave). Patients will also receive an automated email on completion of questionnaires thanking them for completing and with crisis numbers should they need them. Should suicidal ideation be reported

directly to CALM therapists by a patient, clinicians will follow regulations from their respective regulating bodies or as otherwise mandated by the law.

Where patients score ≥7 on the SOMCT, the research team will advise their treating team of these results for the treating team to consider and communicate to the patient if appropriate or if further testing is required. Patients will not be advised of their result as the cognitive screening is not a diagnostic tool.

The sponsor and ethics department will be notified immediately of any safety issues, and the management of these.

Dissemination

This study will be registered with the Australia New Zealand Clinical Trials Registry. Results from this study will be published in peer-reviewed journals and disseminated at national and/or international conferences. Study findings will also be disseminated to clinicians involved in the care of people with advanced NSCLC.

DISCUSSION

People with advanced NSCLC who are treated with novel therapies face unique psychological concerns that are often unmet in the course of routine care, such as managing uncertainty, dealing with fear of cancer progression and difficulty obtaining tailored health information.[4–6] These concerns greatly impact quality of life and therefore establishing evidence for a psychological intervention, that is, suitable and effective for this cohort is a recommended high priority.[6]

CALM has theoretical applicability to this cohort by addressing the dual tasks of focusing on living in the present while preparing for the possibility of disease progression and end-of-life. It is also one of the few interventions developed specifically for people with advanced disease that has been shown to reduce depressive symptoms, 'death anxiety', and improve communication with healthcare providers and preparation for end-of-life.[12] However, CALM has not yet been evaluated specifically in people treated with novel therapies who may face unique challenges of high levels of uncertainty regarding prognosis, potential extended treatment duration and lifespan and limited healthcare information available. Establishing whether CALM is suitable for people with advanced cancer treated with novel therapies is therefore necessary.

The use of a mixed-methods design in this study ensures detailed qualitative exploration of the potential acceptability of CALM to people with cancer, their carers, and therapists. The primary limitation of this study is the small sample size of 20 participants, which will limit any interpretations on efficacy of CALM for this population. However, the primary aim of this study is to examine the acceptability and feasibility of CALM and the trial design, and this sample size will allow adequate analyses of these aspects.

The exclusion criteria of this study also limits the generalisability of findings to broader populations. In particular, people who could not speak, read or write fluently in English were excluded. To date, there were no known studies published on the delivery of CALM with interpreters. Pilot studies to assess the acceptability of CALM with interpreters is a priority area for future work. A further limitation of the study design is the exclusion of people currently receiving formal psychotherapy. This may limit access to cancer-specific psychological support to potential participants who may be already receiving non-cancer-related psychological support. This exclusion criterion is needed due to the potential overlap of CALM content domains with other psychological therapies such as the focus on relationships, identity and sense of meaning. However, future work could consider offering participants the opportunity to pause their current therapy if they would like to participate in the CALM study.

Our study is an initial step towards understanding if CALM is acceptable to people with advanced NSCLC treated with novel therapies. The results of our evaluation will inform whether CALM requires any adaptations for administration in this cohort. If CALM is shown to be acceptable, and study procedures are feasible, this will inform future studies to assess the efficacy of CALM in people with advanced NSCLC treated with novel therapies.

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Contributors FAL contributed to the design of the proposed study, drafting and revising the paper. MJ contributed to the design of the proposed study and revising the paper. GR contributed to the design of the proposed study, design and description of the intervention component, design of qualitative interview scripts, selection of data collection tools and revising the paper. MF contributed to the design of the proposed study and revising the paper. MD contributed to the design of the proposed study, planning recruitment procedures and revising the paper. JL-K and SH contributed to the design of the proposed study, population selection and defining inclusion criteria and revising the paper. LM contributed to the design of the proposed study and revising the paper. LB, LL and JB contributed to the design of the proposed study, providing a consumer perspective to procedures and revising the paper. TS contributed to writing a statistical analysis plan.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

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Supplementary Table 1. Uptake and adherence data collection

Data	Variables	Collection method	Collection place / time
Referral rates/uptake	No. referred to the intervention	Project specific CRF	Collected during the referral process
	No. who declined referral to the intervention	Screening Log	Collected during the referral processes
	No. who declined the intervention after accepting referral	Project specific CRF	Collected during referral/intervention process
Participant adherence to therapy	No. completing at least 3 sessions of the intervention	Project specific CRF	Collected during individual therapy sessions by clinicians

Note: No. = number; CRF = Case Report Form.

Supplementary Table 2. Feasibility outcome criteria

Outcome	Value	Feasibility criteria
Recruitment target	20 over 6 months	Recruitment of 20 participants over 6 months
Enrolment rate	20 of 80 (25%)	At least 25% of eligible individuals will be enrolled
Compliance with assessments	12 of 20 (60%)	At least 60% of participants who commence CALM complete the outcome measures at T2
Adherence	13 of 20 (65%) complete ≥3 sessions	At least 65% of participants complete at least three CALM sessions
Therapist time	90 minutes for session 1 (including notes), + 60 minutes per sessions 2-6, + 30 minutes additional time	6 hours for 5 sessions

Note: T2 = post-intervention.

Supplementary Table 3. Time and costing data collection.

Activity	**Variables**	**Data collected**
Intervention delivery	Clinician/researcher time • Session time • Time additional to intervention (e.g., follow up phone calls etc.) • Time for follow-up care discussion at end of intervention, including referrals • Other: free text*	Role (e.g., psychologist, nurse consultant) Time in minutes

*Other: Free text – to collect tasks undertaken that are not otherwise defined.

Supplementary Table 4. Outcome measures used at each time-point.

Outcome	Baseline (T1)	Post-intervention (T2)	3 months (T3)	6 months (T4)
PHQ-9	x	x	x	x
FACT-G	x	x	x	x
DADDS	x	x	x	x
Patient Experiences Survey		x		
CEQ		x	x	x

Note: PHQ-9 = Patient Health Questionnaire; FACT-G = Functional Assessment of Cancer Therapy; DADDS = Death and Dying Distress Scale; CEQ = Clinician Evaluation Questionnaire.

Reporting checklist for protocol of a clinical trial.

Based on the SPIRIT guidelines.

		Reporting Item	Page Number
Administrative information			
Title	#1	Descriptive title identifying the study design, population, interventions, and, if applicable, trial acronym	1
Trial registration	#2a	Trial identifier and registry name. If not yet registered, name of intended registry	13
Trial registration: data set	#2b	All items from the World Health Organization Trial Registration Data Set	N/A
Protocol version	#3	Date and version identifier	14
Funding	#4	Sources and types of financial, material, and other support	14
Roles and responsibilities: contributorship	#5a	Names, affiliations, and roles of protocol contributors	15
Roles and responsibilities: sponsor contact information	#5b	Name and contact information for the trial sponsor	1
Roles and responsibilities: sponsor and funder	#5c	Role of study sponsor and funders, if any, in study design; collection, management, analysis, and interpretation of data; writing of the report; and the decision to submit the report for publication, including whether they will have ultimate authority over any of these activities	14
Roles and responsibilities: committees	#5d	Composition, roles, and responsibilities of the coordinating centre, steering committee, endpoint adjudication committee, data management team, and	15

		other individuals or groups overseeing the trial, if applicable (see Item 21a for data monitoring committee)	
Introduction			
Background and rationale	#6a	Description of research question and justification for undertaking the trial, including summary of relevant studies (published and unpublished) examining benefits and harms for each intervention	4
Background and rationale: choice of comparators	#6b	Explanation for choice of comparators	4
Objectives	#7	Specific objectives or hypotheses	5
Trial design	#8	Description of trial design including type of trial (eg, parallel group, crossover, factorial, single group), allocation ratio, and framework (eg, superiority, equivalence, non-inferiority, exploratory)	5
Methods: Participants, interventions, and outcomes			
Study setting	#9	Description of study settings (eg, community clinic, academic hospital) and list of countries where data will be collected. Reference to where list of study sites can be obtained	5
Eligibility criteria	#10	Inclusion and exclusion criteria for participants. If applicable, eligibility criteria for study centres and individuals who will perform the interventions (eg, surgeons, psychotherapists)	5
Interventions: description	#11a	Interventions for each group with sufficient detail to allow replication, including how and when they will be administered	6
Interventions: modifications	#11b	Criteria for discontinuing or modifying allocated interventions for a given trial participant (eg, drug dose change in response to harms, participant request, or improving / worsening disease)	N/A

Interventions: adherance	#11c	Strategies to improve adherence to intervention protocols, and any procedures for monitoring adherence (eg, drug tablet return; laboratory tests)	9
Interventions: concomitant care	#11d	Relevant concomitant care and interventions that are permitted or prohibited during the trial	N/A
Outcomes	#12	Primary, secondary, and other outcomes, including the specific measurement variable (eg, systolic blood pressure), analysis metric (eg, change from baseline, final value, time to event), method of aggregation (eg, median, proportion), and time point for each outcome. Explanation of the clinical relevance of chosen efficacy and harm outcomes is strongly recommended	8
Participant timeline	#13	Time schedule of enrolment, interventions (including any run-ins and washouts), assessments, and visits for participants. A schematic diagram is highly recommended (see Figure)	Table 3
Sample size	#14	Estimated number of participants needed to achieve study objectives and how it was determined, including clinical and statistical assumptions supporting any sample size calculations	5
Recruitment	#15	Strategies for achieving adequate participant enrolment to reach target sample size	5, 6
Methods: Assignment of interventions (for controlled trials)			
Allocation: sequence generation	#16a	Method of generating the allocation sequence (eg, computer-generated random numbers), and list of any factors for stratification. To reduce predictability of a random sequence, details of any planned restriction (eg, blocking) should be provided in a separate document that is unavailable to those who enrol participants or assign interventions	N/A

Allocation concealment mechanism	#16b	Mechanism of implementing the allocation sequence (eg, central telephone; sequentially numbered, opaque, sealed envelopes), describing any steps to conceal the sequence until interventions are assigned	N/A
Allocation: implementation	#16c	Who will generate the allocation sequence, who will enrol participants, and who will assign participants to interventions	N/A
Blinding (masking)	#17a	Who will be blinded after assignment to interventions (eg, trial participants, care providers, outcome assessors, data analysts), and how	N/A
Blinding (masking): emergency unblinding	#17b	If blinded, circumstances under which unblinding is permissible, and procedure for revealing a participant's allocated intervention during the trial	N/A
Methods: Data collection, management, and analysis			
Data collection plan	#18a	Plans for assessment and collection of outcome, baseline, and other trial data, including any related processes to promote data quality (eg, duplicate measurements, training of assessors) and a description of study instruments (eg, questionnaires, laboratory tests) along with their reliability and validity, if known. Reference to where data collection forms can be found, if not in the protocol	7
Data collection plan: retention	#18b	Plans to promote participant retention and complete follow-up, including list of any outcome data to be collected for participants who discontinue or deviate from intervention protocols	12
Data management	#19	Plans for data entry, coding, security, and storage, including any related processes to promote data quality (eg, double data entry; range checks for data values). Reference to where details of data management procedures can be found, if not in the protocol	11

Statistics: outcomes	#20a	Statistical methods for analysing primary and secondary outcomes. Reference to where other details of the statistical analysis plan can be found, if not in the protocol	10
Statistics: additional analyses	#20b	Methods for any additional analyses (eg, subgroup and adjusted analyses)	N/A
Statistics: analysis population and missing data	#20c	Definition of analysis population relating to protocol non-adherence (eg, as randomised analysis), and any statistical methods to handle missing data (eg, multiple imputation)	N/A
Methods: Monitoring			
Data monitoring: formal committee	#21a	Composition of data monitoring committee (DMC); summary of its role and reporting structure; statement of whether it is independent from the sponsor and competing interests; and reference to where further details about its charter can be found, if not in the protocol. Alternatively, an explanation of why a DMC is not needed	N/A
Data monitoring: interim analysis	#21b	Description of any interim analyses and stopping guidelines, including who will have access to these interim results and make the final decision to terminate the trial	N/A
Harms	#22	Plans for collecting, assessing, reporting, and managing solicited and spontaneously reported adverse events and other unintended effects of trial interventions or trial conduct	13
Auditing	#23	Frequency and procedures for auditing trial conduct, if any, and whether the process will be independent from investigators and the sponsor	N/A
Ethics and dissemination			
Research ethics approval	#24	Plans for seeking research ethics committee / institutional review board (REC / IRB) approval	14

Protocol amendments	#25	Plans for communicating important protocol modifications (eg, changes to eligibility criteria, outcomes, analyses) to relevant parties (eg, investigators, REC / IRBs, trial participants, trial registries, journals, regulators)	N/A
Consent or assent	#26a	Who will obtain informed consent or assent from potential trial participants or authorised surrogates, and how (see Item 32)	5
Consent or assent: ancillary studies	#26b	Additional consent provisions for collection and use of participant data and biological specimens in ancillary studies, if applicable	N/A
Confidentiality	#27	How personal information about potential and enrolled participants will be collected, shared, and maintained in order to protect confidentiality before, during, and after the trial	12
Declaration of interests	#28	Financial and other competing interests for principal investigators for the overall trial and each study site	14
Data access	#29	Statement of who will have access to the final trial dataset, and disclosure of contractual agreements that limit such access for investigators	14
Ancillary and post trial care	#30	Provisions, if any, for ancillary and post-trial care, and for compensation to those who suffer harm from trial participation	N/A
Dissemination policy: trial results	#31a	Plans for investigators and sponsor to communicate trial results to participants, healthcare professionals, the public, and other relevant groups (eg, via publication, reporting in results databases, or other data sharing arrangements), including any publication restrictions	1
Dissemination policy: authorship	#31b	Authorship eligibility guidelines and any intended use of professional writers	N/A
Dissemination policy: reproducible research	#31c	Plans, if any, for granting public access to the full protocol, participant-level dataset, and statistical code	N/A

Appendices

Informed consent materials	#32	Model consent form and other related documentation given to participants and authorised surrogates	N/A
Biological specimens	#33	Plans for collection, laboratory evaluation, and storage of biological specimens for genetic or molecular analysis in the current trial and for future use in ancillary studies, if applicable	N/A

Participant Information and Consent Form

Title	Managing Cancer and Living Meaningfully (CALM) in people with non-small cell lung cancer treated with novel therapies: A pilot study
Principal Investigator	Dr Fiona Lynch
Protocol Version	V3, 8th March 2022
Ethics Approval Number	21/245

1 Introduction

You are invited to take part in this project because you have been providing CALM sessions to people with lung cancer as part of the CALM pilot study that aims to assess the acceptability and feasibility of Managing Cancer and Living Meaningfully (CALM) with people with advanced lung cancer who have received immunotherapies or targeted therapies at Peter MacCallum Cancer Centre.

This form explains the project and what you will do if you decide to take part. Please read this information carefully. Please ask questions about anything you do not understand or want to know.

Your participation in this project is voluntary. If you do not wish to take part, you do not have to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage. Your decision to take part or not to take part in this project, or to take part and then withdraw, will not affect your relationship with the project staff. If you do not want to take part, but later change your mind, please contact the project team.

If you decide you want to take part in this project, you will be asked to provide verbal consent at the commencement of your interview. You will be given a copy of this form to keep.

2 What is the purpose of this project?

The purpose of this research is to understand the usefulness of the CALM therapy for people with advanced lung cancer who have been treated with novel therapies. CALM has been developed for people with advanced cancer but has not yet been assessed with people treated with novel therapies. We aim to get feedback from therapists about their experience delivering CALM to these patient participants.

This project is led by Dr Fiona Lynch, Clinical Psychologist at Peter Mac. The project is funded by a Peter Mac Cancer Foundation Grant.

3 What will I need to do if I am involved in this project?

If you choose to take part in this project, you will complete a once-off interview about your experience delivering the CALM therapy to these patient participants. This interview will be completed over the phone, over telehealth (video-call) or in person depending on your preference. This interview will last for approximately 30-45 minutes and be conducted by a member of the research team. This interview will be audio recorded and transcribed for analysis.

Other information: We will also ask you some short questions about your demographic background such as your years of experience, sex, and qualifications.

There are no costs associated with participating in this research project, nor will you be paid.

Should you wish to receive the overall results of this project you should inform the project team at the time of providing consent. We will send you these results at the end of the project.

4 What are the possible risks or disadvantages of taking part?

Lynch FA, *et al*. *BMJ Open* 2023; 13:e072322. doi: 10.1136/bmjopen-2023-072322

There are no anticipated risks associated with this project.

5 What if I withdraw from this project?

If you do consent to participate, you may withdraw at any time up until the completion of the project. If you decide to withdraw from the project, please notify a member of the research team.

You should be aware that data collected up to the time you withdraw will form part of the overall project results. If you do not want your data to be included, you must tell the project team member when you withdraw from the project. After completion of the project, your data will be included in the overall results and you will no longer be able to withdraw your data.

6 What will happen to information about me?

By signing the consent form, you consent to the project team collecting and using personal information about you for the evaluation of this project as described. We will keep this data in an unidentifiable format after the completion of the project to protect your privacy. The data will be stored on password protected computer files which will only be accessed by the project team.

Data will be stored for a period of seven (7) years and then will be confidentially destroyed.

The results of this project may be published or presented at seminars and conferences, but it will be done in a way that cannot identify you. Some journals will keep the overall de-identified data for an indefinite period.

In accordance with relevant Australian and/or Victorian privacy and other relevant laws, you have the right to request access to the information about you that is collected and stored by the project team. You have the right to request that any information with which you disagree be corrected. Please inform the research team member named at the end of this document if you would like to access your information.

7 Who has reviewed the project?

All research in Australia involving people is reviewed by an independent group of people that form a Human Research Ethics Committee (HREC). The ethical aspects of this project have been approved by the HREC of the Peter MacCallum Cancer Centre.

This project will be carried out according to the *National Statement on Ethical Conduct in Human Research (2007)*. This statement has been developed to protect the interests of people who agree to participate in human intervention (research and non-research) studies.

8 Further information and who to contact

If you want any further information concerning this project or if you have any problems which may be related to your involvement in the project (for example, feelings of distress), you can contact the Project Lead Fiona Lynch on 8559 8236 or any of the following people:

Project contact person	**Peter Mac complaints person**	**Peter Mac Ethics Committee**
Fiona Lynch	Position Consumer Liaison	Peter Mac Ethics Coordinator
Telephone: (03) 8559 8236	Telephone: (03) 8559 7517	Telephone: (03) 8559 7540
Email: fiona.lynch@petermac.org	Email: consumerliaison@petermac.org	Email: ethics@petermac.org

Consent Form

Title	Managing Cancer and Living Meaningfully (CALM) in people with non-small cell lung cancer treated with novel therapies: A pilot study
Project and Ethics Approval Number	
Project Sponsor	Peter MacCallum Cancer Centre
Principal Investigator	Dr Fiona Lynch

Declaration by participant

- I have read the Participant Information and Consent Sheet or someone has read it to me in a language that I understand.
- I understand the purposes, procedures and risks of the project.
- I have had an opportunity to ask questions about the project and what is required of me, and I am satisfied with the answers I have received.
- I freely agree to participate in this project as described and understand that I am free to withdraw at any time during the project without affecting my future care.
- I understand that I will be given a copy of this document to keep.

☐ Participant clearly states their agreement to participate

Declaration by Researcher†

I have given a verbal explanation of the research project, its procedures and risks and I believe that the participant has understood that explanation.

Name of Researcher† (please print) _____

Signature _____ Date _____

† An appropriately qualified member of the research team must provide the explanation of, and information concerning, the research project.

Lynch FA, *et al*. *BMJ Open* 2023; 13:e072322. doi: 10.1136/bmjopen-2023-072322

Participant Information and Consent Form - Carers

Title	Managing Cancer and Living Meaningfully (CALM) in people with non-small cell lung cancer treated with novel therapies: A pilot study
Principal Investigator	Dr Fiona Lynch
Protocol Version	V2 11th November 2022
Ethics Approval Number	21/245

1 Introduction

You are invited to take part in this project because you are a support person for someone with lung cancer who has received a psychology therapy called Managing Cancer and Living Meaningfully (CALM) as part of the Peter Mac CALM in Lung Cancer pilot study. This study aims to assess the acceptability and feasibility of CALM with people with advanced lung cancer who have received novel therapies (immunotherapies or targeted therapies) at Peter MacCallum Cancer Centre.

This form explains the project and what you will do if you decide to take part. Please read this information carefully. Please ask questions about anything you do not understand or want to know.

Your participation in this project is voluntary. If you do not wish to take part, you do not have to. If you decide to take part and later change your mind, you are free to withdraw. Your decision to take part or not to take part in this project, or to take part and then withdraw, will not affect your relationship with the project staff.

There are no costs associated with participating in this research project, nor will you be paid.

2 What is the purpose of this project?

The purpose of this research is to understand the usefulness of the CALM therapy for people with advanced lung cancer who have been treated with novel therapies. CALM has been developed for people with advanced cancer but has not yet been assessed for people treated with novel therapies. We aim to get feedback from patients and carers about their experience of the CALM therapy.

This project is led by Dr Fiona Lynch, Clinical Psychologist at Peter Mac. The project is funded by a Peter Mac Cancer Foundation Grant.

3 What will I need to do if I am involved in this project?

If you choose to take part in this project, you will complete a once-off interview with the person with lung cancer about your experience of the CALM therapy. This interview will be completed over the phone, over telehealth (video-call) or in person, depending on your preference. The interview will be conducted by a member of the research team. At the start of the interview you will be asked to verbally consent to the interview and to your information being temporarily stored and analysed for the purposes of this research project. The interview will last for approximately 30-45 minutes and be conducted by a member of the research team. This interview will be audio recorded and transcribed for analysis.

You will also be asked a few questions about yourself so we can understand who is taking part.

Should you wish to receive the overall results of this project you should inform the project team at the time of providing consent. We will send you these results at the end of the project.

4 What are the possible risks or disadvantages of taking part?

There are no anticipated risks associated with this project.

Lynch FA, *et al. BMJ Open* 2023; 13:e072322. doi: 10.1136/bmjopen-2023-072322

5 What if I withdraw from this project?

If you do consent to participate, you may withdraw at any time up until the completion of the project or until your interview has beenanalysed, whichever comes first. If you decide to withdraw from the project, please notify a member of the research team.

You should be aware that data collected up to the time you withdraw will form part of the overall project results. If you do not want your data to be included, you must tell the project team member when you withdraw from the project. After completion of the project, your data will be included in the overall results and you will no longer be able to withdraw your data.

6 What will happen to information about me?

By verbally consenting, you consent to the project team collecting and using personal information about you for the evaluation of this project as described. The information you supply will be stored in password protected computer files accessible only to the project team. The information will be kept in a de-identified format to protect your privacy, that is, formatted in a way that it will not be possible for you to be identified.

This de-identified information will be stored for a period of seven (7) years and then will be confidentially destroyed.

The results of this project may be published in scientific journals or presented at seminars and conferences, but it will be done in a way that cannot identify you. Some journals may keep the overall de-identified data for an indefinite period.

In accordance with relevant Australian and/or Victorian privacy and other relevant laws, you have the right to request access to the information about you that is collected and stored by the project team. You have the right to request that any information with which you disagree be corrected. Please inform the research team member named at the end of this document if you would like to access your information.

7 Who has reviewed the project?

All research in Australia involving people is reviewed by an independent group of people that form a Human Research Ethics Committee (HREC). The ethical aspects of this project have been approved by the HREC of the Peter MacCallum Cancer Centre.

This project will be carried out in accordance with the *National Statement on Ethical Conduct in Human Research (2007, updated 2018)*. This statement has been developed to protect the interests of people who agree to participate in research conducted with or about people.

8 Further information and who to contact

If you want any further information about this project or if you have any problems which may be related to your involvement in the project (for example, feelings of distress), you can contact the Project Lead Fiona Lynch on 8559 8236 or any of the following people:

Project contact person	**Peter Mac complaints person**	**Peter Mac Ethics Committee**
Fiona Lynch	Position Consumer Liaison	Peter Mac Ethics Coordinator
Telephone: (03) 8559 8236	Telephone: (03) 8559 7517	Telephone: (03) 8559 7540
Email: fiona.lynch@petermac.org	Email: consumerliaison@petermac.org	Email: ethics@petermac.org

Consent Form

Title	Managing Cancer and Living Meaningfully (CALM) in people with non-small cell lung cancer treated with novel therapies: A pilot study
Project and Ethics Approval Number	21/245L
Project Sponsor	Peter MacCallum Cancer Centre
Principal Investigator	Dr Fiona Lynch

Declaration by participant

- I have read the Participant Information and Consent Sheet or someone has read it to me in a language that I understand.
- I understand the purposes, procedures and risks of the project.
- I have had an opportunity to ask questions about the project and what is required of me, and I am satisfied with the answers I have received.
- I freely agree to participate in this project as described and understand that I am free to withdraw at any time during the project without affecting my future care.
- I understand that I will be given a copy of this document to keep.

☐ Participant clearly states their agreement to participate

Declaration by Researcher†

I have given a verbal explanation of the research project, its procedures and risks and I believe that the participant has understood that explanation.

Name of Researcher† (please print) _____

Signature _____ Date _____

† An appropriately qualified member of the research team must provide the explanation of, and information concerning, the research project.

Lynch FA, *et al. BMJ Open* 2023; 13:e072322. doi: 10.1136/bmjopen-2023-072322

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Box Hill
Moorabbin
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Patient Information and Consent Form

Title	Managing Cancer and Living Meaningfully (CALM) in people with non-small cell lung cancer treated with novel therapies: A pilot study
Principal Investigator	Dr Fiona Lynch
Protocol Version	V5, 29th November 2022
Ethics Approval Number	21/245

This Patient Information and Consent Form is 5 pages long. Please make sure you have all the pages.

1 Introduction

You are invited to take part in this project, which aims to deliver and assess a psychological therapy called Managing Cancer and Living Meaningfully (CALM) with people with advanced lung cancer who have received immunotherapies or targeted therapies at Peter MacCallum Cancer Centre.

This form explains the project and what you will do if you decide to take part. Please read this information carefully. Please ask questions about anything you do not understand or want to know.

Your participation in this project is voluntary. If you do not wish to take part, you do not have to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage. Your decision to take part or not to take part in this project, or to take part and then withdraw, will not affect your care or your relationship with your treating staff. If you do not want to take part, but later change your mind, please contact the project team.

If you decide you want to take part in this project, you will be asked to sign the consent section of this form. You will be given a copy of this form to keep.

2 What is the purpose of this project?

The purpose of this research is to understand the usefulness of the CALM therapy for people with advanced lung cancer who have been treated with novel therapies. CALM has been developed for people with advanced cancer but has not yet been assessed with people treated with novel therapies. We aim to get feedback from patients about their experience with the therapy.

This project is led by Dr Fiona Lynch, Clinical Psychologist at Peter Mac. The project is funded by a Peter Mac Cancer Foundation Grant.

3 What will I need to do if I am involved in this project?

If you choose to take part in this project, you will complete initial screening questions to check your eligibility. If you it is suitable for you to participate, you will be referred to a CALM therapist who is a Peter Mac clinician with specialised training in this therapy (e.g., a clinical psychologist or nurse consultant). You will be provided with three to six individual CALM therapy sessions with your clinician aimed to help how you are feeling about your lung cancer. These sessions will be held across approximately six months or less. You can have these sessions as often as you would like them, usually fortnightly for the first few sessions. These sessions can be delivered in person at Peter Mac, or over telehealth (video call). Occasionally you and your therapist might decide you need a phone appointment if suitable. If you have a support person such as a partner, family member, or caring friend, you can invite them to attend some sessions with you if you would like this.

If you are not suitable to participate after screening, you will be offered a referral to our usual Peter Mac clinical psychology team.

Questionnaires: You will be asked to complete a set of three questionnaires about your quality of life, mood, and your thoughts and feelings about the possibility of death and dying. These questionnaires will take approximately 10 minutes. You will complete these before the start of your therapy, at completion of therapy, and again after three and six months. You may choose to complete these in person, return a hardcopy by mail using a supplied reply-paid envelope, or online through a secure survey. Your responses to these three questionnaires swill be shared with your CALM therapist whilst you are working with them. After completing the therapy, you will also be asked to complete a once-off short questionnaire on your experience of the CALM therapy and of your therapist. If the questionnaires are not returned within two weeks, we will send you a reminder either by text, email, or by phone.

Interviews: After you complete your CALM therapy, you will be invited to take part in an interview about your experience of the CALM therapy. This interview will be completed over the phone, over telehealth (video-call) or in person if you prefer. This interview will last for approximately 30-45 minutes and be conducted by a member of the research team. This interview will be audio recorded and transcribed for analysis. You can decline to take part in this aspect of the study by ticking 'No' to the corresponding question on the consent form below. This will not affect your participation in the rest of the study.

Other information: We are also asking for your permission and consent to use information from your medical record. This information includes your age and gender (these are your demographic data), your contact details, and the treatment you are receiving or have previously received.

Your CALM sessions will be audio recorded so that we can assess that the intervention was delivered appropriately. Each audio recording will be assigned a unique identifier. The audio files will be stored in a secure location and will only be accessible by the study investigators. All files will be deleted five years after publication or dissemination of project outcomes, whichever is later. A small selection of audio recordings will be reviewed by the CALM supervisor during group supervision involving the Peter Mac CALM therapists.

If you wish to decline consent to have the sessions recorded, please tick 'No' on the consent form below or advise your therapist at the time. You can consent now to the recordings, and change your mind at any time. If you decline recordings, it will have no impact on treatment and you will be able to continue participation in the study and CALM therapy.

There are no costs associated with participating in this research project, nor will you be paid.

Should you wish to receive the overall results of this project you should inform the project team at the time of providing consent. We will send you these results at the end of the project.

4 What are the possible benefits of taking part?

There are no direct benefits for participating and you will not be reimbursed. However, during this study you will receive the CALM therapy that has been previously shown to be helpful for other people with advanced

Lynch FA, *et al. BMJ Open* 2023; 13:e072322. doi: 10.1136/bmjopen-2023-072322

cancer. You will also be contributing to improve understanding of whether the CALM therapy is useful for people who have been treated with immunotherapy or targeted therapy.

5 What are the possible risks or disadvantages of taking part?

There are no physical risks associated with this project. It is possible that you may become distressed when answering the questions or when receiving the treatment during this project. If you experience distress during a treatment session your therapist will be there to support you. If you feel distressed outside a treatment session, please feel free to contact one of the project team members who will be able to help you find appropriate support. Alternatively, you can contact Cancer Council on 13 11 20 for telephone support. It is also possible that the treatments trialled here will have no effect on how you are feeling.

6 What if I withdraw from this project?

If you do consent to participate, you may withdraw at any time up until the completion of the project. If you decide to withdraw from the project, please notify a member of the research team or your therapist.

You should be aware that data collected up to the time you withdraw will form part of the overall project results. If you do not want your data to be included, you must tell the project team member when you withdraw from the project, you will be able to withdraw all data except your basic details including treatment, sex, age, marital status, highest level of education completed and reasons for withdrawing. After completion of the project, your data will be included in the overall results and you will no longer be able to withdraw your data.

7 What will happen to information about me?

By signing the consent form, you consent to the project team collecting and using personal and health information about you for the evaluation of this project. We will keep this data in an unidentifiable format after the completion of the project to protect your privacy. The data will be stored on password protected computer files which will only be accessed by the project team.

Data will be stored for a period of seven (7) years and then will be confidentially destroyed.

Each time we see, call, or contact you, we will make a short note on your medical file at Peter Mac including a brief summary of your session so that your treating team are aware that we have seen or contacted you. This note is also visible in your file at the Royal Melbourne Hospital or Royal Women's Hospital if applicable. Please also note that we have a duty to ensure the safety of each participant, and so if you provide us with information that makes us very concerned about your safety or someone else's safety, we will let your medical team or your support person know. When your therapist discusses your therapy at a group supervision session with CALM supervisor Dr Gary Rodin, they will also write a more detailed note summarising your session to be sent to Dr Gary Rodin and stored in password protected research file.

The results of this project may be published or presented at seminars and conferences, but it will be done in a way that cannot identify you. Some journals will keep the overall de-identified data for an indefinite period.

In accordance with relevant Australian and/or Victorian privacy and other relevant laws, you have the right to request access to the information about you that is collected and stored by the project team. You have the right to request that any information with which you disagree be corrected. Please inform the research team member named at the end of this document if you would like to access your information.

8 Who has reviewed the project?

All research in Australia involving people is reviewed by an independent group of people that form a Human Research Ethics Committee (HREC). The ethical aspects of this project have been approved by the HREC of the Peter MacCallum Cancer Centre.

This project will be carried out according to the *National Statement on Ethical Conduct in Human Research (2007)*. This statement has been developed to protect the interests of people who agree to participate in human intervention (research and non-research) studies.

9 Further information and who to contact

If you want any further information concerning this project or if you have any problems which may be related to your involvement in the project (for example, feelings of distress), you can contact the Project Lead Fiona Lynch on 8559 8236 or any of the following people:

Project contact person	Peter Mac complaints person	Peter Mac Ethics Committee
Fiona Lynch	Position Consumer Liaison	Peter Mac Ethics Coordinator
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Consent Form

Title	Managing Cancer and Living Meaningfully (CALM) in people with non-small cell lung cancer treated with novel therapies: A pilot study
Project and Ethics Approval Number	
Project Sponsor	Peter MacCallum Cancer Centre
Principal Investigator	Dr Fiona Lynch

Declaration by patient

- I have read the Patient Information and Consent Sheet or someone has read it to me in a language that I understand.
- I understand the purposes, procedures and risks of the project.
- I have had an opportunity to ask questions about the project and what is required of me, and I am satisfied with the answers I have received.
- I freely agree to participate in this project as described and understand that I am free to withdraw at any time during the project without affecting my future care.
- I understand that I will be given a signed copy of this document to keep.

In relation to this project, please tick your response to following:

I give my consent to be audio recorded during the therapy sessions (to ensure the program is being delivered as intended)

☐ Yes ☐ No

I give my consent to be invited to participate in interviews about my experience of the therapy that will be audio recorded

☐ Yes ☐ No

Name of Patient (please print) _____

Phone number: _____ Email: _____

Signature _____ Date: _____

Declaration by staff member consenting the patient to the project†

I have given a verbal explanation of the project, its procedures and risks. I believe that the patient has understood that explanation.

Name† (please print) _____

Signature _____ Date: _____

† An appropriately qualified member of the project team must provide the explanation of, and information concerning, the research project.

Note: All parties signing the consent section must date their own signature.