



IRISH RESEARCH COUNCIL
An Chomhairle um
Thaighde in Éirinn



Sheds for Life

An initiative by Irish Men's Sheds Association



Waterford Institute of Technology
INSTITIÚID TEICNEOLAÍOCHTA PHORT LÁIRGE

Sheds for Life Impact Report

The Impact of Implementation Phase one on the health and Wellbeing outcomes of participants

Prepared by: Aisling McGrath, Dr. Niamh Murphy and Dr. Noel Richardson 2021

Institiúid Teicneolaíochta Cheatharlach



INSTITUTE of TECHNOLOGY
CARLOW

At the heart of South Leinster

Sláintecare.



Rialtas na hÉireann
Government of Ireland



Seirbhís Sláinte
Níos Fearr
á Forbairt
Building a Better Health Service

Table of Contents

| Content | Page No | Content | Page No |
|---|---------|---------------------------------------|---------|
| Foreword | 4 | XI. Dietary habits and cooking skills | 89 |
| Thanks & Acknowledgements | 5 | XII. Supplementary Components | 90 |
| Executive Summary | 6 | XIII. Reach and Attendance | 94 |
| 1.0 Introduction | 14 | 6.0 Conclusions | 96 |
| 2.0 Review of Literature | 15 | 6.1 Limitations | 96 |
| 2.1 The burden of ill health in men | 15 | 6.2 Conclusion | 96 |
| 2.2 Addressing the burden: Recognising the need for gender-specific strategies | 16 | 6.3 Recommendations | 97 |
| 2.3 The Men's Sheds and community-based health promotion: Settings that utilise gender-sensitive strategies to engage men | 18 | 7.0 References | 101 |
| 2.4 The importance of evaluating community-based programmes to promote systematic uptake | 19 | | |
| 2.5 Summary and Rationale | 20 | | |
| 3.0 Methodology | 22 | | |
| 3.1 SFL programme design | 22 | | |
| 3.2 Study Design | 29 | | |
| 4.0 Results | 38 | | |
| 4.1 Shedder and Shed Characteristics | 38 | | |
| 4.2 Physical Activity | 44 | | |
| 4.3 Subjective Wellbeing | 46 | | |
| 4.4 Social Capital | 52 | | |
| 4.5 The SF-6D | 54 | | |
| 4.6 Smoking and Alcohol | 58 | | |
| 4.7 Dietary habits and cooking skills | 59 | | |
| 4.8 Supplementary Components | 66 | | |
| 4.8.1 Diabetes Awareness | 66 | | |
| 4.8.2 safeTALK suicide awareness | 68 | | |
| 4.8.3 Digital Literacy | 71 | | |
| 4.8.4 Oral Health | 74 | | |
| 4.8.5 CPR training | 75 | | |
| 4.8.6 Cancer Awareness | 76 | | |
| 4.9 Reach and attendance | 79 | | |
| 5.0 Discussion | 81 | | |
| I. Profile of the participants in SFL | 81 | | |
| II. Self-Rated health | 82 | | |
| III. Seeking health information | 83 | | |
| IV. Physical Activity | 84 | | |
| V. Subjective Wellbeing | 85 | | |
| VI. Mental Wellbeing | 86 | | |
| VII. Loneliness | 86 | | |
| VIII. Social Capital | 87 | | |
| IX. The SF-6D | 88 | | |
| X. Smoking and Alcohol | 88 | | |

List of Tables

| Table No. | Table Title | Page |
|-----------|---|------|
| 1 | Core Components of SFL | 23 |
| 2 | Supplementary components of SFL in phase one | 24 |
| 3 | Facilitators to effective participant engagement in SFL | 26 |
| 4 | SFL breakdown by county | 38 |
| 5 | Marital Status of participants | 39 |
| 6 | Self-reported health rating at baseline | 40 |
| 7 | Participant health screening results at baseline | 41 |
| 8 | Self-reported health ratings by cohort across T1 to T4 | 43 |
| 9 | Seeking health information by cohort from T1-T4 | 43 |
| 10 | Physical activity outcomes from T1 to T4 | 44 |
| 11 | SWEBMWS scores by cohort across T1-T4 | 48 |
| 12 | Combined cohorts mental health outcomes from Mind your Mental Health Workshop across T1 to T4 | 49 |
| 13 | UCLA loneliness scores for Cohorts 1 and 2 from T1 to T4 | 51 |
| 14 | Sense of belonging across T1 to T4 | 53 |
| 15 | Sense of close support across T1 to T4 | 53 |
| 16 | Results of the SF-6D across time points | 54 |
| 17 | Cooking frequency, style and willingness across time points | 60 |
| 18 | Confidence scores for cooking and healthy eating across T1 to T4 | 62 |
| 19 | Mean diabetes knowledge Scores across T1 to T3 | 66 |
| 20 | Outcomes from safeTALK across T1 to T3 | 68 |
| 21 | Certainty levels around digital literacy constructs from T1 to T3 | 72 |
| 22 | CPR confidence ratings across T1, T2 and T3 | 75 |
| 23 | Cancer awareness outcomes across T1, T2 and T3 | 77 |

List of Figures

| Figure No. | Figure Title | Page |
|------------|--|------|
| 1 | Consolidated framework for implementation research domains and constructs | 30 |
| 2 | An Ecological model of potential influences on implementation in practice | 31 |
| 3 | Life Satisfaction scores from T1 to T4 across Cohorts 1 & 2 | 47 |
| 4 | Perceived participant ratings of how much they feel the things they do in life are worthwhile in Cohorts 1 & 2 across T1 to T4 | 47 |
| 5 | A representation of changes in subjective feelings of loneliness for Cohorts 1 & 2 from before joining a shed to T1, T2, T3 & T4 | 52 |

List of Abbreviations

- 🏠 SFL- Sheds for Life
- 🏠 IMSA – Irish Men's Sheds Association
- 🏠 HSE – Health Service Executive
- 🏠 HTR- Hard-to-reach
- 🏠 Shedders- Men's Shed members
- 🏠 PA – Physical Activity
- 🏠 T1- Baseline (commencement of SFL ten week programme)
- 🏠 T2- 3 month follow up (end of SFL ten week programme)
- 🏠 T3- 6 month follow up
- 🏠 T4- 12 month follow up



Foreword

The Men's Sheds movement in Ireland has been paramount in providing an alternative setting to enhance the wellbeing of men and is fundamentally changing the narrative around how men do health. The sense of enhanced wellbeing that occurs when a man joins a shed is of no mystery if we really look at what the shed inherently provides for men. Sheds are a home from home for many men that offers social support, a sense of purpose and belonging. All of which have been shown to play a vital role in improving and maintaining wellbeing.

These unique health enhancing qualities of the shed have been recognised and acknowledged in our National Men's Health Policy and Healthy Ireland Men: Action Plan (2017-2021). Sheds for Life is an innovative approach which was developed to respond to the increasing call by such policies for gender-specific health promotion programmes that target lifestyle and health behaviour change in men.

This report signifies the importance of how a tailored community based men's health promotion programme, developed in collaboration with its intended participants, can have a profound impact in engaging and empowering what are often regarded as a 'hard to reach' group (middle-aged and older men) in the care of their own health. The success of Sheds for Life as identified in this report is strongly underpinned by working in partnership and by a range of capacity building measures which have achieved sustainable health and wellbeing outcomes for the men.

As highlighted in the recommendations of this report, the dissemination of these findings highlight the success of a gender-specific community-based men's health programme that will not only benefit men's sheds but also provide an invaluable blueprint to inform and inspire other researchers, practitioners, policy makers and the wider community. During these uncertain and challenging times of COVID-19 we have witnessed how the pandemic disproportionately effects vulnerable males, this report identifies a real necessity for men's health programmes now more than ever.

The Irish Men's Sheds Association is delighted to share the findings from this Interim Report and would like to thank all those who have contributed to the success of Sheds for Life to date. In particular we acknowledge the Shedders, partner organisations, our academic partners and our funders for their invaluable contribution and commitment to the programme.

Edel Byrne

Health and Wellbeing Manager

Irish Men's Sheds Association

Sheds for Life Partners



Waterford Institute of Technology
INSTITIÚID TEICNEOLAÍOCHTA PHORT LAIRGE



Sláintecare.



Rialtas na hÉireann
Government of Ireland



Executive Summary

Introduction: Responding to the need for gender-specific strategies that promote health

Although an emphasis on the excess burden of ill-health and mortality in men has increased in recent years, men remain disproportionately impacted. This has resulted in increasing calls at national and global level to tackle inequalities in health through gendered responses. Health outcomes among men remain generally worse than females globally with men in Ireland continuing to experience a higher mortality rate from almost all leading causes of death while women are also more likely to experience more healthy life years than men.

There is however increasing recognition that men and women are different in both biology and in the terms of normative gender roles and behaviours that are deemed to be culturally acceptable. This means that in order to tackle gender inequalities in health, there needs to be a gender-specific response that delivers tailored and targeted intervention, catering to the needs of women and men. In fact, an equal role for women in global health leadership is required to ensure that their needs are included in policy alongside the needs of men. Much of the excess burden of ill health experienced by men is avoidable and results from preventable lifestyle and other risk factors that are related to complex biopsychosocial responses such as gendered practices and behaviours relating to masculinity. Disparities in health that exist between genders, also exist within them, widening downwards through the social gradient as well as between different populations of men. Vulnerable populations of men are at an increased risk of the excess ill health burden with hard-to-reach (HTR) men less likely to engage with health and wellbeing. The health needs of men, particularly those who are at an increased risk, cannot be fully met until sex and gender are acknowledged at policy and practitioner level. Responses that focus on the complexities underpinning gendered practices and behaviours which influences male health engagement, and that align to existing public health priorities are necessary to tackle the burden of ill health in men.

The community as a setting for health promotion has demonstrated potential to implement preventative strategies that can ease the burden on health care systems and enhance population wellbeing. Strategies that utilise gender-specific strategies have proven most

effective in engaging vulnerable male populations. The Men's Sheds is a setting that is inherently conducive to promoting wellbeing in a place where men, some of which are HTR, naturally congregate within the safe and familiar environment. Sheds are organic health enhancing settings offering sense of purpose through meaningful work and skill sharing, social support, and camaraderie. Sheds also present a unique opportunity to reach a typically HTR group while learning from and giving a voice to more marginalised male populations in terms of how best to meet their health and wellbeing needs. Drawing on what works in other successful men's health programmes to inform strengths-based approaches, the Men's Shed setting is well positioned to deliver structured and tailored health promotion initiatives.



What is Sheds for Life?

“Sheds for Life” (SFL) was first developed by the Irish Men's Shed Association (IMSA) in 2016 in a bid to respond to the increasing calls for gender specific strategies that engage men with health and also in response to the openness of Men's Shed Members to participate in more structured health and wellbeing initiatives. The potential of Sheds to access a group of HTR men and engage them with health promotion initiatives is well established. Nevertheless, the IMSA wanted to oversee the implementation of health initiatives in Sheds in order to ensure that the environment of the Sheds and their members were protected and respected, with those working with the Sheds understanding and valuing the ethos of the Sheds environment. SFL uses a partnership approach, whereby allied provider organisations deliver various components of the programme in response to needs identified by Men's Shed members. After initial pilot testing of various SFL components, SFL was structured into a formally evaluated ten-week programme that delivers targeted and tailored health promotion directly to the Sheds. The programme comprises of a health check, three core pillars (physical activity, healthy eating and mental health) and a range of other health and wellbeing components into which Shed members self-select.

Research Methodology



The SFL evaluation uses an implementation science hybrid approach which dually tests effectiveness and implementation outcomes. This approach enables a simultaneous focus on demonstrating the impact of SFL on participants as well as assessing the effectiveness of its roll-out across the Sheds. This approach focuses not only on testing clinical effectiveness at individual or participant level but also on the broader implementation environment at the provider, organisation and wider systems level in order to identify barriers and facilitators to implementation of SFL. This aims to promote the systematic uptake of SFL in the real-world setting and limit translation issues that can occur when attempting to scale up effective programmes. Central to the success of this approach is collaboration. SFL aims to work collaboratively with all key stakeholders to ensure that it is an acceptable and appropriate model for participants and providers and delivered in a way that maintains its fidelity as it moves across Sheds. A mixed methods approach is applied to the research to assess implementation and effectiveness outcomes. The purpose of this report is to highlight effectiveness outcomes, more specifically the impact of SFL on the health and wellbeing outcomes of participants. Two cohorts of Shed members (n=212, n=209) were recruited to participate in the SFL programme and evaluation and followed up to 12 months at baseline, 3, 6 and 12 months. Questionnaires measuring different health and wellbeing outcomes as well as constructs relating to the different SFL components were administered at each time point. Focus groups (n=8) and short interviews (n=16) were also conducted with participants and a flavour of these findings are presented in this report to compliment the quantitative findings.

Results



Below is a summary of the main findings from the assessment of health and wellbeing outcomes of SFL participants:

- SFL was delivered across 22 Shed settings with n=421 Shed members participating in the programme across four counties; Waterford, Kildare, Limerick and Louth.
- The mean age of participants was 69.1 ± 9.136 years, ranging from 27-90 years.

Health and Wellbeing outcomes

- There was a significant increase in **self-rated health** from baseline (immediately prior to SFL) post SFL ($p < 0.001$) sustained up to 12 months.
- Those who reported **liking to find out about their health** significantly increased post SFL ($p < 0.001$) and remained sustained.
- Days **physically active** for 30 minutes or more significantly increased post SFL ($p < 0.001$) and remained significantly higher than baseline up to 12 months, with a significant increase in **days spent walking** and in those **meeting the physical activity guidelines** as well as **physical activity self-efficacy scores**.
- In terms of subjective wellbeing, **life satisfaction and life worth** scores increased significantly from baseline with sustained change up to 12 months ($p < 0.001$).
- **Mental Wellbeing scores** significantly increased and remained significantly higher than baseline. There was also a significant and sustained improvement in; **understanding about mental health, having a conversation about mental health and feeling equipped with supports to maintain mental health** post SFL ($p < 0.001$).
- Outcomes relating to **social capital** improved significantly and were sustained beyond baseline with enhancements in; **sense of belonging** ($p < 0.001$), **close support** ($p < 0.001$) and **trust** ($p < 0.001$).
- Analysis of the **SF-6D** for measuring cost-effectiveness highlighted a significant improvement in **physical functioning** ($p < 0.001$), **role limitation** ($p < 0.005$), **mental health** ($p < 0.001$) and **vitality** ($p < 0.001$) with no change in constructs assessing **pain** or **social functioning**.
- A minority (8.4%) were reported to **smoke** at baseline, with a significant decrease in amount smoked post SFL ($p < 0.05$). In relation to **alcohol**, 68.3% were reported to

drink alcohol at baseline with a significant decrease in days drinking post SFL but this was not sustained.

- In relation to **dietary habits and cooking skills**, there were no significant changes in daily amounts of **fruit and vegetable consumption**. There was a significant and sustained improvement in **cooking preparation techniques** ($p < 0.005$), as well as **cooking frequency** ($p < 0.005$), and **willingness to cook** ($p < 0.05$). There was also a significant increase in all confidence constructs related to cooking and healthy eating; **cooking using raw ingredients** ($p < 0.001$), **following a simple recipe** ($p < 0.001$), **shopping for healthier food to eat** ($p < 0.001$), **cooking new foods** ($p < 0.001$), **cooking healthier foods** ($p < 0.001$), **storing food safely** ($p < 0.001$), **using leftovers to cook other meals** ($p < 0.001$), **cooking whole raw chicken from scratch** ($p < 0.001$), **reading food labels** ($p < 0.001$) and **food hygiene** ($p < 0.001$).

Supplementary Components

- In the **Diabetes Workshop** there was a significant improvement in 6 out of 7 constructs measuring changes in diabetes knowledge. All participants “Strongly Agreed” (85.5%) or “Agreed” (14.5%) that the workshop improved their understanding of diabetes prevention and management.
- Of those who participated in **safeTALK suicide prevention** training, there was a significant increase in **confidence to deal with the needs of someone who might be suicidal** ($p < 0.001$) and **identifying appropriate services** for someone in distress ($p < 0.001$). There was no significant change in **willingness to talk openly about suicide** but there was a significant increase in confidence in terms of feeling prepared to do so ($p < 0.005$).
- In relation to **Digital Literacy** there was a significant increase in levels of confidence; **accessing a website** ($p < 0.001$), **sending and receiving an email** ($p < 0.001$), **staying connected with family and friends online** ($p < 0.001$), **renewing motor tax, shopping and banking online** ($p < 0.001$) and **getting online with apps on a smartphone** ($p < 0.001$).
- Following on from the **Oral Health Workshop** there was significant enhancement in the perceived **importance of going for annual oral checks** ($p < 0.05$). All respondents also “Strongly Agreed” (77.8%) or “Agreed” (22.2%) that the workshops helped them to improve their understanding of how to manage and maintain their oral health.
- Of those who participated in **CPR training**, there was a significant increase in confidence; **recognising cardiac arrest and calling the emergency services**

($p < 0.001$), **performing chest compression** ($p < 0.001$) and **operating an AED** ($p < 0.001$).

- Sheds who participated in the **Cancer Awareness Workshop** reported increased understanding of; **the cancer related early detection signs** ($p < 0.001$), **the cancers most prevalent in men** ($p < 0.001$) and **cancer screening services in Ireland** ($p < 0.001$).

Sheds for Life Reach and Attendance

- An estimated **reach rate** calculated on the proportion of Shed members eligible to attend across targeted Sheds ($n=565$) against numbers who enrolled into SFL ($n=421$) was calculated at 73%.
- Attendance rates** estimated on numbers who signed up to each component along with attendance records and self-reported attendance was estimated overall at 72.46%.

Conclusion



Phase one of SFL has demonstrated that the programme has been successful in effectively engaging a HTR group of men and enhancing their health and wellbeing outcomes. It has highlighted the rich potential of the Shed environment for men to engage with health and wellbeing in a meaningful and effective way. Building upon the inherent health promoting qualities found in the Shed, SFL has successfully implemented a structured and targeted prevention strategy that responds to the needs of Men's Shed members made possible by the strength of its partnership approach. The programme has demonstrated its feasibility by maintaining impact as it is translated across Shed settings. As well as highlighting the potential that tailored and targeted men's health interventions can have for addressing gender inequalities in health, SFL can inform health promotion strategies not just in Sheds, but in other community-based men's health programmes more broadly.

Recommendations



Below is a summary of the recommendations emerging from the research:

R1: Respond to the evolving needs of Shed members:

SFL should aim to continually adapt its programme content over time to respond to the evolving needs of Shed members.

R2: Make provision for follow-on supports post SFL

A follow-on or step down programme should be made available for past participants of the ten-week programme to encourage maintenance of positive behaviour change.

R3: Ensure that engagement is based on informed choices

Shed members should be fully informed of the evidence and importance of elements of SFL so that they can make informed and autonomous decisions to freely choose which elements of the programme to engage in.

R4: Maintain and strengthen partnerships

It is an important success factor of SFL that strategic and allied partnerships are maintained and respected while new partners who can respond effectively to the needs of Shed members are sought.

R5: Maintain a collaborative approach with Shed members

Collaboration with Shed members informs key insights into barriers and facilitators within the intervention setting and also enhances feelings of reciprocity and trust. The collaborative approach also facilitates identification of health champions and leaders who are instrumental to the success of SFL at ground level.

R6: Assess for Cost-effectiveness

Preliminary evidence suggests that SFL offers good value for money, particularly through the enhanced health and wellbeing outcomes and its engagement of an at risk

group. It is important to apply the findings to a cost-effect analysis as it is an important determinant of the scalability of SFL.

R7: Inform implementation outcomes for scale-up

Assessing the implementation outcomes of SFL will provide clear differentiation from clinical effectiveness outcomes and assist in forming a blueprint for the wider roll-out of SFL ensuring that effect is maintained at scale.

R8: Disseminate SFL findings to key stakeholders

Dissemination of SFL research findings in appropriate format for key stakeholder is recommended. SFL will provide a blueprint for practical application and will be a valuable addition to other researchers, practitioners, policy makers, the wider community and men's shed members.



1.0 Introduction

Sheds for Life is a community-based health promotion programme aimed at supporting the physical, mental and social wellbeing of men's sheds members.

The development of Sheds for Life commenced in 2016 and has been guided by the needs, wishes and feedback of the men's sheds members throughout Ireland. The Sheds for Life vision is a future where all men's sheds members can enjoy physical and mental health and wellbeing to their full potential.

In partnership with researchers supporting the development and evaluation of SFL and a host of partner organisations who deliver various components of SFL in the Sheds, The Irish Men's Sheds Association (IMSA) designed a 10-week SFL programme for its members. The first phase of the structured Sheds for Life programme was implemented



with Sheds in counties Kildare, Waterford, Limerick and Louth across 2019.

The purpose of SFL is to engage men to successfully facilitate more open and meaningful discussions around their physical and mental wellbeing while encouraging them to increase their health awareness and maintain healthier lifestyle choices in areas such as physical activity, healthy eating and mental wellbeing.

More broadly, SFL aims to respond to global health conversations and policies that are increasingly calling for more gender-specific health promotion strategies that target lifestyle and health behaviour change, particularly to so called 'hard-to-reach' groups of men. The community as a setting in which to promote male health and wellbeing demonstrates promise in promoting social support, enhancing communities and encouraging healthy lifestyles in men while actualising the recommendations set out at policy level.

The IMSA called for the evaluation of SFL in order to strengthen its implementation and impact for its members as well as highlighting the Shed setting to policy makers, funders and partners as an effective route to engage men with health and wellbeing through gender-specific approaches.

This study is funded by the Irish Research Council's Employment-Based Postgraduate Scheme Project ID: EBPPG//256 and was conducted by a PhD scholar at Waterford Institute of Technology with the IMSA as employment partner also supported by the Institute of Technology Carlow. The first delivery phase of SFL has been funded with thanks to the HSE. The next phase of Sheds for Life will be delivered to counties; Leitrim, Roscommon and Meath and is supported by the HSE and Sláintecare Integration funding.

2.0 Review of Literature

2.1 The burden of ill health in men

Increasing focus has been mounting in the area of men's health in recent years at national and global level, both in policy and research into correlates and determinants that influence men's health and the need to address the burden of ill health in men (Health Service Executive, 2017, WHO, 2018). Health outcomes among males are generally worse than females globally, with females outliving males by an average of four years (Baker, White & Morgan, 2020). In Ireland, most recent provisional data suggests the average male life expectancy is 3.6 years below their female counterparts at 80.4 years and 84 years respectively (Department of Health, 2019). While the life expectancy gap is narrowing, men in Ireland continue to suffer a higher mortality rate from almost all leading causes of death with women typically still experiencing a higher number of healthy life years than men (Health Service Executive, 2017; Department of Health, 2019). Moreover, men are more likely to die prematurely from cardiovascular disease than women, more likely to be overweight, twice as likely to have diabetes, have a higher chance of dying from non-gender specific cancers, and are four and half times more likely to die from suicide. Many of the disparities in the health gap between genders is equated to preventable lifestyle and risk factors such as; alcohol and drug use, physical activity, diet, exposure to risk and risk taking behaviour, with evidence suggesting that up to 50% of premature male mortality is preventable (WHO, 2018; White, 2011). Men are also less likely to engage in the health care system, accessing primary far less than women

and taking far longer to present or receive a diagnosis for mental or physical symptoms of ill-health. This is due to a complex interaction between individual, behavioural, social and structural factors in society which shape the health behaviours of men (Yousaf, Grunfeld & Hunter, 2013, Seidler, Dawes, Rice, Oliffe & Dhillon, 2016; Salgado, Knowlton & Johnson, 2020). Furthermore, while these disparities in health exist between genders, they are also correlated to the social gradient and wider determinants of health, with significant differences in health outcomes; not just between men and women, but also between different populations of men (Griffith, Bruce & Thorpe, 2019, Health Service Executive, 2017). The social gradient has a greater impact on the state of men's health compared to their female counterparts, with life expectancy widening between and within genders across lower socio-economic groups (Baker 2016; Layte, Banks, Walshe & McKnight, 2016). Vulnerable populations of men are at an increased risk of poorer health outcomes, risk taking behaviour and delayed help-seeking with so called "hard-to-reach" (HTR) groups of men (i.e. those who are unemployed, socially disadvantaged, isolated and have low educational attainment) paradoxically the least likely to engage with health and wellbeing (Griffith, Bruce & Thorpe, 2019). When looking at suicide trends for instance, in the UK and Ireland, men who are "less well off" and living in more deprived areas are ten times more likely to die by suicide than men in more affluent areas. Middle aged men in Ireland are a particularly high risk group, with suicidal behaviour being more prevalent in specific at risk sub groups (O'Donnell & Richardson, 2018). Other recent research from Australia suggests that more vulnerable older men aged 85 years or more have the highest rate of suicide in any age or gender group which, it has been argued, is largely influenced by gender roles and masculinity norms and which highlights the need for a gendered approach in suicide prevention (King et al., 2020). Cohorts of HTR men remain the biggest challenge for men's health promotion and an understanding of how the complex biopsychosocial factors influence men's health is fundamental to engaging vulnerable men with health and wellbeing (Salgado, Knowlton & Johnson, 2020; Thorpe & Halkitis, 2016).

2.2 Addressing the burden- recognising the need for gender-specific strategies

The emergence of men's health as a significant public health issue is still relatively recent with men as a population group largely absent at global and national health policy levels (Richardson, Smith, Robertson & Baker, 2019). A report by Baker, White and Morgan (2020) highlights that whilst there has been progress in the form of the World Health Organisation's men's health strategy for Europe in 2018 and national men's health policies introduced in

Australia, Ireland, Brazil and Iran, the health needs of men (and women) cannot be fully met unless sex and gender are acknowledged and acted on by policy makers and practitioners. While masculinity is not a fixed concept, women and men differ both in terms of biology and in terms of normative gender roles and behaviours that are deemed to be culturally acceptable (Robertson & Baker, 2017). Coupled with complex underlying factors that can influence engagement with health and wellbeing in men, it is important to recognise that a uniform, one size fits all approach for genders is not effective in promoting positive health and wellbeing and addressing gender equality in health (Baker, White & Morgan, 2020).

Early research into men's health highlighted men's avoidance of health promotion and health systems as a consequence of men aligning to traits of masculinity such as stoicism, self-reliance and competitiveness (Olliffe et al., 2019). More recently, the responses have been focused on the underlying factors that contribute to these behaviours impacting health and the subsequent strategies to address them driven by a growing body of evidence that advocates for understanding of how gender intersects with economic, political, environmental and social determinants of health and their influence on exposure to risk factors and engagement with health and wellbeing (Robertson & Baker, 2017). Responses that have emerged at policy level are underpinned by evidence and awareness that the burden of ill health in men is caused by multiple factors that cut across all rungs of the social ladder but are exacerbated for vulnerable groups of socially disadvantaged or HTR men (Health Service Executive, 2017). Understanding the complexities of masculinities within the health systems and how men engage with and are impacted by them has determined a need for gender-specific and sensitive approaches towards engaging men with health at policy and programme level, with a particular focus required on tailored and targeted interventions that encourage engagement of men (Baker, White & Morgan, 2020; Lefkowich, Richardson & Robertson, 2017). Baker, White and Morgan (2020) also highlight that policies and programmes that are aligned to existing public health priorities such as the Sustainable Development Goals or that reduce the burden on health systems and costs are strategic in gaining momentum and support from policy makers and funders.

2.3 The Men's Sheds and community based-health promotion – settings that utilise gender-sensitive strategies to engage men

The community as a setting for health promotion demonstrates the potential to implement preventative health strategies and interventions that can ease the burden on health systems while employing gender-specific strategies that effectively engage vulnerable male populations with health (Oliffe et al., 2019). This setting allows a bottom-up, strengths-based, multi-sectoral approach that can effectively tackle the influence of male-gendering on men's health behaviours in what men may consider a safe and familiar environment (Milligan et al., 2013). Indeed, the non-clinical setting that can be offered in the community has been recognised by men as a facilitator towards their engagement in health promotion programmes (Caroll, Kirwan & Lambe, 2014). Implementing gender-sensitive strategies such as; engaging the men as partners, creating safe, non-clinical and familiar environments, delivery of key messages through informal approaches, identifying and utilising a 'hook' to engage men at buy-in stage and the promotion of positive social interaction and support, while drawing on language and styles that are relatable, have shown significant promise particularly at community level (Patrick & Robertson, 2016; Lefkowich, Richardson & Robertson, 2017; Robertson et al., 2015). These strategies are reflected in a host of community based men's health programmes such as; Men on the Move (Kelly et al., 2019), the HATRICK programme (Caperchione et al., 2017), Famers have Hearts (van Doorn et al., 2020) and Football Fans in Training (Wyke et al., 2015). When drawing from what works in other men's health programmes such as those mentioned above to inform strengths-based and gender-sensitive approaches, the Men's Sheds setting is well-positioned to deliver tailored, targeted health promotion initiatives to an accessible group of sometimes typically inaccessible men (Bergin & Richardson, 2020). Prior to the development of a more structured and tailored intervention with the SFL ten week programme, the Sheds had long been recognised as a suitable setting in which to actively promote and engage men with health but also in which health promoting qualities were already inherent and organic (Wilson & Cordier, 2013). The Men's Sheds are autonomous grass roots spaces which offer men a safe and familiar environment which fosters a sense of social support, sense of belonging and camaraderie and offers sense of purpose through developing new skills, shared projects, activities, goals and decision making (Lefkowich & Richardson, 2015). All of these factors are conducive towards enhancing the health and wellbeing of the men who attend with social support being one of the most frequently reported facilitators associated with men's help-seeking (Fish et al., 2015). Moreover, previous research in the Sheds suggests that the non-conventional setting of the

Shed appeals to typically HTR men by normalising male gender roles and with social identity and belongingness positively reinforced within them. Moreover, it is suggested that vulnerable men at risk of depression report minimal depressive symptoms while attending their shed (Ford, Lu & Scholz, 2015; Culph et al., 2015). This is also reflective in more recent research which suggests that the Sheds are a protective factor against loneliness, with Shed members who fell into the lonely category during Shed closures due to COVID-19 at 29.7%, a stark increase from 1.4% when they had their Shed to attend prior to closures (McGrath, Murphy & Richardson, 2020). The Sheds therefore present a strong foundation through their inherent health promoting qualities, upon which to build structured health promotion programmes that engage HTR men in an accessible setting. Research suggests that the time is ripe to capitalise on this opportunity, however it is critical that these endeavours do not erode the ethos of the Shed environment but rather enrich it and for this to happen programmes need to be pragmatically evaluated with Shed members at the centre of decision making (Bergin & Richardson, 2020).

2.4 The importance of evaluating community-based programmes to promote systematic uptake

Beyond the need to strategically evaluate health promotion programmes in the Sheds to maintain the integrity of the Shed environment and uphold the autonomy and respect of its members, there is a knowledge gap in the documentation and dissemination of effective gender-sensitive-interventions that promote health. There is also a need to address the underrepresentation of men in health promotion programmes and increase the availability of research that can act as a blueprint for practitioners and policy makers with few “men friendly” settings-based health promotion programmes having been formally evaluated to date (Olliffe et al., 2020; Robertson & Baker, 2017). Furthermore, there is also a lack of practical guidance on how to effectively plan, implement and scale up health interventions and strategic and pragmatic evaluation endeavours encourage systematic uptake of effective interventions into real world settings such as the Sheds through limiting translation issues that can typically occur and prevent wider implementation of efficacious trials (Peters, Adam, Alonge, Agyepong, & Tran, 2013). The challenges of implementing and sustaining health interventions often emerge after tightly controlled efficacy trials are complete and conditions to disseminate and scale-up the interventions become much more variable (Bauer et al., 2015). In public health and health promotion research to date, barriers and facilitators to implementation in practice, such as the delivery capacity of partners and organisations, are often only addressed once the intervention is ready for wider implementation (Rapport et al., 2017). This can often result in efficacious interventions failing to be adopted when applied to real-world settings.

There have been calls for research to begin to address this failure of translating evidence to practice by shifting the focus from tightly controlled interventions to evaluating those capable of implementation and scale-up from the outset (Koorts et al, 2018). The use of implementation science in evaluation of health programmes can be valuable in identifying barriers and facilitators towards effective implementation. By employing an iterative and collaborative process, through working with all key stakeholders across the implementation environment, it becomes more feasible to transcend barriers and translation issues in a pragmatic and dynamic way (Koorts et al., 2018)

The potential effectiveness of health interventions is often reduced or poorly adopted because of multiple contextual factors which act against its implementation in real-life settings. Therefore, it should not be enough to know if a health intervention is effective, but a focus should also be on understanding why and how it is effective to ensure that the model can be translated across implementation settings (Proctor et al., 2011). Hybrid-typology evaluation designs can therefore be a useful guide towards the dual testing of both clinical and implementation effectiveness particularly for community-based and real-world projects that can benefit from more rapid translational gains, more effective implementation strategies, and more useful information for decision makers (Curran et al., 2012). Incorporating implementation science into the evaluation of community-based men's health promotion can therefore effectively address knowledge gaps in how to scale-up efficacious health interventions as well in gender-specific approaches to engage HTR men.

2.5 Summary and Rationale

It is clear that the burden of ill health in men is caused by a multitude of complex biopsychosocial factors and that in order to address gender inequality in health, positive movements towards the development of health promoting strategies, intervention and policy that account for the diversity within and between genders are critical to advancing population health. Effective men's health programmes to date have also highlighted that, in order to engage men, and particularly those who are HTR, health promotion endeavours must include men in their decision making and encourage a collaborative process involving all key stakeholders; researchers, practitioners, participants and policy makers (Thorpe & Haltikis, 2016). An implementation science approach engages all key stakeholders in the development, testing and implementation of an intervention. The SFL evaluation is therefore grounded in implementation science. It aims to investigate both the process and effectiveness of the SFL intervention with a focus on the key strategies involved in implementation and future scale-up to maximise reach to "hard-to-reach" men within the non-conventional settings of the Sheds.

The evaluation focuses on early prioritisation of intervention planning and implementation outcomes while including active engagement from key stakeholders and assessing the intervention effects of SFL. This aims to encourage intervention development and adaptation of SFL that ensures broad and sustained implementation. Findings will have a significant role in determining the effectiveness, sustainability, and potential scale-up of the SFL initiative and, more broadly, in terms of the wider rollout of community-based programmes targeted at men.

It is pertinent to note that this interim report has been produced during the COVID-19 pandemic which has also shone a light on the need for emphasis on men's health promotion programmes in the wake of COVID-19. Evidence is already demonstrating that COVID-19 is disproportionately affecting males, particularly those from more vulnerable cohorts (Smith et al., 2020). Baker, White and Morgan (2020) argue that pre-existing conditions and comorbidities that are more prevalent in men and that are linked to gendered practices and behaviours, have long been neglected at policy level. In essence, Baker and colleagues argue that these issues have been a problem hiding in plain sight and have led to men now being disproportionately impacted by the COVID-19 pandemic. Pragmatic responses which seek to engage men with health and wellbeing and address gender inequalities in health will be needed more than ever in the aftermath of COVID-19. Research has already demonstrated the impact COVID-19 can have on Shed members and that programmes such as SFL are needed to encourage resilience and re-engage men with health (McGrath, Murphy & Richardson, 2020). The SFL evaluation employs a pragmatic approach using implementation frameworks and through its collaborative process will aim to respond to the evolving needs of Shed members in the wake of COVID-19.

3.0 Methodology

3.1 SFL Programme Design

3.1.1 Background of SFL

Sheds for Life was first developed in 2016 in response to an expressed need by Men's Shed members for tailored health promotion alongside the vision of the IMSA to address the need for gender-specific responses for men that tackle the excess burden of ill health in men. It is supported by the IMSA, its board of management and advisory group and works in collaboration with policy makers and allied health organisations. The Sheds setting was identified as a key setting which reaches a captive audience of vulnerable and older men. Prior to the launching of the 10-week SFL programme, the IMSA embarked on scoping work at various Shed Cluster meetings to engage with Men's Shed members so that Sheddors could identify their own needs in relation to men's health and the IMSA could respond accordingly. Determining that there was an appetite from Shed members for more structured health promotion programmes that built on the inherent health promoting qualities of the Shed, the IMSA engaged with and formed partnerships with other health related organisations who shared the vision of reaching men in their health promoting endeavours and could deliver health and wellbeing components in the Sheds setting. In order to ensure that the goals of the IMSA and partner organisations aligned with Shedder's needs, research was conducted in the Sheds to seek consensus on an acceptable and respectful approach to deliver SFL in the Sheds (Bergin & Richardson, 2020). The research found that respecting the Sheds environment and its inherent health promoting values was critical to the acceptability of SFL. Involving Shed members in the decision making process of SFL as well as respecting the autonomy of the Sheds and tailoring SFL to the variable and individual settings of the Sheds would be key to its success. A fundamental requirement was a clear strategy and "rules of engagement" for implementing SFL and that those delivering elements of SFL understood and valued the ethos of the Sheds and its members (Bergin & Richardson, 2020). Informed by this research, the IMSA developed the Guidance for Effective Engagement with Men's Sheds strategy to support health promoting organisations and professionals to respond and engage effectively with Men's Sheds members through SFL (IMSA, 2018). In June 2018 the Irish Research Council awarded an Employment-Based postgraduate scholarship to support the formal evaluation of SFL by a PhD student supported by Waterford Institute of Technology

and Institute of Technology Carlow. The research team, the IMSA and partner organisations involved in SFL then began a collaborative process to structure SFL into a ten-week programme and prepare for its roll out across four counties in 2019.

3.1.2 Format and Structure of the ten-week SFL programme

Phase one of SFL was structured as a ten-week men's health programme that delivers a number of targeted and tailored wellbeing and life skill components to the Sheds. There were four core components to SFL and several supplementary components which Sheds self-select into (See Tables 1 & 2). SFL was structured as a ten-week programme in order to test its impact and to allow time to embed the programme in the Shed environment while encouraging real and sustained behaviour change. Elements of SFL were also developed based on the structure and format of other successful community-based men's health programmes (Richardson, Dunne & Clarke, 2010; Kelly et al., 2019). The elements of SFL were developed in collaboration with partner organisations and in response to the requests of Shed members. SFL components also aimed to align with the national Healthy Ireland Framework and address men's health across a broad spectrum of policy areas such as healthy eating, physical activity and mental health in a targeted way (Health Service Executive, 2017). SFL began with a health check to act as "hook" to engage the men and motivate participation as well as potentially identifying health indicators that may signify an underlying condition. The Mental Health component was originally tested as a supplementary component but in response to explicit needs of the participants, this component became a core element of SFL for autumn 2019 delivery (See Table 1 for a details on the structure of SFL).

Table 1: Core components of SFL

| Programme Component | Description | Duration | Provider |
|---------------------|--|---|--|
| Health check | Blood pressure check Pulse check Cholesterol Blood Glucose Carbon Monoxide Weight measurement and Body Mass Index | 30 minutes once off health check with a nurse delivered in a mobile health unit |  Irish Heart Foundation |

| | | | |
|--|---|--|--|
| Healthy Food Made Easy | Basic nutrition & cookery course provided by the HSE | 2.5 hour workshops for 6 weeks |  Feidhmeannacht na Seirbhíse Sláinte Health Service Executive |
| | Sheds choose one of the two following fitness programmes: | | |
| Exercise for Shedders | Maintain & improve posture, strength, flexibility, balance & general physical capabilities | 1 hour exercise class for 10 weeks |  |
| OR | | | |
| Sheds ag Siúl | Walking for fitness programme aimed at all ability levels | 1.5 hours every second week across the 10 week programme |  |
| Mental Health & Wellbeing in the Community | Equips participants with the knowledge and understanding necessary to foster and enhance mental health and wellbeing. | 4 hour workshop (Available in 2 x 2 hour session format) |  |

Table 2: Supplementary components of SFL in phase one

| Programme Component | Description | Duration | Provider |
|--|---|-----------|---|
| Diabetes: Living Well, Being Well Workshop | Covers how to prevent and manage diabetes | 1.5 hours |  |
| 'Hands for Life' CPR Training | CPR basics | 1 hour |  |

| | | | |
|---|---|---------------------|--|
| Oral Health | Provides an understanding of the connection between the mouth & body and importance of maintaining oral health. | 1 hour |  |
| Cancer Awareness | Interactive workshop to reduce the risk of male-related cancer | 1 hour |  |
| safeTALK | Interactive workshop to prepare Sheddors to identify people with thoughts of suicide & connect them to suicide first aid resources. | 3.5 hours |  |
| Getting Online Computer Training | A complete beginner's course to getting online. (Viewing websites, sending & receiving emails.) | 5 x 2 hour sessions |  |
| Note: SFL has since been adapted in response to men's shed members to include a dementia awareness component delivered by the Alzheimer's society and Understand Together | | | |

3.1.3 Gender Specific Strategies of SFL

The previous piloting of SFL components in the Sheds leant insights into the strategies that work well when engaging Men's Shed Members in the programme. Further insights during testing of the ten-week SFL format also assisted in identifying acceptable and appropriate means of engaging participants with SFL. These insights accompanied by findings from research that engage HTR men formed the basis of the gender-specific strategies upon which SFL is built upon (See Table 3)

Table 3: Facilitators to effective participant engagement in SFL

| Process – Engaging | | |
|---|---|--|
| Individual Level Facilitators (Gender Specific Strategies) | | |
| Facilitator/Strategy | Description | Aim |
| Trust Building | Facilitators of SFL spend time building rapport and trust with participants prior to delivery of SFL components. | Trust facilitates sense of safety and a positive dynamic where participants can be open and honest. |
| Targeted Intervention- The Sheds/local community as a delivery setting | SFL is delivered in a targeted way by bringing SFL to the Sheds and delivering the majority of its components directly in the Sheds natural environment or other local community setting, which are viewed as familiar, safe and non-clinical, environments for Shed members. | Encourage sense of safety and familiarity. Remove barriers towards participation. Make participation convenient. Members attending the Shed generally, can observe elements of SFL in real time which may encourage participation. |
| Tailored Intervention | SFL is designed and refined in collaboration with Shed members to respond to their needs. | Ensure that SFL is an appropriate model that can effectively respond to the needs of men. Instil sense of ownership and buy-in. |
| Sense of ownership | SFL is described as a programme “for Shedders by Shedders” and that those who participate in SFL are pioneers of the programme. SFL seeks to engage Men’s Shed members as active participants in both the programme and the research to ensure that SFL is an appropriate fit for the Sheds and their members. | Engage men through sense of duty and ownership. Ensure research is evidence-based. Enhance sense of safety and trust in SFL. |
| Autonomous Participation | Sheds “express interest” via a discussion process and an expression of interest application in participating in SFL it is never forced upon them. Individual Shed members are asked to participate in as much of SFL as possible while recognising and | Give participants a sense of autonomy and control of SFL. Respect the ethos and environment of the Shed and independence of Shed members. |

| | | |
|------------------------------------|--|---|
| | respecting that other life commitments happen. | Ensure Shed members do not feel burdened by the commitment of SFL. |
| Choice-based components | Participants of SFL have a selection of components to choose from and “self-select” into. | Give participants a sense of ownership and control. Tailor SFL to respond to the different Shed environments and needs of Shedders. |
| Active Recruitment | Once Sheds express interest in participating, members of the IMSA's health and wellbeing team visit the Sheds to discuss SFL in an informal way, building trust and safety and recruit individual Shed members to participate. | Help participants to fully understand the process of SFL. Help participants not to feel overwhelmed by SFL. Build a sense of credibility and trust to enhance acceptability of SFL. |
| Social Support | SFL capitalises on the organic health promotion that occurs through the already existing social support between Shed members in Sheds. | Shed members support and motivate one another to participate in SFL. Camaraderie and banter enrich the experience of SFL. |
| Male-specific | SFL is delivered in a male only-environment with the company of like-minded men. | Promote sense of safety and relatability. |
| Allied Partnership Approach | SFL is delivered and designed in collaboration with partner organisations whose goals align with those of the IMSA and SFL and who respect the ethos and environment of the Shed. | Partners who deliver SFL are a suitable fit for the Sheds, increasing sense of credibility and acceptability of participants. |
| Informal Delivery Style | SFL is delivered in an informal, interactive and relaxed way with a conversational tone. | Informal delivery respects the ethos of the Sheds and facilitates comfort and active participation. |
| Credibility of tutors | Deliverers of SFL are affiliated with credible organisations and engage in “Guidance for Effective Engagement with Men's Sheds training” prior to delivery. | Credibility adds to the sense of safety. Engaging facilitators promote acceptability and satisfaction with SFL among participants |
| Structure/Clarity | Participants are provided with a clear structure and schedule as well as a handbook for reference during SFL. | Participants have a sense of control and understand what to expect from SFL, limiting |

| | | |
|---------------------------------------|---|--|
| | | <p>apprehension about the programme.</p> <p>Clarity around scheduling enhances reach and attendance.</p> |
| Reminders and Prompts | Participants of SFL receive text reminders and prompts during SFL delivery. | Prompts and reminders limit non-attendance and motivates participants to attend. |
| Strengths-Based Approach | SFL aims to be delivered using a strengths based approach where facilitators utilise the capacity, skills and knowledge of the men while demonstrating empathy and respect and using positive, non-stigmatising or non-judgemental language and tone. | <p>The facilitator can create a positive group dynamic where men are more willing to be open about their experiences.</p> <p>Using the men's knowledge and experience creates a sense of shared autonomy over SFL and encourages peer support and normalisation of conversations about health in the Shed.</p> <p>Men who feel respected, not labelled or stigmatised, will be more likely to stay engaged and become active not passive participants.</p> |
| Using a "Hook" | The use of a free comprehensive health check at the beginning of SFL is a critical incentive to engage men in the SFL programme alongside other life-skill components such as CPR. | <p>The Health Check is an important element of SFL that can highlight underlying health issues while incentivising participation in SFL.</p> <p>Other practical-based elements of SFL are also useful to engage Shed members.</p> |
| Supportive Resources | Participants of SFL receive supportive resources during SFL such as dedicated SFL and Healthy Food Made Easy handbooks as well as material on mental health and other various components. | <p>To provide guidance documents to support participants in adopting and practicing new skills.</p> <p>To encourage maintenance of knowledge and behaviour change.</p> |
| Engaging Leaders and Champions | SFL aims to identify and engage Shed leaders who buy into the SFL | Leaders in the Shed motivate other |

| | | |
|--|--|--|
| | message and communicate key messages about SFL at ground level. | participants to stay engaged and are an important point of contact at ground level during implementation of SFL. |
| Collaboration/Co-Design | Shed members are involved in the development, process and adaptation of SFL to ensure that SFL remains “Shedder centred”. | Involving Shed members in the implementation process also facilitates access to local knowledge and facilities for SFL implementation. |
| Removing Costs | SFL is delivered free of charge for Shed members. | Removal of cost allows SFL to be accessed by more vulnerable men and incentivises participation. |
| Respecting the Shed environment | The central goal of SFL is to enrich, not undermine the Sheds already health enhancing environment and so alongside ongoing collaboration with Shed members, participants of SFL are also guided not to overburden themselves by committing to too many SFL components. They are also recommended to select a day to dedicate to SFL so that it does not encroach into typical routine of the Shed. A readiness assessment also informs whether SFL is suitable for a Shed at that time. SFL also aims to be implemented during times that are conducive with the Shed environment such as Spring or Autumn avoiding busier project periods for the Sheds such as Christmas or Summer. | Prevent participants feeling overwhelmed by SFL. Uphold acceptability of SFL by preventing it from disrupting other important Shed activities and projects. |

3.2 Study Design

The overall research employs an implementation science focus to promote the systematic uptake of SFL in the real world context of the Sheds and wider setting. The aim of this approach is to incorporate a broader scope than traditional clinical effectiveness alone, to focus not only on individual or participant level but also at the provider organisation and wider systems levels that impact implementation of SFL (Bauer, Damschroder, Hagedorn, Smith, & Kilbourne, 2015). Successful implementation should be considered in light of a variety of different factors including the effectiveness of the intervention to be implemented alongside implementation outcomes (Proctor et al., 2011). For this reason, the research employs a hybrid type-two effectiveness-implementation study design meaning dual testing of effect and

implementation outcomes of SFL in order to pragmatically promote translation into the real world context from the outset while also providing more valid estimates of potential effectiveness in the implementation settings/Sheds (Curran, Bauer, Mittman, Pyne, & Stetler, 2012). In order to assess implementation outcomes and address barriers and facilitators towards effective implementation, key stakeholders across implementation levels (individual, provider, organisational) are involved in the research process through a community-based participatory research approach with Sheddors being active participants in both the SFL intervention and evaluation, as well as engagement with partner organisations who deliver the various components of SFL (Koorts et al., 2018). A mixed methods approach is applied to the research to assess both implementation and effectiveness outcomes.

3.2.1 Implementation Testing

A combination of implementation and evaluation frameworks are used to guide the implementation testing and evaluation of SFL. The Consolidated Framework for Implementation Research is used to characterise and understand the domains which interact in complex ways to influence implementation effectiveness such as the intervention, inner and outer setting, the individuals involved and the process of implementation (See Figure 1) (Damschroder et al., 2009).

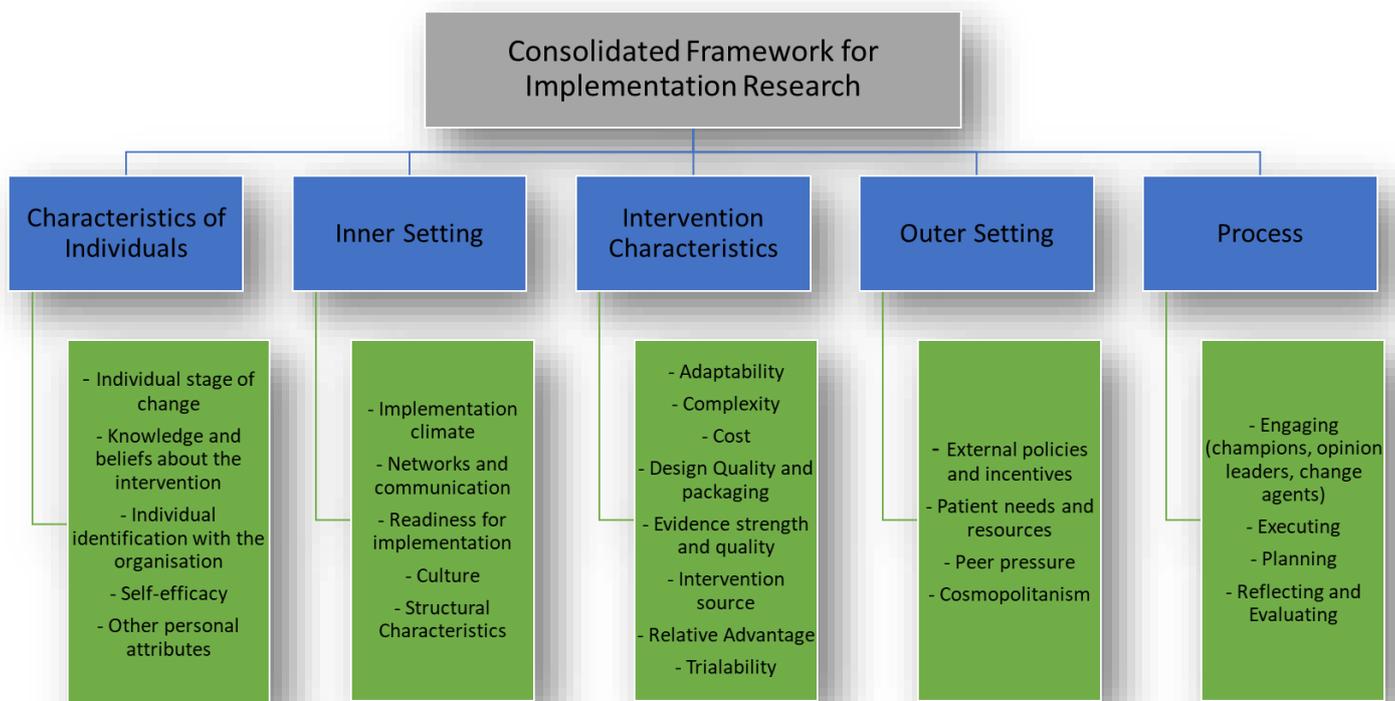


Figure 1: Consolidated Framework for implementation research domains and constructs

The PRACTIS guide is also used in an iterative process to practically guide the implementation process and evaluation in collaboration with key stakeholders to promote successful implementation and scale-up of SFL, through characterising the parameters of the implementation setting, identifying and engaging key stakeholders, identifying implementation barriers and facilitators and addressing potential barriers to implementation across individual, provider, organisational and systems level (See Figure 2) (Koorts et al., 2018). A taxonomy of implementation outcomes (acceptability, adoption, appropriateness, feasibility, fidelity, implementation costs, penetration and sustainability) are assessed using mixed methods to measure implementation effect (Proctor et al., 2011).

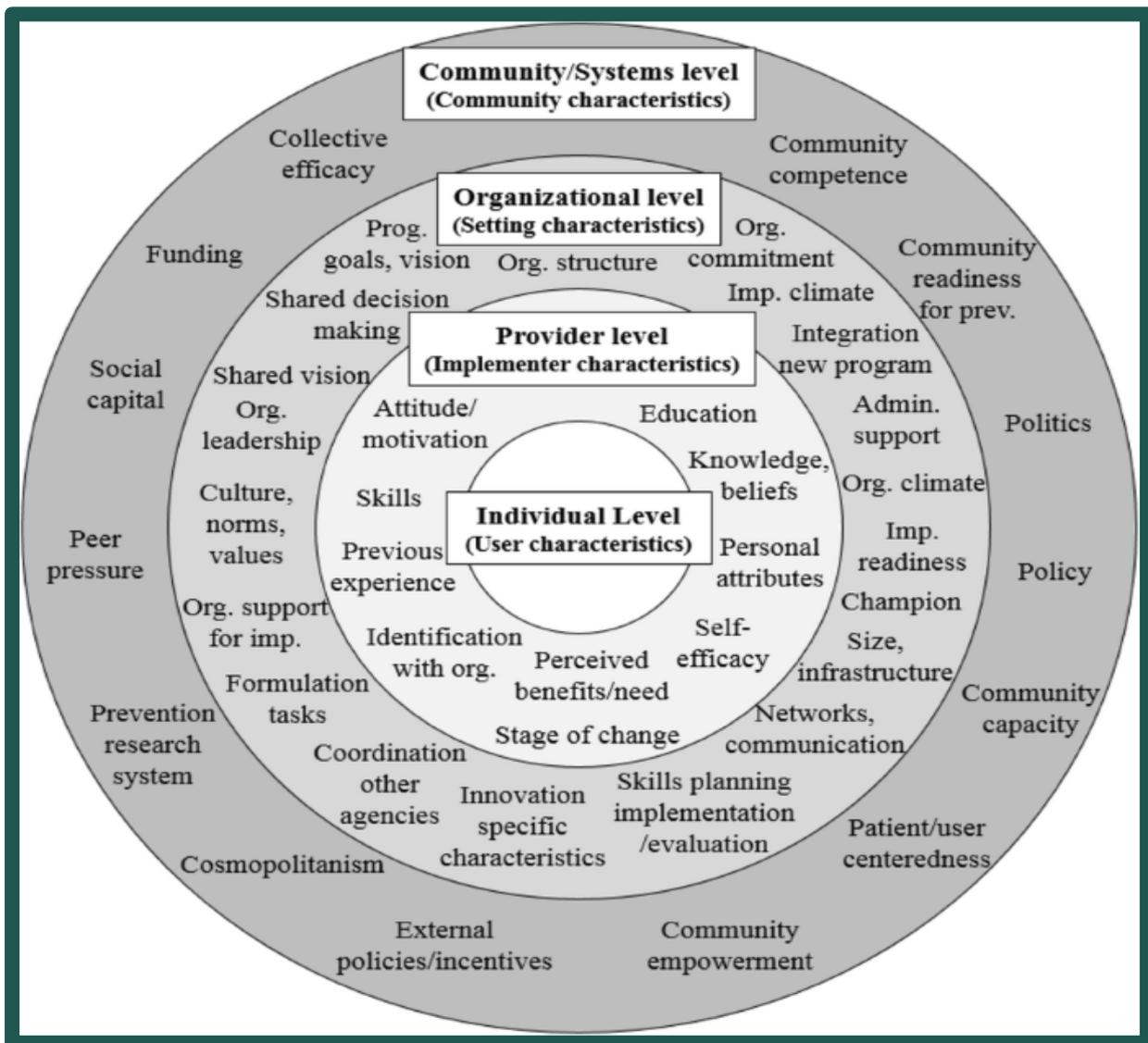


Figure 2: An Ecological model of potential influences on implementation in practice (Koorts et al., 2018).

Note: The focus of this interim report is on the effectiveness level of the evaluation, highlighting the impact of SFL at participant (Shedder) level during phase one implementation of SFL, reflected in the presented results. Assessment of implementation outcomes are ongoing.

3.2.2 Effectiveness Testing Methodology

Data collection and Design

A mixed methods approach was applied to assess the impact of SFL phase one implementation on participants.

Focus groups (n=8) and short interviews (n=16) were conducted with Shedders at the end of the ten weeks to assess implementation outcomes as well as tracking changes in knowledge, attitudes and behaviours post SFL. These were based on semi-structured topic guides designed on CFIR constructs and the taxonomy of implementation outcomes where applicable (Proctor et al., 2011; Damschroder et al., 2009), with room for themes to emerge as the participants explored them. A flavour of the qualitative findings will be presented in the results to support the quantitative findings from questionnaires.

3.2.3 Questionnaire Design

Questionnaires were developed based on previously validated scales and in collaboration with partner organisations to test effect of SFL at participant level via self-reported outcomes. Questionnaires were administered at baseline (T1) 3 month (T2) 6 month (T3) and 12 month (T4) follow up. Questionnaires were administered one-to-one to limit literacy issues, prevent burn-out and build rapport and trust between the researchers and Shedders.

Participant demographics were recorded at baseline including date of birth, living situation, educational attainment, employment status relationship and ethnicity. Participants were also asked how long they have been a shed member and how often they attended the shed. At all-time points all participants were asked on a single question Likert scale if they like to find out different information about their health. Self-rated health was also measured using a single question Likert scale with high reliability among older men (Lunderberg and Manderbacka, 1996).

The single item walking measure was used to record days walking on an 8-point scale (0-7), average minutes walking were also recorded and the single-item PA measure was used to record PA levels (Milton, Bull and Bauman, 2011). The Self-Efficacy for Exercise Scale (SEE) was used to measure physical activity self-efficacy (Resnick and Jenkins, 2000).

Life worth and satisfaction were recorded using the Office of National Statistics subjective wellbeing 11-point scales (ONS, 2015). Mental wellbeing was measured using the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS) with raw to metric score conversion where a change of 2+ is considered relevant (Stewart-Brown et al., 2009). In response to the Mental Health Workshop with Mental Health Ireland participants were asked at T1 to T4 to rate their certainty across three constructs including their understanding of their mental health and wellbeing, their comfort in having a conversation about their mental health and practical supports to maintain and enhance their mental wellbeing rated on a five point Likert scale from “Very certain” to “Very uncertain”. Loneliness was measured at all-time points via the UCLA 3-item scale measuring three dimensions of loneliness; relational connectedness, social connectedness and self-perceived isolation, with participants also asked to retrospectively rate their loneliness prior to joining the shed at baseline. (Russell, 1996). Social Capital was measured based on relevant recommendations from WhatWorksWellbeing (2018), capturing trust, belonging and close support. Interpersonal trust was measured using the Office of National Statistics 11-point scale (ONS, 2016). Close support and belonging were measured on a Likert scale from the Community Life Survey 2016 (Department for Digital, Culture, Media and Sport, 2017), with the belonging construct stating “Shed” rather than “neighbourhood” for relevance and relatability.

The SF-6D was used at T1 to T4 for assessing cost effectiveness of SFL. It is a preference-based measure of health with a six-dimensional health status classification: physical functioning, role functioning, social functioning, pain and discomfort, mental health and vitality. It was derived from the SF-36. The subjects select one of the levels (up to level 4 or level 6) in each dimension which best describes their current health status (Brazier, Roberts & Deverill, 2002).

Lifestyle behaviours were also recorded (smoking (number smoked per day) and alcohol consumption (days drinking and units consumed per drinking session).

Assessments of cooking and healthy eating behaviours were developed in conjunction with the partner organisation delivering the Healthy Food Made Easy component of SFL. Participants were asked about their levels of daily fruit and vegetable consumption, cooking style, cooking frequency and willingness to cook. Confidence constructs around cooking and healthy eating were measured via a 12 item Likert scale ranging from “not at all confident” to “very confident”. The questions were adapted from the Garcia et al., (2017) protocol for community-based cooking interventions which were developed at a lower literacy level with

varying levels of literacy in mind among participants. The constructs used to assess cooking and healthy eating were previously validated (Barton, Wrieden and Anderson, 2008).

3.2.4 Supplementary Components

Diabetes awareness

Diabetes questions were adapted with partner organisation Diabetes Ireland and constructs used were previously validated, from the diabetes knowledge questionnaire (Garcia et al., 2001), participants were asked 7 items at T1, T2, T3 with “yes”, “no” or “don't know” answer options. Higher scores across items indicate improved diabetes knowledge. Participants were also asked to rate their perceived risk of getting type 2 Diabetes from low to high.

safeTALK

Assessment of the impact of safeTALK on participant confidence and willingness to engage with the topic of suicide were developed with the National Office of Suicide Prevention in response to safeTALK's learning objectives. Participants were asked to rate their confidence in dealing with the needs of someone who may be suicidal and identifying appropriate services on five-point Likert scales ranging from “not at all confident” to “strongly confident”. Participants were also asked to rate their willingness and confidence to engage with the topic of suicide on five-point Likert scales ranging from “strongly agree” to “strongly disagree”. These were assessed at T1, T2 & T3.

Digital Literacy

Constructs of digital literacy measured at T1 to T3 were developed in response to Age Action's learning objectives. Participants were asked six constructs around accessing websites, sending and receiving emails, using social media, staying connected with family and friends online, online services and smart phone apps rating their certainty in each on five-point Likert scales from “very certain” to “very uncertain”.

Oral Health

Assessment of oral health awareness measured at T1 to T3 were offered by the Dental Health Foundation. Participants were asked to rate the health of their gums and teeth and the level of perceived importance and confidence in looking after their oral health and visiting their

dentist on five-point Likert scales ranging from “very important” to “unimportant” and “strongly confident” to “not at all confident”.

Cardiopulmonary Resuscitation

Measures to assess confidence in CPR constructs were developed in consultation with the Irish Heart Foundation who delivered the “Hands for Life” CPR workshop. Participants were asked from T1 to T3 how confident they felt recognising cardiac arrest and calling the emergency services, operating an AED and performing chest compressions on a five-point Likert scale ranging from “strongly confident” to “not at all confident”.

Cancer awareness

Measures to evaluate the cancer awareness workshop were agreed upon with National Screening Service in line with their objectives. Participants at T1 to T3 were asked to rate their understanding of cancer related early detection signs, cancers common in men, cancer screening options and the importance of bowel screening and retina screening (if diabetic) on a five point Likert scale from “strongly agree” to “strongly disagree”

3.2.5 Supplementary questions at T2 to T4

At T2 participants were asked whether they were recommended to visit their GP at their initial health check and if so did they attend. At T2 and T3 participants were also asked about their attendance at various sessions, whether they attended or not and what percentage they attended if applicable. At T3 participants were also asked if they would recommend SFL to a friend on Likert scale of “strongly agree” to “strongly disagree”. At T4 questionnaires were shortened to focus on wellbeing, lifestyle and core component outcomes of SFL and measures were introduced to assess willingness to participate in SFL if there was a fee and to assess whether participants spoke about SFL to others. Participants were also asked if they had their bloods checked in the past year. At each follow up time point participants had the opportunity to give feedback and recommendations on SFL.

3.2.6 COVID-19 adjustments

Following assessment of the implementation environment of SFL, namely the capacity and resource constraints of partner organisations to deliver SFL along with the nuances, ethos and

autonomy of the inner (Sheds) setting, the SFL ten-week intervention was implemented on a phased basis across two cohorts with two counties per cohort. This meant that at T3 and T4 follow up in Cohort 2, participants were actively experiencing COVID-19 restrictions whereas Cohort 1 were not as their follow up points were prior to COVID-19 and therefore some outcomes will be presented by cohort at different time points where relevant. This also meant due to COVID-19 restrictions at T3 and T4, questionnaires were completed via phone. Questionnaires for Cohort 2 at T3 and T4 were adjusted and include assessment of COVID-19 on relevant outcomes and the impact of COVID-19 on SFL participants has been assessed elsewhere (McGrath, Murphy & Richardson, 2020).

3.2.7 Participants and Sampling

Respecting the autonomous and informal environment of the Sheds is an important factor in delivering health promotion through Sheds (Lefkowich & Richardson, 2018; Bergin & Richardson, 2020). Therefore, Sheds were recruited to participate in SFL via an expression of interest process with the objective to deliver SFL in diverse settings based on Shed size and geographical location (urban/rural). Individual Sheddors within Shed settings participated in the SFL programme and evaluation on a voluntary basis and provided informed consent. The first SFL programme delivery (Cohort1) was delivered over two counties comprising of 12 delivery settings and individual Sheddors (n=212) in March to May 2019. The two counties were County Kildare, in Ireland's Mid-East region with a population of circa 222,504, and Waterford in Ireland's South-East Region with a population of 116,176 (CSO, 2016). The second SFL programme delivery (Cohort 2) was similarly delivered from September to November 2019 over two counties comprising of nine delivery settings and individual Sheddors (n=209). These two counties included; Co. Limerick, in Ireland's South-West region with a population of 194,899 and Co. Louth in Ireland's Mid-East Region with a population of 128,884 (CSO, 2016). Questionnaires were administered with Sheddors at baseline (T1; n=198), 3 months (T2; n=123), 6 months (T3; n=65) and 12 months (T4; n=156) in the Cohort 1. Due to constraints associated with research capacity, specifically in terms of aligning data collection with shed opening hours, follow up rates vary and rescheduling of data collection was not possible. At T3 in Cohort 1 a sub sample of 6 out of 13 sheds were followed up with where 65 out of a potential 93 Sheddors were present to complete follow up i.e. 70%. Follow up rates at T2, T3 and T4 were therefore 62, 70 and 80% respectively. Absence of data for participants does not necessarily indicate drop out, with overall reach rates across Cohorts 1 and 2 estimated at 73% (see Reach). Baseline (T1; n=185), 3 month (T2; n=106) 6 month (T3;

n=146) and 12 month (T4; n=129) data were collected in Cohort 2. Follow up rates were 57%, 79% and 62% respectively.

3.2.8 Data Analysis

Data were analysed using Statistical Packages for the Social Sciences (SPSS V 24). Descriptive statistics for each variable were calculated and data collected across time points were compared using inferential tests to identify potential significant differences between points in time in the two cohorts combined and also differences between cohorts where relevant. Focus groups and interviews were transcribed verbatim and analysed using thematic content analysis with themes then categorised into implementation and impact outcomes.



4.0 Results

4.1 Shed and Shedder Characteristics

Cohorts

Cohort 1: Cohort one (n=212, 50.4%) participated in SFL in March 2019 across Waterford and Kildare in n= 13 sheds.

Cohort 2: Cohort 2 (n=209, 49.6%) participated in SFL in September 2019 across Louth and Limerick in n= 9 sheds.

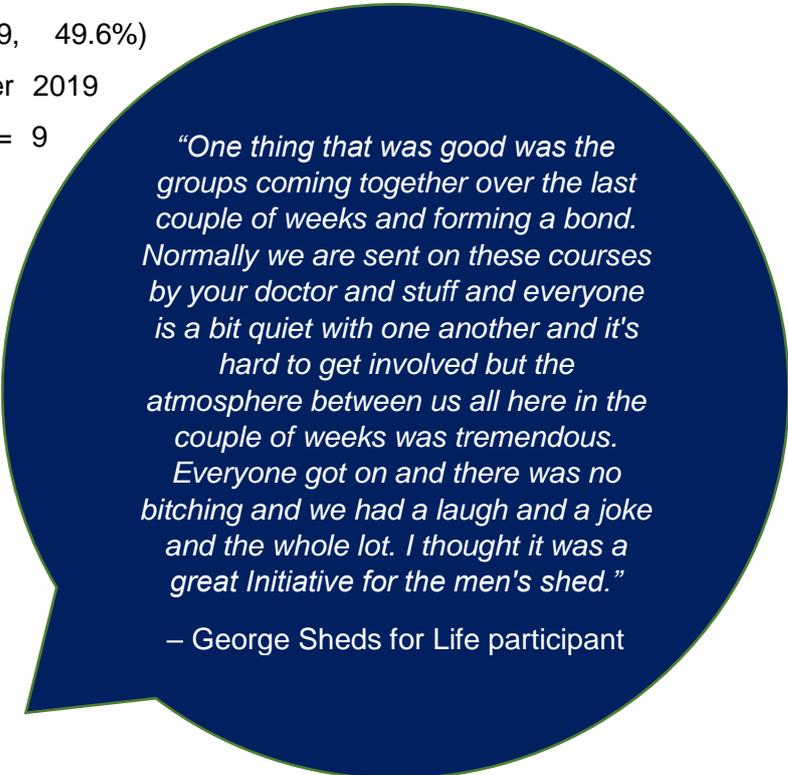
Participants per shed

Participant numbers per shed ranged from 8-37 with a mean of 19.182 ± 7.853.

SFL by county breakdown:

Table 4: SFL by count breakdown

| County | N= | N% |
|-----------|-----|-------|
| Waterford | 57 | 13.5 |
| Kildare | 155 | 36.8 |
| Limerick | 105 | 24.9 |
| Louth | 104 | 24.7 |
| Total | 421 | 100.0 |



“One thing that was good was the groups coming together over the last couple of weeks and forming a bond. Normally we are sent on these courses by your doctor and stuff and everyone is a bit quiet with one another and it's hard to get involved but the atmosphere between us all here in the couple of weeks was tremendous. Everyone got on and there was no bitching and we had a laugh and a joke and the whole lot. I thought it was a great Initiative for the men's shed.”

– George Sheds for Life participant

Geographical Spread

In terms of geographical spread, n=14 (64%) Sheds were in urban areas with n=8 (36%) in rural areas. The urban areas consisted of n=312 (74.1%) of participants with n=109 (25.9%) in rural areas.

Age

The age of SFL participants ranged from 27-90 years (n=383) with a mean age of 69.1 ± 9.136 years.

Ethnicity

The majority of Sheddors were “White Irish” (n=380, 99.3%) while 0.7% (n=3) categorised themselves as “other” categorising themselves as Australian, British and South African.

Education

Educational attainment across SFL participants varied with 24.9% (n=95) reporting completing some or all of primary education only, 52.1% (n=199) completing some or all of secondary education, n=78 (20.4%) completing some or all of a third level education and 2.6% (n=10) completing some or all of a postgraduate education.

Marital Status

Table 5 outlines the marital status of SFL participants, with majority (73.4%) reporting as married/cohabiting.

Table 5: Marital status of participants

| Marital Status | N= | N% |
|--------------------|-----|-------|
| Married/Cohabiting | 281 | 73.4 |
| Widowed | 36 | 9.4 |
| In a relationship | 3 | .8 |
| Separated/divorced | 22 | 5.7 |
| Single | 41 | 10.7 |
| Total | 383 | 100.0 |

Living Situation

The number of participants who reported living alone at baseline amounted to 17.8% (n=68) with 81.7% (n=312) reporting that they lived with their family, wife or partner and 0.5% (n=2) reporting that they lived with friends.

Employment Status

The majority of participants (n=308, 80.4%) categorised themselves as being retired with 1.6% (n=6) reporting themselves as being unemployed or looking for work, 11.8% (n=45) reporting themselves as being employed either full-time, part-time or looking after the home or family and 4.7% (n=18) reporting themselves as being unable to work due to long-term illness or disability.

Shed Attendance

Participants were asked at baseline how often they attended their shed with 64.0% (n=245) responding “more than twice a week”, 30.3% (n=116) responding “once a week”, with 5.7% (n=22) attending their shed fortnightly or less.

Health Rating Baseline

Table 6 describes the self-reported health rating of participants at baseline, with 75% reporting “good” health or better.

Table 6: Self-rated health rating at baseline

| Self-Rated Health | N= | N% |
|-------------------|-----|-------|
| Excellent | 29 | 7.6 |
| Very good | 109 | 28.5 |
| Good | 152 | 39.8 |
| Average | 78 | 20.4 |
| Poor | 14 | 3.7 |
| Total | 382 | 100.0 |

Membership length

The mean duration of shed membership was 2.748 years \pm 2.060, with a range of 0 to 9 years (n=379).

Family History of heart disease, stroke or diabetes

During the health check participants were asked about whether they had a family history of heart disease, stroke or diabetes. Some (52.9%, n=190) reported having a family history of heart disease, with 21.3% (n=76) reporting a family history of stroke and 28.0% (n=100) a family history of diabetes.

Health screening results at baseline

Table 7 details the various health screening results of participants at baseline.

Table 7: Participant health screening results at baseline

| Health Indicator | N= | Range | Mean | Std. Deviation |
|------------------------------|-----|----------------|----------|----------------|
| Systolic BP* | 384 | 66.00 - 206.00 | 139.9036 | 19.44218 |
| Diastolic BP* | 384 | 38.00 - 114.00 | 81.4661 | 11.04696 |
| Pulse | 383 | 45.00 - 180.00 | 68.1723 | 13.75521 |
| Total Cholesterol | 382 | 2.50 - 7.55 | 4.1838 | 1.02816 |
| LDL | 331 | 0.00 - 5.4 | 2.4055 | 0.91078 |
| HDL | 381 | 0.39-2.59 | 1.1015 | 0.399 |
| Triglycerides | 382 | 0.15 to 7.14 | 1.66 | 1.026 |
| Glucose | 380 | .28 – 17.30 | 6.1278 | 1.84490 |
| Waist (inches) | 383 | 26.00 to 67.00 | 41.5997 | 5.42307 |
| Height (cm) | 385 | 145.00-190.50 | 172.4432 | 6.83085 |
| Weight (KGs) | 385 | 52.00-172.00 | 89.0099 | 17.47755 |
| BMI | 378 | 18.00-53.57 | 29.9120 | 5.40975 |
| Cigarettes/day | 79 | 0.0-40.00 | 7.4091 | 9.980 |
| Carbon monoxide (PPM) | 56 | 0.0-36.00 | 15.947 | 12.011 |

| | | | | | |
|-------------------------------------|-------------------|----------------------|-----------------------|--------------|-------------------|
| Units Alcohol/day | 251 | 0.0-68.00 | | 8.0916 | 10.06834 |
| Stress | Not at all | Only a little | To some extent | Often | Very often |
| N= (%) | 106 (25.2%) | 129 (30.6%) | 74 (17.6%) | 29 (6.9%) | 15 (3.6%) |
| **PA for 30mins + p/day | | | | N= | N% |
| Yes | | | | 245 | 71.2 |
| No | | | | 99 | 28.8 |
| PA for 5 days/week | | | | N= | N% |
| Yes | | | | 227 | 66 |
| No | | | | 117 | 34 |
| Smoker | | | | N= | N% |
| Yes | | | | 33 | 7.8 |
| No | | | | 312 | 90.4 |
| Drink Alcohol | | | | N= | N% |
| Yes | | | | 210 | 62.5 |
| No | | | | 126 | 37.5 |
| Referred to GP | | | | N= | N% |
| Yes | | | | 223 | 79.6 |
| No | | | | 57 | 20.4 |
| *Blood Pressure **Physically active | | | | | |

Self-Reported Health Rating

Cohorts one and two were analysed separately for self-reported health rating to account for COVID-19 impact. Both cohorts experienced an increase in self-rated health after SFL (T2; post SFL $z=-3.822$ $p<.0005$). Cohort one continued to increase significantly at T3 (Wilcoxon matched pairs test; $z=-3.460$ $p<0.005$; See Table 8), with a reduction at T4 but remaining significant higher than baseline. By contrast there was no significant difference in Cohort 2 thereafter with no significant change in self-reported health between baseline and T2, T3 or T4.

Table 8: Self- Reported Health Ratings by Cohort one across T1 to T4

| (N=383) % | Cohort 1 | | | | Cohort 2 | | | |
|---|------------------------------------|-------------|-------------|-------------|-------------|-------------|----------------------|----------------------|
| | T1 | T2 | T3 | T4 | T1 | T2 | T3 (During COVID) | T4 (During COVID) |
| Health Rating | N= N% | N= N% | N= N% | N= N% | N= N% | N= N% | N= N% | N= N% |
| Excellent | 18 9.1% | 19 14.6% | 18 26.1% | 21 14.7% | 11 5.9% | 11 10.3% | 18 12.4% | 13 10.2% |
| Very Good | 54 27.4% | 40 30.8% | 30 43.5% | 43 20.3% | 55 29.7% | 50 46.7% | 40 27.6% | 37 29.1% |
| Good | 77 39.1% | 44 33.8% | 16 23.2% | 66 46.2% | 75 40.5% | 34 31.8% | 58 40.0% | 55 43.3% |
| Average | 43 21.8% | 25 19.2% | 5 7.2% | 11 7.7% | 35 18.9% | 11 10.3% | 27 18.6% | 18 14.2% |
| Poor | 5 2.5% | 2 1.5% | 0 0.0% | 2 1.4% | 9 4.9% | 1 0.9% | 2 1.4% | 4 3.1% |
| | *** T1 & T2,T3,T4 T2 & T3 T3&T4 | | | | *** T1 & T2 | | | |
| ***Significant difference at p<0.001 ** Significant difference at p<0.005 *Significant difference at p<0.05 | | | | | | | | |

Are you someone who likes to find out information about your health?

There was a significant increase in those who expressed an interest in seeking information about their health from T1 to T2 in Cohort 1 ($z=3.355$, $p=0.001$) and Cohort 2 ($z=3.087$, $p=0.002$), these changes were sustained at T3 and T4 (no significant difference after T2, See Table 9).

Table 9: Seeking health information by cohort from T1-T4

| (N=383) % | Cohort 1 | | | | Cohort 2 | | | |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | T1 | T2 | T3 | T4 | T1 | T2 | T3 | T4 |
| Seek health information | N= N% |
| Often | 73 37.1% | 81 62.3% | 57 82.6% | 91 64.1% | 83 45.1% | 77 72% | 100 69% | 74 58.0% |
| Sometimes | 89 45.2% | 37 28.5% | 8 11.6% | 36 25.4% | 69 37.5% | 23 21.5% | 37 25.5% | 41 32.3% |
| Rarely | 26 13.2% | 9 6.9% | 3 4.3% | 6 4.2% | 22 12.0% | 5 4.7% | 8 5.5% | 10 7.9% |

| | | | | | | | | |
|---|------------|-----------|-----------|-------------|------------|-----------|---------|-----------|
| Never | 9 4.6% | 3 2.3% | 1 1.4% | 9 6.3% | 10 5.4% | 2 1.9% | 0 0% | 2 1.6% |
| | *** T1& T2 | | | *** T1 & T2 | | | | |
| ***Significant difference at p<0.001 ** Significant difference at p<0.005 *Significant difference at p<0.05 | | | | | | | | |

GP referral

Of those advised to visit their GP at T1 health check, 41.7% (n=95) reported visiting the GP at T2. Notably 58.3% (n=133) stating they had not.

4.2 Physical Activity

Ten sheds participated in the walking component n=7 in Cohort 1 and n=3 in Cohort 2. Twelve sheds participated in the exercise for Sheddors classes, n=6 in Cohort 1 and n=6 in Cohort 2.

Table 10: Physical Activity outcomes from T1 to T4

| Physical Activity Outcomes | | | | |
|--|----------------------------------|---|----------------------------------|----------------------------------|
| | T1 | T2 | T3 | T4 |
| Mean Days PA for 30+ mins (Mean+SD) | 3.068 ± 2.570 (n=381) | 4.319 ± 2.859 (n=232) | 3.578 ± 2.557 (n=213) | 3.777 ± 2.432 (n=262) |
| | *** T1 & T2,T3,T4 | | | *T2&T3 |
| Not meeting PA guidelines | (n=223) 68.8% | (n=98) 48.5% | (n=102) 63.7% | (n=150) 57.3% |
| Meeting PA Guidelines | (n=101) 31.2% | (n=104) 51.5% | (n=58) 36.3% | (n=112) 42.7% |
| | *** T1& T2 | | | |
| Days walking for 10+ mins (Mean+SD) | 4.139 ± 2.783 (n=381) | 5.275 ± 2.294 (n=236) | 5.107 ± 2.285 (n=214) | 4.872 ± 2.527 (n=266) |
| | *** T1 & T2,T3 | | | *T1&T4 |
| Minutes Walking per day (Mean+SD) | 33.381 ± 27.31 (n=375) | 38.059 ± 28.10 (n=236) | 39.821 ± 28.15 (n=212) | 35.600 ± 23.086 (n=256) |
| PA Self-Efficacy (Mean+SD) | 53.167 ± 20.991 (n=378) | 64.846 ± 19.672 (n=233) *** | 67.318 ± 17.338 (n=207) | 65.847 ± 20.225 (n=255) |
| | *** T1 & T2,T3 & T4 | | | |

***Significant difference at $p < 0.001$ ** Significant difference at $p < 0.005$
*Significant difference at $p < 0.05$

Days physically active for 30 minutes or more

Overall, paired samples t-tests showed an increase in days active increased from 2.795 at T1 to 4.348 days at T2, a mean increase of 1.552 ± 3.415 ($t=6.587$, $p=0.000$). There was a significant reduction from T2 to T3 from 4.452 to 3.578 days, a mean reduction of -0.874 ± 3.714 ($t=-2.734$, $p=0.007$). Days active increased again at T4 from T3 to 3.826 ± 2.442 but the difference was not significant. However, mean days active for 30 minutes or more per week remained significantly higher across T2, T3 and T4 compared to baseline (T1).

Meeting the PA guidelines

At baseline (T1) 31.2% ($n=101$) of participants were meeting the PA guidelines. There was a significant increase in those meeting the PA guidelines in both cohorts from T1 to T2 ($p < 0.001$). Changes were sustained with no significant difference thereafter.

“My mobility has improved an awful lot. We are even talking about the fact that the fitness, it was so good that we would do it every two weeks if we even had to pay for it ourselves. We think it’s brilliant. They put us through the ropes but it was excellent.”
-William- Sheds for Life Participant

Days walking for ten minutes of more for leisure or transport

There was a significant increase in days walking per week from baseline (T1) across all time points (T2: $T=5.439$, 95% CI; 1.522 to 0.713 $p=0.000$, T3: $t=4.426$, 95% CI; 1.453 to 0.557, $p=0.000$ and T4: $t=2.479$, 95% CI; 0.926 to 0.106, $p=0.014$), with no significant difference between subsequent time points.

Minutes walking per day

A paired samples t-test determined mean minutes walking increased from 35.004 ± 28.826 at T1 to 38.639 ± 28.375 at T2, a mean increase of 3.345 minutes, results were not significant with no significant change at subsequent points (T3 and T4).

PA Self-Efficacy scores

A repeated measures ANOVA determined there was a significant change in PA self-efficacy scores between time points. There was a statistically significant increase between T1 and T2 (95% CI, 49.001 to 56.270), $p < 0.0005$, T1 and T3 (95% CI, 65.830 to 72.068), $p < 0.000$ and T1 and T4 (95% CI, 14.108 to 7.983), $p < 0.000$, with results significantly higher at all-time points post baseline.

PA confidence

Participants were asked to rate from 0-10 how confident they would be in maintaining their SFL exercise routine at T2 (8.390 ± 2.217 , $n=229$), at T3 (7.460 ± 2.769 , $n=190$) and at T4 (7.831 ± 2.831 , $n=242$). Paired samples t-tests found no significant changes in mean PA confidence ratings between follow-up points.

4.3 Subjective Wellbeing

Life Satisfaction

In the combined cohorts a repeated measures ANOVA ($n=126$) determined life satisfaction increased significantly at T1 from 7.936 ± 1.628 (CI95% 7.4649 to 8.224) to 8.674 ± 1.337 (CI95% 8.439 to 8.910) at T2 $p < 0.0001$. Life satisfaction decreased significantly from T2 to T3 (7.976 ± 1.689 , CI95% 7.678 to 8.274, $p < 0.001$) when analysing both cohorts together, with no significant difference from T3 to T4 (7.945 ± 1.610 , $n=182$)

“Before I didn't want to talk about it, something that has happened to me. But I realise today that it could happen to any of us and we need to talk about it. They can ask me about it now and we can talk to each other about it, we correspond.”
- Mark Sheds for Life participant

In Cohort 1 life satisfaction increased significantly from T1 (8.073 ± 1.780 , $n=123$) to T2 (8.463 ± 1.553 , $n=123$) ($p < 0.005$) with changes sustained at T3 and T4.

In Cohort 2, life satisfaction increased significantly from T1 (7.912 ± 1.465 , $n=91$) to T2 (8.681 ± 1.298 , $n=91$) ($p < 0.001$) and decreased significantly from T2 to T3 (7.828 ± 1.697 , $n=145$) ($p < 0.001$) with no change thereafter at T4 (7.789 ± 1.775 , $n=123$), with T3 and T4 during COVID-19 restrictions. See Figure 1 for a representation of Life Satisfaction scores between cohorts across time points.

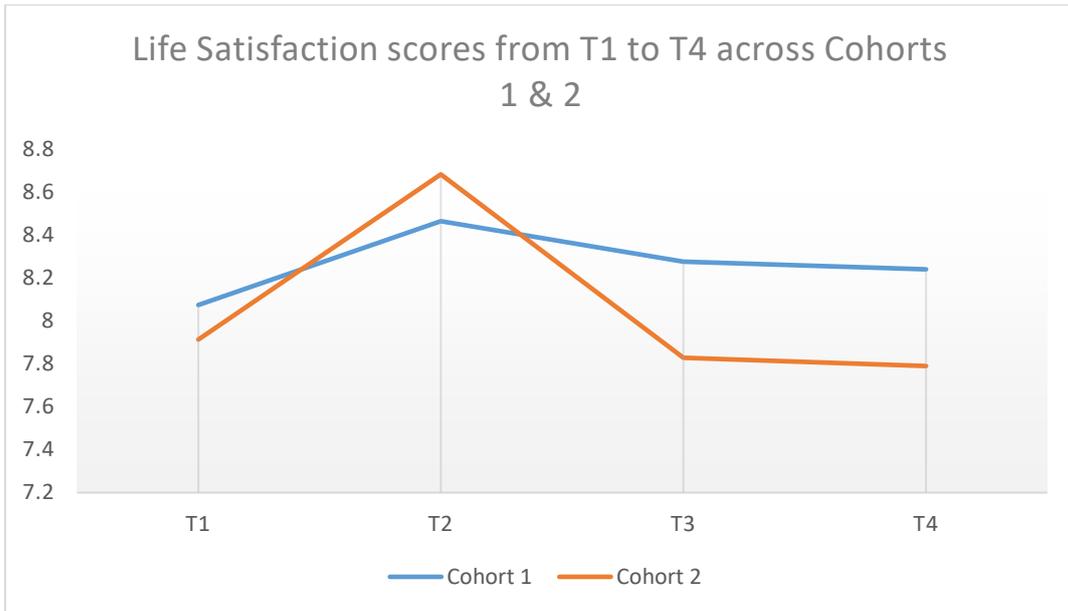


Figure 3: Life Satisfaction scores from T1 to T4 across Cohorts 1 & 2

Life Worthwhile Ratings

In both cohorts a repeated measures ANOVA with pairwise comparison applying a Bonferroni adjustment ($n=125$), determined the extent of which Sheddors felt the things they do in life are worthwhile increased from T1 (8.232 ± 1.597 , CI 95% 7.949 to 8.515) to (8.896 ± 1.313) at T2 ($p=0.000$) changes remained sustained at T3 (8.704 ± 1.4200) and T4 (8.417 ± 1.473). There was a significant difference in scores from baseline at T2 and T3 but not at T4 (See Figure 4).

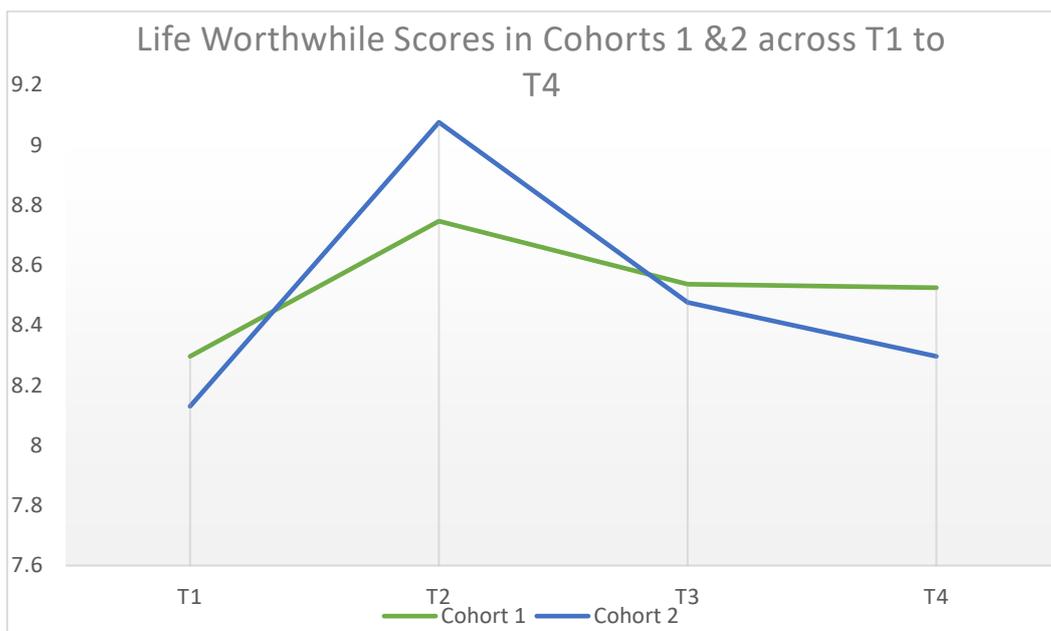


Figure 4: Perceived participant ratings of how much they feel the things they do in life are worthwhile in Cohorts 1 & 2 across T1 to T4

Mental Wellbeing

A repeated measures ANOVA with n=85 eligible participants determined that there was significant difference in SWEBMWS scores between baseline (T1: 26.362 ± 4.548) and all other time points (T2: 30.915 ± 4.189, T3: 31.846 ± 4.805 and T4: 30.0212 ± 4.1617), p=0.000.

Table 11: SWEMEBS scores by cohort across T1 to T4

| | Cohort 1 | | | | Cohort 2 | | | |
|---|---------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|
| | T1 | T2 | T3 | T4 | T1 | T2 | T3 | T4 |
| Mental Wellbeing (Mean+SD) | 26.640 ± 4.758 (n=122) | 29.916 ± 5.130 (n=122) | 31.561 ± 4.230 (n=69) | 29.915 ± 4.061 (n=58) | 26.949 ± 4.670 (n=91) | 31.735 ± 4.018 (n=91) | 30.657 ± 3.865 (n=86) | 28.239 ± 5.001 (n=124) |
| | *** T1 & T2,T3,T4 | | | ** T3 & T4 | *** T1 & T2,T3 | | *** T2 to T4 | |
| ***Significant difference at p<0.001 ** Significant difference at p<0.005 *Significant difference at p<0.05 | | | | | | | | |

In Cohort 1 there was a significant increase in SWEBMWS from T1 to T2. SWEBMWS increased at T3 and there was reduction in scores at T4 back to T2 level. Scores remained significantly higher across all time points from baseline (See Table 11).

In Cohort 2, there was a significant increase in SWEBMWS from T1 to T2 scores reduced at T3 and again at T4, remaining significantly higher at all-time points post baseline up to T4, with a significant decline in scores from T2 to T4 during COVID-19 restrictions.

Mental health workshop

The Mental health workshop was an elective component in Cohort 1, of which n=7 Sheds participated. At Cohort 2 implementation, the Mental Health workshop was a core component of which all (n=9) sheds participated (See table 12 for changes in mental health outcomes from the mental health workshops).

Table 12: Combined cohorts Mental Health outcomes from Mind your Mental Health Workshop across T1 to T4

| How certain are you about the following: | T1 | T2 | T3 | T4 |
|--|----------------|----------------|----------------|----------------|
| I have a good understanding about how to manage my mental health and wellbeing | | | | |
| Very Certain | 30.6% N=83 | 73.3% N=126 | 56.9% N=112 | 47.9% N=128 |
| Certain | 36.2% N=98 | 18.6% N=32 | 31.5% N=62 | 34.5% N=92 |
| Somewhat certain | 25.1% N=68 | 5.2% N=9 | 10.2% N=20 | 11.6% N=31 |
| Uncertain | 7.0% N=19 | 2.9% N=5 | 1.5% N=3 | 4.9% N=13 |
| Very uncertain | 1.1% N=3 | 0.0% N=0 | 0.0% N=0 | 1.1% N=3 |
| *** T1 & T2,T3,T4 ** T3 & T4 | | | | |
| I am comfortable that I could have a conversation about my mental health | | | | |
| Very Certain | 33.6% N=91 | 72.7% N=125 | 59.4% N=117 | 57.7% N=154 |
| Certain | 38.4% N=104 | 19.2% N=33 | 26.9% N=53 | 31.5% N=84 |
| Somewhat certain | 18.1% N=49 | 6.4% N=11 | 11.7% N=23 | 7.5% N=20 |
| Uncertain | 6.6% N=18 | 1.2% N=2 | 2.0% N=4 | 2.2% N=6 |
| Very uncertain | 3.3% N=9 | 0.6% N=1 | 0.0% N=0 | 1.1% N=3 |
| *** T1 & T2,T3,T4 | | | | |
| I feel equipped with practical supports to maintain and enhance my mental wellbeing | | | | |
| Very Certain | 24.4% N=66 | 68.6% N=118 | 47.4% N=93 | 44.0% N=117 |
| Certain | 33.3% N=90 | 20.3% N=35 | 32.1% N=63 | 30.1% N=80 |
| Somewhat certain | 26.6% N=72 | 9.9% N=17 | 13.3% N=26 | 16.2% N=43 |
| Uncertain | 12.9% N=35 | 1.2% N=2 | 7.1% N=14 | 8.3% N=22 |

| | | | | |
|---|-------------|-------------|-------------|-------------|
| Very uncertain | 3.0% N=8 | 0.0% N=0 | 0.0% N=0 | 1.5% N=4 |
| *** T1 & T2 ,T3 | | | | |
| ***Significant difference at p<0.001 ** Significant difference at p<0.005 *Significant difference at p<0.05 | | | | |

Understanding about how to manage mental health and wellbeing

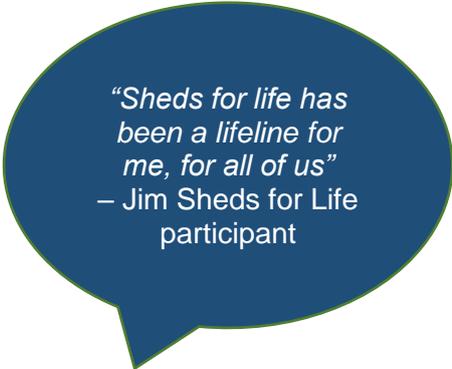
Overall, there was a significant difference from T1 to T2 in those who reported having a good understanding about how to manage their mental health and wellbeing ($Z=-6.253^b$, $p=0.000$). There was also a significant difference between T1 and T3 ($Z=-5.291^b$, $p=0.000$) and T1 and T4 ($Z=-3.270^b$, $p=0.001$), meaning results remained significantly higher than baseline.

In Cohort 1, there was a significant improvement in scores from baseline (T1) at T2, T3 and T4, with no significant change thereafter between T2, T3 or T4.

In Cohort 2, there was a significant improvement in scores from baseline (T1) at T2, T3 and T4 but there was a significant reduction from T2 to T3 ($Z=-2.136^c$, $p=0.03$) and T3 to T4 ($Z=-2.932^c$, $p=0.03$).

Comfort having a conversation about mental health

There was a significant increase from T1 to T2 in those who said they were comfortable having a conversation about their mental health ($Z=-5.759^b$, $p=0.000$). There was also a significant difference between T1 and T3 ($Z=-5.940^b$, $p=0.000$) and T1 and T4 ($Z=-5.840^b$, $p=0.000$), meaning results remained significantly higher than baseline.



“Sheds for life has been a lifeline for me, for all of us”
– Jim Sheds for Life participant

Feeling equipped with practical supports to maintain and enhance mental health

There was a significant difference from T1 to T2 in those who said they felt equipped with practical supports to maintain and enhance their wellbeing ($Z=-6.577^b$, $p=0.000$). There was also a significant difference between T1 and T3 ($Z=-4.722^b$, $p=0.000$) and T1 and T4 ($Z=-3.432^b$, $p=0.001$). Scored declined between T2 and T3 ($Z=-2.806^c$, $p=0.005$) with no significant change between T3 and T4. Results were statistically similar between cohorts besides T2 and T3 differences. On analysing Cohorts 1 and 2 separately, in Cohort 1 there

was no significant difference between T2 and T3 $p > 0.05$ and no significant difference thereafter at T4. In Cohort 2 there was a significant difference between T2 and T3 ($Z = -3.065$, $p = 0.002$). Results remained significantly higher than baseline overall.

Loneliness

Cohorts one and two's loneliness scores were analysed separately to account for Cohort two actively experiencing COVID restrictions at T3 and T4. Shedders were asked to rate their loneliness before joining a shed, and again at T1, T2, T3 & T4. Shedders reported increased feelings of loneliness prior to joining the shed compared to T1 with a statistically significant decrease in scores at T1. Similar mean scores were maintained until Shed closures at T3 in Cohort 2 where there was a statistically significant increase in loneliness scores of 1.489 (95% CI -1.775 to -1.230) $t = 10.306$, $p < .0005$. Scores continued to significantly increase at T4 in Cohort 2 ($t = 2.107$, $p = 0.04$). (See Table 13 and Figure 5)

Table 13: UCLA loneliness scores for Cohorts 1 and 2 from T1 to T4

| Cohort 1 Loneliness (Mean ± SD) | | | | | Cohort 2 Loneliness (Mean ± SD) | | | | |
|---|--------------------------|--------------------------|-------------------------|--------------------------|--|--------------------------|--------------------------|-------------------------|--------------------------|
| Pre Shed | T1 | T2 | T3 | T4 | Pre Shed | T1 | T2 | T3 | T4 |
| 4.810 ± 2.146 (n=196) | 3.316 ± 0.868 (n=196) | 3.463 ± 1.018 (n=123) | 3.088 ± 0.510 (n=68) | 3.484 ± 1.029 (n=132) | 4.810 ± 2.146 (n=185) | 3.297 ± 0.916 (n=185) | 3.264 ± 0.800 (n=145) | 4.788 ± 1.890 (n=85) | 5.300 ± 2.175 (n=125) |
| *** Pre Shed & T1 ** T2 & T3 ** T3& T4 | | | | | *** Pre Shed & T1 *** T2 & T3 ***T1 & T3,T4 *T3&T4 | | | | |
| ***Significant difference at $p < 0.001$ ** Significant difference at $p < 0.005$ *Significant difference at $p < 0.05$ | | | | | | | | | |

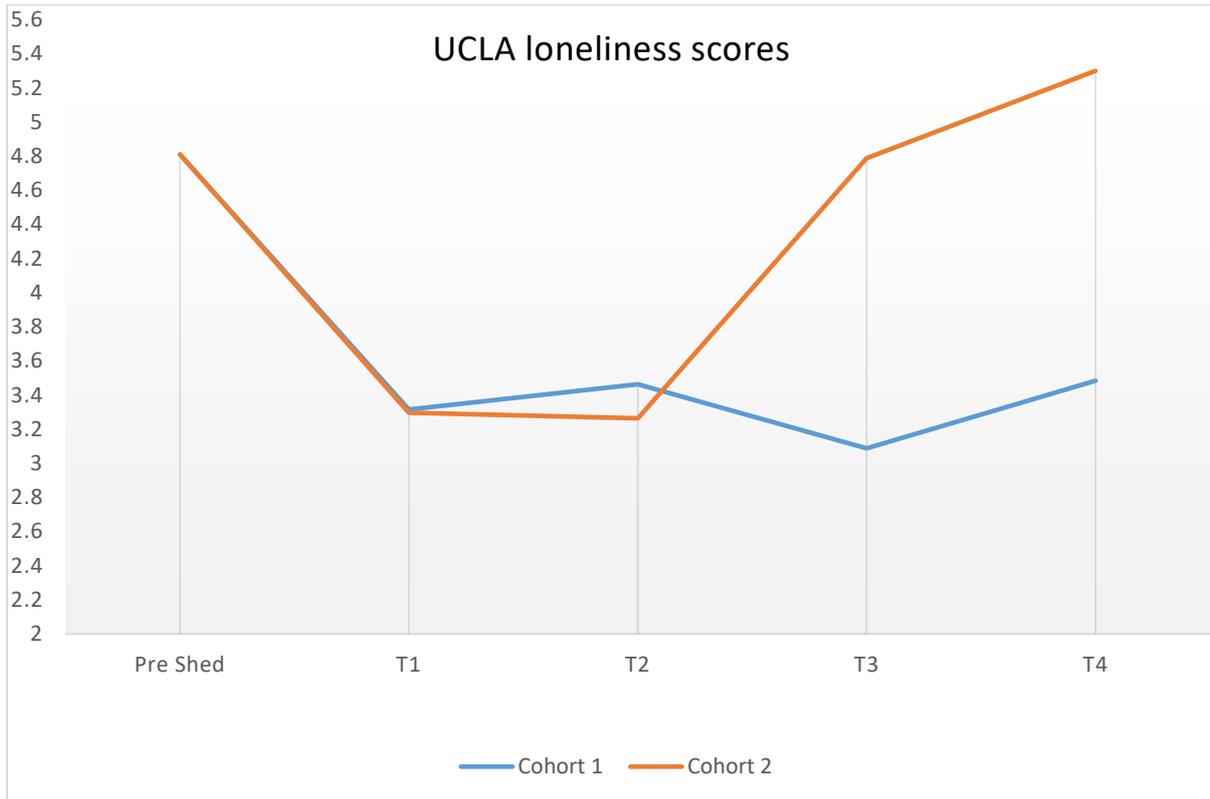


Figure 5: A representation of changes in subjective feelings of loneliness for Cohorts 1 & 2 from before joining a shed to T1, T2, T3 & T4.

4.4 Social Capital

Belonging

Overall in both cohorts there was a significant increase from T1 (baseline) to T2 (3 month follow up) in those who felt like they belonged to their shed ($p=0.001$). There was no significant change from T2 at T3 or T4. Results were statistically similar between cohorts (See Table 14).

“The facilitators gave us confidence. I didn't see one person who was intimidated not to ask a question. We men normally wouldn't be great for that. In other things you find there may be only two or three that would ask a question but at the end of the session everyone had the confidence to get involved and I can see the improvement in the mental wellbeing of the shed for that.”

- Michael Sheds for Life Participant

Table 14: Sense of belonging across T1 to T4

| Sense of belonging | | Cohorts 1 & 2 | | | |
|---|----------------|---------------|----------------|----------------|--|
| n% (n=) | T1 | T2 | T3 | T4 | |
| Strongly Agree | 71.6% N=272 | 89% N=211 | 90.7% N=194 | 86.4% N=228 | |
| Agree | 25.3% N=96 | 10.5% N=25 | 8.4% N=18 | 13.6% N=36 | |
| Disagree | 2.9% N=11 | 0.4% N=1 | 0.5% N=1 | 0.0% N=0 | |
| Strongly Disagree | 0.3% N=1 | 0.0% N=0 | 0.5% N=1 | 0.0% N=0 | |
| *** T1 & T2 | | | | | |
| ***Significant difference at p<0.001 ** Significant difference at p<0.005 *Significant difference at p<0.05 | | | | | |

Close Support

Overall there was a significant increase in the participants belief they had close support from baseline (T1) to T2 follow-up ($Z=-4.064b$, $p=0.000$). There was no significant difference from T2 at T3 and T4. Results were statistically similar in both cohorts (See Table 15).

Table 15: Sense of close support across T1 and T4

| | | Cohorts 1&2 | | | |
|----------------------|----------------|----------------|----------------|----------------|--|
| Close Support N% (=) | T1 | T2 | T3 | T4 | |
| Strongly Agree | 73.4% N=279 | 90.7% N=215 | 93.4% N=199 | 89.8% N=238 | |
| Agree | 25.0% N=95 | 8% N=19 | 6.1% N=13 | 7.2% N=19 | |
| Disagree | 0.8% | 1.3% | 0.5% | 1.9% | |

| | | | | |
|---|------|------|------|------|
| | N=3 | N=3 | N=1 | N=5 |
| Strongly Disagree | 0.8% | 0.0% | 0.0% | 1.1% |
| | N=3 | N=0 | N=0 | N=3 |
| *** T1 & T2 | | | | |
| ***Significant difference at p<0.001 ** Significant difference at p<0.005 *Significant difference at p<0.05 | | | | |

Trust

Both cohorts experienced significant increases in trust ratings from baseline (T1; 6.962 ± 2.016, n =380) to follow-up (T2; 7.504 ± 1.891, n=236) with a mean increase of 0.5189 (CI 95% 0.8146 to 0.2231, t= 3.458, p= 0.001). Scores were sustained beyond T2 with no significant change at T3 (7.475 ± 1.819, n=214) or T4 (7.576 ± 1.610, n=267). Results were statistically similar between cohorts.

4.5 The SF-6D

Table 16: Results of the SF-6D across time points

| Physical Functioning | T1 | T2 | T3 | T4 |
|---|----------------|----------------|----------------|----------------|
| Your health does not limit you in vigorous activities | 34.3% N=130 | 50.6% N=120 | 54.2% N=116 | 52.6% N=140 |
| Your health limits you a little in vigorous activities | 29.8% N=113 | 35.4% N=84 | 36.9% N=79 | 29.7% N=79 |
| Your health limits you a little in moderate activities | 23.2% N=88 | 8.0% N=19 | 4.7% N=10 | 11.7% N=31 |
| Your health limits you a lot in moderate activities | 1.6% N=6 | 5.5% N=13 | 3.7% N=8 | 3.4% N=9 |
| Your health limits you a little in bathing and dressing | 0.8% N=3 | 0.4% N=1 | 0.5% N=1 | 2.6% N=7 |
| Your health limits you a lot in bathing and dressing | 0.0% N=0 | 0.0% N=0 | 0.0% N=0 | 0.0% N=0 |
| *** T1 & T2 | | | | |
| Role limitation | T1 | T2 | T3 | T4 |

| | | | | |
|---|----------------|----------------|----------------|----------------|
| You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems | 61.6% N=234 | 73.7% N=174 | 81.1% N=172 | 76.7% N=201 |
| You are limited in the kind of work or other activities as a result of your physical health | 31.1% N=118 | 21.6% N=51 | 15.6% N=33 | 22.1% N=58 |
| You accomplish less than you would like as a result of emotional problems | 3.9% N=15 | 3.4% N=8 | 1.4% N=3 | 1.1% N=3 |
| You are limited in the kind of work or other activities as a result of your physical health and accomplish less than you would like as a result of emotional problems | 3.4% N=13 | 1.3% N=3 | 1.9% N=4 | 0.0% N=0 |
| | ** T1& T2 | | | |
| Social Functioning “Your health limits you in social activities...” | T1 | T2 | T3 | T4 |
| None of the time | 74.3% N=284 | 79.3% N=188 | 86.9% N=186 | 82.0% N=219 |
| A little of the time | 13.6% N=52 | 13.5% N=32 | 8.4% N=18 | 9.0% N=24 |
| Some of the time | 9.4% N=36 | 5.5% N=13 | 4.7% N=10 | 7.9% N=21 |
| Most of the time | 2.1% N=8 | 1.3% N=3 | 0.0% N=0 | 1.1% N=3 |
| All of the time | 0.5% N=2 | 0.4% N=1 | 0.0% N=0 | 0.0% N=0 |
| Pain “How often does your pain interfere with your normal work (both outside the home and housework)” | T1 | T2 | T3 | T4 |

| | | | | |
|---|----------------|----------------|----------------|----------------|
| You have no pain | 47.9% N=183 | 49.4% N=117 | 60.6% N=129 | 55.5% N=147 |
| It does not interfere | 19.6% N=75 | 21.9% N=52 | 15.5% N=33 | 23.4% N=62 |
| A little bit | 18.3% N=70 | 17.7% N=42 | 11.7% N=25 | 14.7% N=39 |
| Moderately | 6.5% N=25 | 6.8% N=16 | 7.0% N=15 | 3.8% N=10 |
| Quite a bit | 7.3% N=28 | 3.4% N=8 | 4.2% N=9 | 1.9% N=5 |
| Extremely | 0.3% N=1 | 0.8% N=2 | 0.9% N=2 | 0.8% N=2 |
| Mental Health “you feel tense or downhearted and low...” | T1 | T2 | T3 | T4 |
| None of the time | 30.7% N=117 | 42.8% N=101 | 35.7% N=76 | 31.1% N=83 |
| A little of the time | 30.4% N=116 | 31.4% N=74 | 44.1% N=94 | 40.4% N=108 |
| Some of the time | 34.4% N=131 | 22.9% N=54 | 16.9% N=36 | 27.0% N=72 |
| Most of the time | 2.4% N=9 | 2.5% N=6 | 2.8% N=6 | 1.1% N=3 |
| All of the time | 2.1% N=8 | 0.4% N=1 | 0.5% N=1 | 0.4% N=1 |
| | *** T1&T2 | | | |
| Vitality “You have a lot of energy...” | T1 | T2 | T3 | T4 |
| None of the time | 2.6% N=10 | 3.0% N=7 | 1.4% N=3 | 1.1% N=3 |
| A little of the time | 16.8% N=64 | 5.9% N=14 | 8.0% N=17 | 7.9% N=21 |
| Some of the time | 24.1% N=92 | 21.6% N=51 | 18.3% N=39 | 21.0% N=56 |

| | | | | |
|---|----------------|----------------|----------------|----------------|
| Most of the time | 45.9% N=175 | 50.4% N=119 | 61.5% N=131 | 60.3% N=161 |
| All of the time | 10.5% N=40 | 19.1% N=45 | 10.8% N=23 | 9.7% N=26 |
| *** T1&T2 | | | | |
| ***Significant difference at $p < 0.001$ ** Significant difference at $p < 0.005$ *Significant difference at $p < 0.05$ | | | | |

Physical Functioning

There was a significant increase in physical functioning ratings from baseline (T1) to follow-up (T2, $Z = -5.598$, $p = 0.000$), there was no significant change thereafter at T3 and T4, results were statistically similar between cohorts 1 and 2.

“The programme [Sheds for Life] is helping men to trust their own experience and their expertise. Helping men to trust themselves to help one another.”

- John Sheds for Life Participant

Role Limitation

There was a significant improvement in role limitation ratings from baseline (T1) to post SFL (T2, $Z = -3.145$, $p = 0.002$), there was no significant change thereafter at T3 and T4. In Cohort 1 the change between T1 and T2 was not significant $p > 0.05$. In Cohort 2 the change between T1 and T2 was significant ($Z = -2.620$, $p = 0.009$). There was no significant change thereafter at T3 and T4 in either cohort.

Social Functioning

There was no significant change in social functioning ratings across time points results were statistically similar between the two cohorts.

Pain

There were no significant differences between pain ratings across time points. Results were statistically similar (Wilcoxon signed ranks tests) between cohorts.

Mental Health

There was a significant improvement in self-rated mental health status within the SF-6D from baseline (T1) to T2 follow-up ($Z=-4.440^b$, $p=0.000$). There was no significant change thereafter at T3 or T4. Results were statistically similar between the two cohorts.

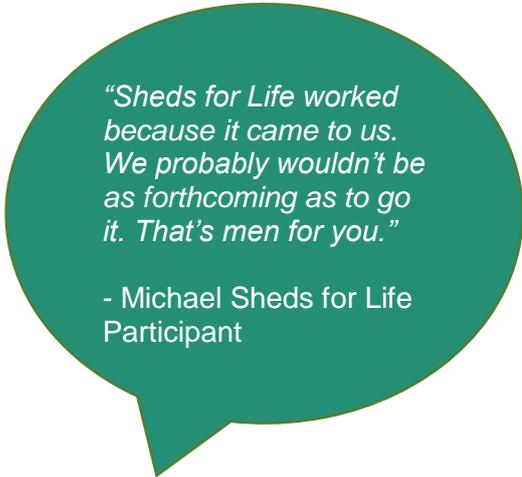
Vitality

There was a significant improvement in vitality ratings overall from baseline (T1) to post SFL (T2, $Z=-4.255^b$, $p=0.000$), there was no significant change thereafter at T3 and T4. In Cohort 1 the change between T1 and T2 was not significant $p>0.05$. In Cohort 2 the change between T1 and T2 was significant ($Z=-4.154^b$, $p=0.000$). There was no significant change thereafter at T3 and T4 in either cohort.

4.6 Smoking and Alcohol

Smoking

At baseline, a small percentage (8.4%, $n=32$) were reported to smoke with 49.7% ($n=189$) stating that they never smoked and 41.8% ($n=159$) stating that they were former smokers. Of those who smoked, the number smoked per day ranged from 0 to 40 at T1 with a mean of 2.932 ± 7.097 , 0 to 30 at T2 with a mean of 0.807 ± 3.541 , 0 to 50.00 at T3 with a mean of 1.958 ± 7.046 and ranged from 0 to 45.00 with a mean of 7.906 ± 11.898 . There was a significant decrease in the mean amount smoked per day from T1 to T2 ($t=2.411$, CI 95% 0.153 to 1.621, $p=0.019$). There was no significant change thereafter.



“Sheds for Life worked because it came to us. We probably wouldn't be as forthcoming as to go it. That's men for you.”

- Michael Sheds for Life Participant

Alcohol

At baseline, 68.3% (n=263) reported they drank alcohol. Mean days per week drinking alcohol was 1.608 ± 1.756 at T1, 1.220 ± 1.593 at T2, 1.605 ± 1.680 at T3 and 2.093 ± 1.855 at T4. Mean units per session were 5.796 ± 8.080 at T1, 3.595 ± 3.965 at T2, 4.366 ± 3.448 at T3 and 6.302 ± 4.854 at T4. There was a significant decrease in days drinking per week ($t=-2.231$, $p=0.027$) and units per session ($t=-3.165$, $p=0.002$) from T1 to T2. There was no significant

change thereafter at T3 but a significant increase in units per session at T4 ($t=2.862$, $p=0.005$). A repeated measures ANOVA did not find a significant difference between baseline (T1) and T3 or T4 for days drinking per week. There was also no significant difference between T1 and T3 or T4 for units of alcohol consumed per session.

"I think the bottom line is when people get together like they have in this programme and start supporting each other, we feel better in ourselves, mentally we feel better, and physically we feel better. Then we don't have to go to our GPs had hospitals, we can come here so we are saving money there. That's the bottom line the way I look at it."

- Vincent Sheds for Life Participant

4.7 Dietary habits and cooking skills

Fruit and Vegetable Consumption

The mean number of portions of fruit and vegetables consumed the previous day at T1 was 3.361 ± 1.764 (n=382) with 3.875 ± 1.773 (n=233) at T2, 3.883 ± 1.728 (n=214) at T3 and 3.710 ± 1.709 (n=264). There was no significant change in the number of fruit and vegetables consumed across time points.

Cooking Habits

There was a significant improvement in cooking preparation techniques from (Baseline) T1 to T2 ($z=-2.262^b$, $p=0.024$), T3 ($Z=-2.177^b$, $p=0.029$) and T4 ($Z=-2.700^b$, $p=0.007$) there was no significant difference between T2 and T3 or T3 and T4. There was also a significant increase in cooking frequency from T1 to T2 ($Z=-3.122^c$, $p=0.002$), T3 ($Z=-1.954^c$, $p=0.051$) and T4 ($Z=-2.544^c$, $p=0.011$) with no significant change at subsequent time points. Similarly there was as a significant difference in willingness to cook from T1 at T2 ($Z=-2.381^c$, $p=0.017$), T3 ($Z=-2.077^c$, $p=0.038$) and T4 ($Z=-2.316^c$, $p=0.021$) with no significant change between T2 and T3 or T3 and T4 (See Table 17).

“She showed us how to cook with no oil with minimal butter with no cream or fat and all the curries and sauces she made were very nice and really tasty so I think we all learned from her very much so. Usually when you're learning to cook and you have an instructor there they normally stick to the rules and they don't deviate from them and they don't really discuss anything beyond that. She actually worked well with all of us. There was no bitchiness or anything like that. We were all on the same level which was great to see like. Pity there isn't more like that.”

-Glenn Sheds for Life participant

Table 17: Cooking frequency, style and willingness across time points

| Cooking preparation | T1 | T2 | T3 | T4 |
|---|----------------|---------------|---------------|---------------|
| Don't cook at all | 32.8% N=125 | 27.7% N=58 | 24.9% N=53 | 21.5% N=57 |
| Put ready meals in the microwave | 4.7% N=18 | 5.5% N=13 | 4.7% N=10 | 1.5% N=4 |
| Put together readymade ingredients to make a meal | 8.9% N=34 | 3.0% N=7 | 0.9% N=2 | 5.7% N=15 |

| | | | | |
|---|----------------|----------------|----------------|----------------|
| Prepare meals from scratch | 53.5% N=204 | 66.8% N=157 | 69.5% N=148 | 71.3% N=189 |
| * T1 & T2 | | | | |
| Cooking frequency | T1 | T2 | T3 | T4 |
| Often | 42.4% N=162 | 48.1% N=113 | 44.8% N=95 | 46.6% N=123 |
| Sometimes | 18.8% N=72 | 23.8% N=56 | 27.8% N=59 | 29.2% N=77 |
| Rarely | 22.8% N=87 | 19.1% N=45 | 17.9% N=38 | 14.4% N=38 |
| Never | 16.0% N=61 | 8.9% N=21 | 9.4% N=20 | 9.8% N=26 |
| ** T1 & T2 | | | | |
| Willingness to cook | T1 | T2 | T3 | T4 |
| Extremely willing | 35.5% N=134 | 45.7% N=106 | 41.5% N=88 | 43.3% N=114 |
| Very willing | 25.3% N= 96 | 23.7% N=55 | 25.5% N=54 | 27.7% N=65 |
| Somewhat willing | 32.6% N=124 | 23.7% N=55 | 24.5% N=52 | 27.4% N=72 |
| Not at all willing | 6.6% N=25 | 6.9% N=16 | 8.5% N=18 | 4.6% N=12 |
| * T1 & T2 | | | | |
| ***Significant difference at $p < 0.001$ ** Significant difference at $p < 0.005$ *Significant difference at $p < 0.05$ | | | | |

Confidence in cooking ability and healthy eating confidence

There was a significant difference between T1 and T2 across all confidence constructs; cooking using raw ingredients ($z = -5.150^b$ $p = 0.000$), following a simple recipe ($z = -6.108^b$ $p = 0.000$), planning meals before shopping ($z = -5.792^b$ $p = 0.000$), shopping for food on a budget ($z = -5.567^b$ $p = 0.000$), shopping for healthier food to eat ($z = 5.948^b$ $p = 0.000$), cooking new foods ($z = -4.546^b$ $p = 0.000$), cooking healthier foods ($z = -6.835^b$ $p = 0.000$), storing food safely ($z = -6.115^b$ $p = 0.000$), using leftovers to cook other meals ($z = -6.067^b$ $p = 0.000$), cooking whole raw

chicken from scratch ($z=-4.941^b$ $p=0.000$), reading food labels ($z=-5.708^b$ $p=0.000$) and food hygiene ($z= -5.513^b$ $p=0.000$). Changes after T2 were sustained with no significant difference thereafter between T2 and T3 and T3 and T4. There was also a significant difference ($p<0.05$) between T1 and T3 and T1 and T4 across all 12 items, meaning improvements were sustained. Results were statistically similar between both cohorts (See Table 18).

Table 18: Confidence scores for cooking and healthy eating across T1 to T4

| How confident do you feel about the following | T1 | T2 | T3 | T4 |
|---|----------------|----------------|----------------|----------------|
| Cooking using raw ingredients | | | | |
| Not at all confident | 13.1% N=50 | 5.2% N=12 | 3.3% N=7 | 5.3% N=14 |
| Somewhat confident | 21.2% N=81 | 13.4% N=31 | 9.5% N=20 | 9.5% N=25 |
| Confident | 23.0% N=88 | 21.6% N=50 | 24.3% N=51 | 23.1% N=61 |
| Very Confident | 42.7% N=163 | 59.9% N=139 | 62.9% N=132 | 62.1% N=164 |
| | *** T1 & T2 | | | |
| Following a simple recipe | | | | |
| Not at all confident | 13.1% N=50 | 4.3% N=10 | 5.2% N=11 | 6.4% N=17 |
| Somewhat confident | 22.3% N=85 | 10.8% N=25 | 12.8% N=27 | 14.0% N=37 |
| Confident | 28.5% N=109 | 26.3% N=61 | 27.5% N=58 | 25.0% N=66 |
| Very Confident | 36.1% N=382 | 58.6% N=136 | 54.5% N=115 | 54.5% N=144 |
| | *** T1 & T2 | | | |
| Planning meals before shopping | | | | |
| Not at all confident | 24.9% | 9.9% | 13.3% | 16.7% |

| | | | | |
|---|-------------|-----------|-----------|-----------|
| | N=95 | N=23 | N=28 | N=44 |
| Somewhat confident | 22.5% | 14.7% | 12.8% | 12.5% |
| | N=56 | N=34 | N=27 | N=33 |
| Confident | 25.1% | 27.6% | 24.6% | 22.8% |
| | N=96 | N=64 | N=52 | N=60 |
| Very Confident | 27.5% | 47.8% | 49.3% | 47.9% |
| | N=105 | N=111 | N=104 | N=126 |
| | *** T1 & T2 | | | |
| Shopping for food on a budget | T1 | T2 | T3 | T4 |
| Not at all confident | 20.3% | 9.5% | 12.4% | 11.9% |
| | N=77 | N=22 | N=26 | N=31 |
| Somewhat confident | 21.6% | 13.4% | 11.4% | 14.9% |
| | N=82 | N=31 | N=24 | N=39 |
| Confident | 28.2% | 25.0% | 23.8% | 23.0% |
| | N=107 | N=58 | N=50 | N=60 |
| Very Confident | 30.0% | 52.2% | 52.4% | 50.2% |
| | N=114 | N=121 | N=110 | N=131 |
| | *** T1 & T2 | | | |
| Shopping for healthier food to eat | T1 | T2 | T3 | T4 |
| Not at all confident | 17.0% | 6.0% | 9.5% | 10.3% |
| | N=65 | N=14 | N=20 | N=27 |
| Somewhat confident | 24.6% | 11.2% | 17.5% | 12.5% |
| | N=94 | N=26 | N=37 | N=33 |
| Confident | 28.8% | 35.3% | 25.1% | 25.9% |
| | N=110 | N=82 | N=53 | N=68 |
| Very Confident | 29.6% | 47.3% | 47.9% | 51.3% |
| | N=113 | N=110 | N=101 | N=135 |
| | *** T1 & T2 | | | |
| Cooking new foods | T1 | T2 | T3 | T4 |
| Not at all confident | 31.2% | 14.0% | 10.9% | 12.5% |
| | N=119 | N=32 | 23 | N=33 |
| Somewhat confident | 22.3% | 21.4% | 19.9% | 19.7% |
| | N=85 | N=49 | N=42 | N=52 |

| | | | | |
|--|-------------|-----------|-----------|-----------|
| Confident | 20.2% | 24.5% | 23.7% | 26.1% |
| | N=77 | N=56 | N=50 | N=69 |
| Very Confident | 26.4% | 40.2% | 45.5% | 41.7% |
| | N=101 | N=92 | N=96 | N=110 |
| | *** T1 & T2 | | | |
| Cooking healthier foods | T1 | T2 | T3 | T4 |
| Not at all confident | 16.8% | 4.7% | 9.0% | 8.4% |
| | N=64 | N=11 | N=19 | N=22 |
| Somewhat confident | 24.4% | 11.2% | 15.6% | 13.3% |
| | N=93 | N=26 | N=33 | N=35 |
| Confident | 29.7% | 33.2% | 26.1% | 28.9% |
| | N=113 | N=77 | N=55 | N=76 |
| Very Confident | 29.1% | 50.9% | 49.3% | 49.4% |
| | N=111 | N=118 | N=104 | N=130 |
| | *** T1 & T2 | | | |
| Storing food safely | T1 | T2 | T3 | T4 |
| Not at all confident | 9.2% | 2.6% | 2.4% | 2.3% |
| | N=35 | N=6 | N=5 | N=6 |
| Somewhat confident | 16.5% | 6.5% | 6.7% | 7.6% |
| | N=63 | N=15 | N=14 | N=20 |
| Confident | 32.7% | 26.7% | 28.6% | 25.4% |
| | N=125 | N=62 | N=60 | N=67 |
| Very Confident | 41.6% | 64.2% | 62.4% | 64.8% |
| | N=159 | N=149 | N=131 | N=171 |
| | *** T1 & T2 | | | |
| Using leftovers to cook other meals | T1 | T2 | T3 | T4 |
| Not at all confident | 22.6% | 9.9% | 10.5% | 10.7% |
| | N=86 | N=23 | N=22 | N=28 |
| Somewhat confident | 23.1% | 14.2% | 14.3% | 12.6% |
| | N=88 | N=33 | N=30 | N=33 |
| Confident | 26.0% | 26.7% | 21.4% | 20.6% |
| | N=99 | N=62 | N=45 | N=54 |
| Very Confident | 28.3% | 49.1% | 53.8% | 56.1% |

| | N=108 | N=114 | N=113 | N=147 |
|---|----------------|----------------|----------------|----------------|
| | *** T1 & T2 | | | |
| Cooking whole raw chicken from scratch | T1 | T2 | T3 | T4 |
| Not at all confident | 22.5% N=86 | 10.3% N=24 | 8.5% N=18 | 9.5% N=25 |
| Somewhat confident | 16.5% N=63 | 10.8% N=25 | 13.7% N=29 | 10.2% N=27 |
| Confident | 21.7% N=83 | 23.3% N=54 | 17.5% N=37 | 17.4% N=46 |
| Very Confident | 39.3% N=150 | 55.6% N=129 | 60.2% N=127 | 62.9% N=166 |
| | *** T1 & T2 | | | |
| Reading food labels | T1 | T2 | T3 | T4 |
| Not at all confident | 23.6% N=90 | 7.8% N=18 | 4.3% N=9 | 11.7% N=31 |
| Somewhat confident | 21.5% N=82 | 12.1% N=28 | 13.3% N=28 | 14.8% N=39 |
| Confident | 23.8% N=91 | 28.4% N=66 | 25.6% N=54 | 20.5% N=54 |
| Very Confident | 31.2% N=119 | 51.7% N=120 | 56.9% N=120 | 53.0% N=140 |
| | *** T1 & T2 | | | |
| Food Hygiene | T1 | T2 | T3 | T4 |
| Not at all confident | 7.1% N=27 | 1.7% N=4 | 1.9% N=4 | 1.1% N=3 |
| Somewhat confident | 14.7% N=56 | 5.2% N=12 | 7.1% N=15 | 6.8% N=18 |
| Confident | 33.0% N=126 | 28.1% N=65 | 26.1% N=55 | 24.2% N=64 |
| Very Confident | 45.3% N=173 | 64.9% N=150 | 64.9% N=137 | 67.8% N=179 |
| ***Significant difference at p<0.001 ** Significant difference at p<0.005 *Significant difference at p<0.05 | *** T1 & T2 | | | |

4.8 Supplementary Components

4.8.1 Diabetes Awareness

Nine Sheds participated in the Diabetes Awareness component, n=6 in Cohort 1 and n=3 in Cohort 2. Of those who participated in the Diabetes workshop, 17.8% (n=30) reported having diabetes at T1 with 7.1% (n=2) having type 1 and 92.9% (n=26) with type 2 diabetes. All participants were asked if they thought they were “low”, “moderate” or “high” risk of getting type 2 diabetes of which 56.6% (n=82) considered themselves low risk, 32.4% (n=47) moderate risk and 11% (n=16) high risk. There was no significant change in perceived risk of getting type 2 diabetes from T1 to T2.

Table 19: Mean Diabetes Knowledge Scores across T1 to T3

| Diabetes Knowledge Constructs | T1 (Mean ± SD) | T2 (Mean ± SD) | T3 (Mean ± SD) |
|--|-----------------------------|-----------------------------|----------------------------|
| Medication is more important than diet and exercise to control diabetes. | 2.796 ± 0.599 (n=103) | 2.893 ± 0.441 (n=103) | 2.897 ± 0.446 (n=58) |
| The way I prepare my food is as important as the foods I eat. | 2.572 ± 0.812 (n=103) | 2.786 ± 0.621 (n=103) | 2.896 ± 0.446 (n=58) |
| * T1 & T2 (CI 95% 0.040 to 0.876, t=2.317, p= 0.23) | | | |
| Shaking and sweating are signs of high blood sugar. | 1.765 ±0.935 (n=103) | 2.402 ± 0.895 (n=103) | 2.435 ± 0.896 (n=58) |
| *** T1 & T2 (CI 95% 0.398 to 0.876, t=5.290, p= 0.000) | | | |
| Regular Exercise will reduce the risk of diabetes | 2.690 ± 0.728 (n=103) | 2.864 ± 0.486 (n=103) | 2.862 ± 0.511 (n=58) |
| * T1 & T2 (CI 95% 0.119 to 0.338, t=2.128 p=0.036) | | | |

| | | | |
|---|-----------------------------|-----------------------------|----------------------------|
| Diabetes can damage your kidneys and other organs | 2.563 ± 0.825 (n=103) | 2.884 ± 0.471 (n=103) | 2.791 ± 0.676 (n=58) |
| *** T1 & T2 (CI 95% 0.140 to 0.500, t=3.532, p=0.001) | | | |
| Frequent urination may be a sign of diabetes | 2.177 ± 0.989 (n=102) | 2.725 ± 0.691 (n=102) | 2.667 ± 0.761 (n=58) |
| *** T1 & T2 (CI 95% 0.327 to 0.771, t=4.901, p= 0.000) | | | |
| Diabetes often causes poor circulation | 2.284 ± 0.958 (n=102) | 2.804 ± 0.581 (n=102) | 2.583 ± 0.830 (n=58) |
| *** T1 & T2 (CI 95% 0.333 to 0.706, t=5.515 p=0.000) | | | |
| ***Significant difference at p<0.001 ** Significant difference at p<0.005 *Significant difference at p<0.05 Higher mean scores indicate improved diabetes knowledge | | | |

Paired samples t-tests determined there was a significant increase in diabetes knowledge scores across 6 out of the 7 measured constructs between T1 and T2 and no significant decrease thereafter at T3. Results were statistically similar between cohorts (see Table 19).

At T2, participants were asked if they found the diabetes workshop improved their understanding of diabetes prevention and management. The overwhelming consensus among those who responded (n=76) - 85.5% (n=65) "strongly Agree" and 14.5% (n=11) "agree" - that the diabetes workshop improved their understanding of diabetes prevention and management.

An objective of the Diabetes workshop was to encourage annual blood tests. For this reason, participants were asked at T4 if they had their bloods checked in the past year of which 87.5% (n=231) stating that they had done so.

“The diabetes talk was excellent. The speaker was brilliant. We were very lucky the people we had everyone one of them were very, very good. That made a big difference I think like there was no boredom or anything going on. They were able to engage well and that made a huge difference. There was a lot of humour in it. It was a lot of fun. There was none of this kind of looking down thing.”

- James Sheds for Life Participant

4.8.2 safeTALK- Suicide Awareness

Six sheds participated (Cohort 1 n=4, Cohort 2 n=2) in the safeTALK workshop. Participants were asked questions on safeTALK impact up to T3.

| Table 20 – Outcomes from safeTALK across T1 to T3 | | | |
|--|----------------|---------------|---------------|
| | T1 | T2 | T3 |
| How confident are you in dealing with the needs of someone who may be suicidal? | | | |
| Strongly Confident | 8.7% N=9 | 23.7% N=14 | 32.8% N=20 |
| Very Confident | 24.3% N=25 | 30.5% N=18 | 31.1% N=19 |
| Somewhat Confident | 33.0% N=34 | 35.6% N=21 | 27.9% N=17 |
| A little confident | 13.6% N=14 | 3.4% N=2 | 3.3% N=2 |
| Not at all confident | 20.4% N=21 | 6.8% N=4 | 4.9% N=3 |
| | ***T1 & T2, T3 | | |
| How confident are you in identifying appropriate services that individuals in distress could be referred on to? | T1 | T2 | T3 |

| | | | |
|--|----------------|---------------|---------------|
| Strongly Confident | 5.8% N=6 | 25.4% N=15 | 39.3% N=24 |
| Very Confident | 20.4% N=21 | 40.7% N=24 | 36.1% N=22 |
| Somewhat Confident | 33.0% N=34 | 23.7% N=14 | 19.7% N=12 |
| A little confident | 19.4% N=20 | 3.4% N=2 | 0.0% N=0 |
| Not at all confident | 21.4% N=22 | 6.8% N=4 | 4.9% N=3 |
| | *** T1 & T2,T3 | | |
| I would be willing to talk openly and directly about suicide | T1 | T2 | T3 |
| Strongly Agree | 37.9% N=39 | 52.5% N=31 | 60.7% N=37 |
| Agree | 40.8% N=42 | 33.9% N=20 | 23.0% N=14 |
| Neither agree/disagree | 15.5% N=16 | 10.2% N=6 | 9.8% N=6 |
| Disagree | 3.9% N=4 | 1.7% N=1 | 4.9% N=3 |
| Strongly disagree | 1.9% N=2 | 1.7% N=1 | 1.6% N=1 |
| | * T1 & T3 | | |
| I feel prepared to talk directly and openly to a person about suicide | T1 | T2 | T3 |
| Strongly Agree | 25.0% N=26 | 49.2% N=29 | 60.7% N=37 |
| Agree | 30.8% N=32 | 33.9% N=20 | 23.0% N=14 |
| Neither agree/disagree | 21.2% N=22 | 13.6% N=8 | 8.2% N=5 |
| Disagree | 9.6% | 1.7% | 4.9% |

| | | | |
|---|----------------|------|------|
| | N=10 | N=1 | N=3 |
| Strongly disagree | 12.5% | 1.7% | 3.3% |
| | N=13 | N=1 | N=2 |
| ***Significant difference at $p < 0.001$ ** Significant difference at $p < 0.005$ *Significant difference at $p < 0.05$ | *** T1 & T2,T3 | | |

Confidence in dealing with the needs of someone who may be suicidal

There was a significant increase in confidence ratings when dealing with the needs of someone who may be suicidal between T1 and T2 ($Z = -3.239^b$, $p = 0.001$) and T1 and T3 ($Z = -4.197^b$, $p = 0.000$). Changes were sustained with no significant difference between T2 and T3.

Confidence in identifying appropriate services for someone in distress

"I found that I couldn't actually believe that the time was gone you know because it was very interesting. Like I suppose when it was out first of all people sort of shied away from it, "suicide well that's a bit depressing" but it was actually presented in a very good way and there was a bit of... I won't say laughter, but it was light and there was no one came away and felt depressed and it's certainly opened our eyes, ears and mouths to a few things"

- Roy Sheds for Life Participant

There was a significant increase in confidence ratings when identifying appropriate services for someone in distress between T1 and T2 ($Z = -4.127^b$, $p = 0.000$) and T1 and T3 ($Z = -5.373^b$, $p = 0.000$). There was no significant difference between T2 and T3.

Willingness to talk openly and directly to a person about suicide

There was no significant change in willingness to talk openly and directly to a person about suicide from T1 to T2. There was a significant increase in willingness between T1 and T3 ($Z = -2.238^b$, $p = 0.025$), and no significant difference between T2 and T3.

Feeling prepared to talk openly and directly to a person about suicide

There was a significant increase in those who agreed they felt prepared to talk openly and directly to a person about suicide from T1 to T2 ($Z=-3.119^b$, $p=0.002$) and T1 and T3 ($Z=-4.331^b$, $p=0.000$). There was no significant difference between T2 and T3.

4.8.3 Digital Literacy

Nine sheds participated in the Digital Literacy component of SFL, with $n=8$ in Cohort 1 and $n=1$ in Cohort 2. There was a significant increase in certainty around accessing a website to source information from T1 to T2 ($Z=-3.510^b$, $p=0.000$) and T1 and T3 ($Z=-3.251^b$, $p=0.001$). There was no significant difference between T2 and T3. There was also a significant difference in certainty around sending and receiving an email from T1 to T2 ($Z=-3.255^b$, $p=0.001$) and T1 and T3 ($Z=-3.491^b$, $p=0.000$) with no significant difference between T2 and T3. Similarly there

was a significant difference in certainty around staying connected with family and friends online from T1 to T2 ($Z=-3.090^b$, $p=0.002$) and T1 and T3 ($Z=-4.809^b$, $p=0.000$), with no significant difference between T2 and T3. With online banking, shopping and motor tax renewal, confidence levels significantly increasing from T1 to T2 ($Z=-2.007^b$, $p=0.045$) and T1 and T3 ($Z=-4.269^b$, $p=0.000$). There was no significant decline between T2 and T3. In relation to getting online with apps on a smartphone there was a significant increase in certainty levels from T1 to T2 ($Z=-3.122^b$, $p=0.002$) and T1 and T3 ($Z=-3.912^b$, $p=0.000$) with no significant decrease between T2 and T3 (see Table 21).



"It (Sheds for Life) brought us close together and interacting together and we became more outgoing about speaking in a group because of our group sessions. And that interaction and that facility to share our thoughts is better and makes life better"

- James Sheds for Life Participant

Table 21: Certainty levels around digital literacy constructs from T1 to T3

| How certain are you that you would succeed in the following: | T1 | T2 | T3 |
|--|-----------------|---------------|---------------|
| Accessing a website to source information | T1 | T2 | T3 |
| Very Certain | 45.3% N=63 | 55.7% N=49 | 66.0% N=33 |
| Certain | 18.0% N=25 | 14.8% N=13 | 10.0% N=5 |
| Somewhat Certain | 10.1% N=14 | 19.3% N=17 | 18.0% N=9 |
| Uncertain | 7.2% N=10 | 4.5% N=4 | 4.0% N=2 |
| Very Uncertain | 19.4% N=27 | 5.7% N=5 | 2.0% N=1 |
| | *** T1 & T2, T3 | | |
| Sending and receiving an email | T1 | T2 | T3 |
| Very Certain | 45.7% N=64 | 58.0% N=51 | 68.0% N=34 |
| Certain | 15.0% N=21 | 15.9% N=14 | 10.0% N=5 |
| Somewhat Certain | 9.3% N=13 | 11.4% N=10 | 14.0% N=7 |
| Uncertain | 8.6% N=12 | 9.1% N=8 | 6.0% N=3 |
| Very Uncertain | 21.4% N=30 | 5.7% N=5 | 2.0% N=1 |
| | *** T1 & T2, T3 | | |
| Using social media | T1 | T2 | T3 |
| Very Certain | 34.3% N=48 | 48.9% N=43 | 64.0% N=32 |

| | | | |
|---|-----------------|---------------|---------------|
| Certain | 15.7% N=22 | 14.8% N=13 | 12.0% N=6 |
| Somewhat Certain | 3.6% N=5 | 17.0% N=15 | 16.0% N=8 |
| Uncertain | 15.0% N=21 | 10.2% N=9 | 4.0% N=2 |
| Very Uncertain | 31.4% N=44 | 9.1% N=8 | 4.0% N=2 |
| | *** T1 & T2, T3 | | |
| Staying connected with family and friends online | T1 | T2 | T3 |
| Very Certain | 38.6% N=54 | 46.6% N=41 | 62.0% N=31 |
| Certain | 13.6% N=19 | 19.3% N=17 | 14.0% N=7 |
| Somewhat Certain | 6.4% N=9 | 12.5% N=11 | 14.0% N=7 |
| Uncertain | 15.0% N=21 | 14.8% N=13 | 8.0% N=4 |
| Very Uncertain | 26.4% N=37 | 6.8% N=6 | 2.0% N=1 |
| | *** T1 & T2, T3 | | |
| Online banking, shopping and motor tax renewal | T1 | T2 | T3 |
| Very Certain | 40.0% N=56 | 43.2% N=38 | 60.0% N=30 |
| Certain | 10.0% N=14 | 15.9% N=14 | 8.0% N=4 |
| Somewhat Certain | 7.9% N=11 | 17.0% N=15 | 24.0% N=12 |
| Uncertain | 13.6% N=19 | 14.8% N=13 | 6.0% N=3 |
| Very Uncertain | 28.6% N=40 | 9.1% N=8 | 2.0% N=1 |
| | * T1 & T2 | *** T1 & T3 | |

| Getting online and using apps on your smartphone | T1 | T2 | T3 |
|---|-----------------|---------------|---------------|
| Very Certain | 40.0% N=56 | 48.9% N=43 | 58.0% N=29 |
| Certain | 8.6% N=12 | 21.6% N=19 | 12.0% N=6 |
| Somewhat Certain | 9.3% N=13 | 11.4% N=10 | 24.0% N=12 |
| Uncertain | 14.3% N=20 | 10.2% N=9 | 4.0% N=2 |
| Very Uncertain | 27.9% N=39 | 8.0% N=7 | 2.0% N=1 |
| ***Significant difference at p<0.001 ** Significant difference at p<0.005 *Significant difference at p<0.05 | *** T1 & T2, T3 | | |

4.8.4 Oral Health

Three Sheds selected the oral health workshop with n=2 Sheds completing it, both from Cohort 1. Of those who participated, outcomes were assessed at T1, T2 and T3. Participants were asked to rate the health of their gums and teeth at T1 with 3.9% (n=2) saying “excellent”, 25.5% (n=13) saying “very Good”, 33.3% (n=17) saying “good”, 19.6% (n=10) saying “average”, 15.7% (n=8) saying “poor” and 2.0% (n=1) saying “very poor”. Results were statistically similar across T2 and T3 with no significant change. Participants were also asked to rate their perceived importance of oral health with 66.7% (n=34) saying “very important”, 19.6% (n=10) saying “important”, 9.8% (n=5) saying “moderately important” and 3.9% (n=2) saying “of little importance”. Results were statistically similar across time points with no significant change. Participants in the oral health workshop were also asked to rate their confidence in looking after their oral health of which 31.4% (n=16) responded “strongly confident”, 23.5% (n=12) “very confident”, 41.2% “somewhat confident”, 2% (n=1) “a little confident” and 2% (n=1) “not at all confident”. Results were statistically similar at T2 and T3 with no significant change. Participants were also asked to rate their level of agreeance with the statement “It is important to brush my teeth twice a day” of which at baseline 66.7% (n=34) strongly agreed, 19.6% (n=10) agreed, 11.8% (n=6) stating neither agreed nor disagreed and 2% (n=2) disagreed. Results were statistically similar at T2 and T2 with no significant change. Participants were also asked to rate their perceived level of importance to visit a dentist once a year of which 37.3% (n=19) said “very important”, 19.6% (n=10) said “important”, 19.6%

n=10 said “moderately important”, 15.7% (n=8) said “of little importance” and 7.8% (n=4) said “unimportant”. There was a significant increase in perceived importance visiting a dentist once a year at T2 with 90.9% (n=20) saying “very important” and 9.1% (n=2) saying “of little importance”, ($Z=-2.299^b$, $p=0.022$). Participants of the oral health workshop were asked at T2 if the workshop improved their understanding of how to manage and maintain their oral health of which 77.8% strongly agreed and 22.2% agreed.

4.8.5 Cardiopulmonary Resuscitation Training

Eighteen sheds selected CPR as an elective component with n=10 in Cohort 1 and n=8 in Cohort 2. Outcomes were assessed at T1, T2 and T3.

Table 22: CPR confidence ratings across T1, T2 and T3

| How confident do you feel in recognising cardiac arrest and calling the emergency services? | T1 | T2 | T3 |
|---|---------------|----------------|---------------|
| Strongly confident | 16.7% n=53 | 57.3% n=102 | 55.4% n=72 |
| Very confident | 20.8% n=66 | 23.6% n=42 | 21.5% n=28 |
| Somewhat confident | 26.7% n=85 | 12.4% n=22 | 17.7% n=23 |
| A little confident | 12.6% n=40 | 2.8% n=5 | 4.6% n=6 |
| Not at all confident | 23.3% n=74 | 3.9% n=7 | 0.8% n=1 |
| *** T1 & T2, T3 | | | |
| How confident do you feel operating an AED? | T1 | T2 | T3 |
| Strongly confident | 7.9% n=25 | 57.9% n=103 | 38.5% n=50 |
| Very confident | 13.2% n=42 | 26.4% n=47 | 26.2% n=34 |
| Somewhat confident | 14.2% n=45 | 5.6% n=10 | 17.7% n=23 |

| | | | |
|---|----------------|-----------------|---------------|
| A little confident | 9.4% n=30 | 5.1% n=9 | 3.8% n=5 |
| Not at all confident | 55.3% n=176 | 5.1% n=9 | 13.8% n=18 |
| *** T1 & T2,T3 ***T2 & T3 | | | |
| How confident do you feel performing chest compressions? | T1 | T2 | T3 |
| Strongly confident | 10.4% n=33 | 46.6% n=83 | 41.5% n=54 |
| Very confident | 19.9% n=63 | 21.3% n=38 | 38.5% n=50 |
| Somewhat confident | 20.2% n=64 | 15.2% n=27 | 8.5% n=11 |
| A little confident | 12.3% n=39 | 5.6% n=10 | 3.8% n=5 |
| Not at all confident | 37.2% n=118 | 11.2% n=20 | 7.7% n=10 |
| ***Significant difference at p<0.001 ** Significant difference at p<0.005 *Significant difference at p<0.05 | | *** T1 & T2, T3 | |

Of those who participated in the CPR component there was a significant increase in confidence ratings for recognising a cardiac arrest from T1 to T2 ($Z=-8.170^b$, $p=0.000$) and from T1 to T3 ($Z=-6.611^b$, $p=0.000$) there was no significant decrease between T2 and T3. There was also a significant increase in confidence performing chest compressions from T1 to T2 ($Z=-7.478^b$, $p=0.000$) and from T1 to T2 ($Z=-7.640^b$, $p=0.000$) there was no significant difference between T2 and T3. There was a significant increase in confidence using an AED from T1 to T2 ($Z=-9.612^b$, $p=0.000$) and from T1 to T3 ($Z=-7.456^b$, $p=0.000$). There was also a significant difference from T2 to T3 (-4.101^c , $p=0.000$). (See Table 22).

4.8.6 Cancer Awareness

Ten sheds chose to participate in the cancer awareness workshop of which n=7 were in Cohort 1 and n=3 were in Cohort 2. Outcomes were assessed at T1, T2 and T3.

There was a significant increase in reported understanding of cancer related early detection signs from T1 to T2 ($Z=-5.616^b$, $p=0.000$) and from T1 to T3 ($Z=-4.377^b$, $p=0.000$) with no significant decrease between T2 and T3. There was a reported significant increase in understanding of the cancers most prevalent in men among participants from T1 to T2 ($Z=-5.814^b$, $p=0.000$) and T1 and T3 ($Z=-4.456^b$, $p=0.000$), with no significant decrease between T2 and T3. There was also a significant increase in the reported understanding of cancer screening services in Ireland from T1 to T2 ($Z=-5.814^b$, $p=0.000$) and T1 to T3 ($Z=-3.461^b$,

"I think I'm surprised we all took so much to the programme. In the beginning I was reluctant to take on the programme because I thought I would only get two or three men. But an average 12-14 came every day."

- Paul Sheds for Life

$p=0.001$), with no significant change from T2 to T3. The perceived importance of bowel screen, screening service also significantly increased from T1 to T2 ($Z=-3.901^b$, $p=0.000$). The increase in importance was also significant from baseline (T1) to T3 ($Z=-2.944^b$, $p=0.003$). There was no significant change from T2 to T3. The perceived importance of retina screen for applicable participants with a diabetes diagnosis had no significant difference across time points (See Table 23).

Table 23: Cancer Awareness outcomes across T1, T2 and T3

| Understanding of cancer related early detection signs | T1 | T2 | T3 |
|---|---------------|---------------|---------------|
| Strongly agree | 21.2% n=38 | 53.2% n=50 | 50.6% n=40 |
| Agree | 25.1% n=45 | 30.9% n=29 | 29.1% n=23 |
| Somewhat agree | 25.1% n=45 | 8.5% n=8 | 13.9% n=11 |
| Disagree | 19.6% n=35 | 7.4% n=7 | 5.1% n=4 |
| Strongly disagree | 8.9% n=16 | 0.0% n=0 | 1.3% n=1 |

| | *** T1 & T2, T3 | | |
|---|-----------------|---------------|---------------|
| Understanding of cancers most prevalent in men | T1 | T2 | T3 |
| Strongly agree | 24.7% n=44 | 47.9% n=45 | 59.2% n=42 |
| Agree | 34.3% n=61 | 43.6% n=41 | 28.2% n=20 |
| Somewhat agree | 26.4% n=47 | 6.4% n=6 | 9.9% n=7 |
| Disagree | 9.0% n=16 | 2.1% n=2 | 1.4% n=1 |
| Strongly disagree | 5.6% n=10 | 0.0% n=0 | 1.4% n=1 |
| | *** T1 & T2, T3 | | |
| Understanding of cancer screening in Ireland | T1 | T2 | T3 |
| Strongly agree | 19.7% n=35 | 50.5% n=47 | 77.3% n=17 |
| Agree | 21.9% n=39 | 33.3% n=31 | 22.7% n=5 |
| Somewhat agree | 23.0% n=41 | 10.8% n=10 | 0.0% n=0 |
| Disagree | 29.2% n=52 | 5.4% n=5 | 0.0% n=0 |
| Strongly disagree | 6.2% n=11 | 0.0% n=0 | 0.0% n=0 |
| | *** T1 & T2, T3 | | |
| Important to attend Bowel Screen | T1 | T2 | T3 |
| Strongly agree | 43.5% n=77 | 60.2% n=56 | 90.9% n=20 |
| Agree | 31.1% n=55 | 32.3% n=30 | 9.1% n=2 |

| | | | |
|---|----------------|---------------|---------------|
| Somewhat agree | 14.7% n=26 | 5.4% n=5 | 0.0% n=0 |
| Disagree | 9.6% n=17 | 2.2% n=2 | 0.0% n=0 |
| Strongly disagree | 1.1% n=2 | 0.0% n=0 | 0.0% n=0 |
| | *** T1 & T2,T3 | | |
| Important to attend Retina Screen (if diabetic) | T1 | T2 | T3 |
| Strongly agree | 63.2% n=24 | 68.8% n=11 | 100.0% n=5 |
| Agree | 18.4% n=7 | 25.0% n=4 | 0.0% n=0 |
| Somewhat agree | 13.2% n=5 | 6.3% n=1 | 0.0% n=0 |
| Disagree | 2.6% n=1 | 0.0% n=0 | 0.0% n=0 |
| Strongly disagree | 2.6% n=1 | 0.0% n=0 | 0.0% n=0 |
| ***Significant difference at p<0.001 ** Significant difference at p<0.005 *Significant difference at p<0.05 | | | |

4.9 Reach and Attendance

An estimated reach rate calculated on proportion of Sheddors eligible to attend SFL (n=565) against numbers who enrolled in SFL (n=421), along with mean attendance rates of SFL components was estimated at 73% across Cohort 1 and 2. (Numbers eligible to attend were based on the number of men's shed members in the sheds at the time of SFL implementation).

Attendance rates are based on the number of Sheddors who signed up to each component and were estimated based on a combination of attendance records captured by SFL deliverers and self-reported attendance by participants. Estimated percentage attendance rates for physical activity components was 85.7%. Estimated percentage rates for the Mental Health workshop was 73.2%. For Healthy Food Made Easy estimated attendance rates overall were 72.86%. The Diabetes workshop had an estimated attendance of 74.0%. The safeTALK

workshop had an estimated attendance of 73.0%. The Digital Literacy classes had an estimated attendance rate of 61.6%. The Oral Health workshop had an estimated percentage attendance of 62.1%. The CPR workshop had an estimated percentage attendance of 76.2%. The Cancer awareness workshop had an estimated percentage attendance of 73.45. Overall mean percentage attendance rates for the 10-week programme were estimated at 72.46%.

“The key learning I gained from Sheds for life is people. About people. How they interact together.....the perception out there is that men don't talk. They do. My experience is that I've talked to a few people and even on a one-to-one somebody will start talking about something they have a problem with. People will talk. Men will talk. In the right environment.”

- Nigel Sheds for Life Participant

5.0 Discussion

The purpose of this element of the SFL evaluation was to understand the impact the SFL model had on the health and wellbeing outcomes of the men who engaged with it with a view to; examining the effectiveness of SFL and strengthening future implementation of SFL to encourage sustainability and scalability. Questionnaires administered to participants (n=421) over the course of 12 months (T1 to T4) capturing a range of health and wellbeing outcomes form the basis of these findings. The strong theoretical underpinnings of this implementation study, coupled with the longitudinal data captured, provides valuable, key insights into the health and wellbeing of SFL participants and the potential impact SFL has had upon them. The findings suggest there is a unique and strong potential for SFL to engage and contribute to enhanced wellbeing outcomes among “hard to reach” groups of men (Bergin and Richardson, 2020).

I. Profile of the participants in the Sheds for Life intervention

The Men's Shed members who participated in SFL were spread across four counties (Waterford, Kildare, Limerick and Louth) representing a total of 421 men who originally signed up to participate in both the SFL programme and evaluation. There was a relatively even representation of urban and rural Sheds that chose to participate in SFL. It is noteworthy that almost all (99.3%) of the participants of SFL categorised themselves as “White” or “White Irish”. However the mean age of participants was 69 years and the aging population of Ireland does not have a large representation of different ethnicities with ethnic diversity generally found in younger generations in Ireland. For instance in latest CSO data, males who classified themselves of African descent over the age of 65 made up 0.1% of the population (CSO, 2016). The majority (80.4%) of SFL participants were also retired men and this is reflective of the cohort of men in Ireland and beyond who generally attend the Sheds. The Sheds are spaces that are open to all men of age or background but can particularly appeal to men of retirement age for a multitude of reasons. Men, prior to retirement are more likely to be occupied with employment, raising families, sports and other activities and the Sheds maybe therefore more appealing to those who are retired for the social support, sense of purpose, continued learning and navigation through difficult life transitions such as retirement (Nurmi et al., 2018; Carragher & Golding, 2015). It has been noted however that diversity in terms of

age and ethnicity offer opportunities for richer learning experiences and care should be taken in how Men's Sheds are branded in order to create spaces for new and diverse members and prevent Shed members feeling stigmatised or labelled (Nurmi et al., 2018). A Quarter (24.9%) of participants reported completing some or part primary education only with over half (52.1%) completing some or part of a secondary education, with the remainder going on to participate in some form of third level education. It is largely understood that lower educational attainment is a predictor of poorer health engagement and outcomes as well as overall quality of life (Zajacova & Lawrence, 2018; Chen & Hu, 2018) and it is beneficial that SFL could engage a cohort of men across the educational strata to promote positive health outcomes. Men are more at risk of poorer health outcomes and co-morbidities due to lifestyle and other risk factors, particularly in the area of cardiovascular related diseases and primary prevention strategies, such as adoption of healthy lifestyle behaviours and use of proven treatments, are more frequent in women than men (Walli-Attaei et al., 2020). There is a need to engage men with health and wellbeing due to this increased risk and average baseline health screening results of participants suggest that this cohort of men fall into an at risk group in terms of their health parameters alongside the percentage of those with family history of heart disease (52.9%), stroke (21.3%) and diabetes (28.0%) with mean blood pressure (140/81) approaching hypertensive levels, mean total cholesterol (4.2 mmol/l) on the higher end of normal parameters along with total glucose (6.217 mmol/l), mean waist circumference (41.6 inches) over the recommended healthy waist measurement of 37 inches and average BMI (29.9) falling into the higher end of the overweight category and approaching obesity levels. The characteristics of the SFL participants suggest that a large representation fall into an at risk group in some capacity and would therefore be indicative that SFL has successfully reached its target group of men.

II. Self-Rated Health

The use of the single-item self-rated health measure is recognised as a reliable way of measuring health despite potential discrepancies in one's internal view of their health misaligning with medical diagnoses (Cislaghi & Cislaghi, 2019). Research has however demonstrated that self-rated health is largely consistent with objective health status (Wu et al., 2013). The significant increase in positive self-rated health ratings from baseline (T1) to post SFL (T2) suggests that the SFL intervention had a positive impact on objective and subjective feelings of wellbeing. This was particularly true of Cohort one who maintained higher levels of self-rated health post baseline up to 12 months (T4). Cohort two also experienced a significant increase in self rated health post SFL but actively experiencing COVID-19 restrictions during

T3 and T4 may have influenced self-rated health thereafter (McGrath, Murphy & Richardson, 2020).

III. Seeking health information

Research indicates that men can have a low propensity to find out information about their health (White et al., 2011). Male disinclination towards seeking information about their health is an extension of their help-seeking behaviour which can often be delayed and is influenced by cultural masculinity norms such as; aversion to emotional expression or expressing concerns about health, embarrassment, anxiety and fear and poor communication with health-care professionals (Osasumwen Olanrewaju et al., 2019; Yusaf, Grunfeld & Hunter, 2013). The significant and sustained increase in those reporting they like find out about their health post

the SFL intervention is a positive indication that the gender-sensitive approaches implemented by SFL such as the informal, non-clinical, safe environment were conducive towards potentially mitigating against past poor experiences related to information and help seeking, perhaps encouraging positive and proactive movements to actively seek information about health. Male patients are also more likely to



default on follow up appointments than female patients with females more likely to visit their GP in response to health concerns than men (Thompson et al., 2016). Of the participants advised to visit their GP at their baseline health check, 41.7% reported following up with their GP which considering the cohort of potentially HTR men, is a positive response towards health engagement and the health checks are a positive contender in promoting engagement with health and addressing health concerns.

IV. Physical Activity

The Irish Longitudinal Study on Ageing (TILDA) found that 42% of men over 50 years reach the recommended PA guidelines (Donoghue, O'Connell and Kenny, 2016). Only 31.2% of SFL participants were reported to meet the PA guidelines at baseline. It is therefore feasible to



suggest that SFL succeeded in reaching its target population of inactive men with 68.8% not achieving 30 minutes or more PA on at least five days per week. The number of participants meeting the PA guidelines significantly increased post the SFL intervention, and

similarly to other research engaging men in PA interventions, the mean days PA for 30 minutes or more remained significantly higher post baseline up to 12 months (Kelly et al., 2019). While there was no significant increase in minutes walking with the mean already above 30 minutes per walking session, the sustained increase in number of days walking post baseline suggests that the SFL intervention was successful in the promotion of walking. While days active and

days walking remained significantly higher post baseline up to 12 months, there was a slight decline at the 12 month point suggesting that a follow up to encourage sustained change may be beneficial to participants. As research highlights that physical activity self-



efficacy is a stronger predictor of sustained engagement with physical activity compared to self-rated physical activity, as well as being strongly and independently associated with cardiovascular events in men (Bergström, Börjesson, & Schmidt, 2015), it is a positive outcome that physical activity self-efficacy scores significantly increased from baseline up to

12 months post SFL alongside participants reporting high levels of confidence in maintaining their exercise routine at all-time points.

V. Subjective Wellbeing

Subjective well-being reflects an overall evaluation of the quality of a person's life from their own perspective and measures that capture subjective wellbeing are valuable as subjective evaluations of quality of life reflect idiosyncratic reactions to objective life circumstances in ways that alternative measurement approaches cannot (Diener, Lucas & Oishi, 2018). Life satisfaction measures how people evaluate their lives generally rather than current feelings (OECD, 2013). Research indicates that men tend to report lower life satisfaction scores compared to women, but that life satisfaction increases for men in later years (Joshani & Jovanovic, 2019). The life satisfaction of SFL participants at baseline (7.94) was slightly higher than ratings for adults over fifty years in Ireland of 7.56 (OECD, 2020). Life satisfaction continued to increase significantly and remained higher than baseline up to 12 months in Cohort one. This is a positive finding suggesting the benefits of SFL may have increased life satisfaction for SFL participants. The baseline scores may also be related to the inherent health promoting qualities of the Shed as previous work also highlights that Sheddors are motivated to participate in their Shed by a need for peer support and meaningful engagement, with 97% of men reporting enhancements in their wellbeing simply by having their shed to attend (Carragher & Golding, 2015). This hypothesis that the Sheds enhance life satisfaction for Sheddors is further corroborated by the decline in life satisfaction in the cohort experiencing the loss of their shed due to COVID-19 at T3 and T4 follow up (McGrath, Murphy & Richardson, 2020). The sense that one is living a worthwhile and meaningful life is fundamental to subjective-wellbeing (Steptoe & Fancourt, 2018). Similarly to life satisfaction, there was a significant increase in the extent shed members felt the things they do in life are worthwhile post SFL. This was sustained in Cohort 1 and decreased in Cohort 2 during T3 and T4 perhaps due to COVID impact but overall remained higher than baseline. The increase in scores is suggestive that SFL was positive in enriching the sense of meaning and variety of worthwhile activities within the Shed environment. Worthwhile ratings are correlated to time spent in social activities and predict positive changes in health and behavioural outcomes (Steptoe & Fancourt, 2018). The social opportunities offered by the Shed and the SFL programme may have been conducive to increasing feelings of life being worthwhile, with worthwhile activities on offer within the sheds and SFL programme promoting healthy aging and encouraging the sustenance of meaningful social relationships (Steptoe & Fancourt, 2018)

VI. Mental Wellbeing

Similarly to previous research engaging hard-to-reach men at community level (Kelly et al., 2019; Wyke et al., 2015), the SFL intervention achieved a positive mental health effect with significant increases in SWEMEBS scores that are considered clinically meaningful and maintained them up to 12 months post baseline (Stewart-Brown, 2008). The significant increase in mental wellbeing scores highlights the potential of SFL to enhance the mental wellbeing of SFL participants through direct and indirect elements such as the enhanced sense of social support, physical activity and social engagement opportunities and the mental health workshop. The slight decline in scores for Cohort two may have been a consequence of COVID-19 but scores remained higher than baseline and may suggest that some effect from the SFL intervention was maintained. It is widely recognised that men can struggle with engaging with conversations around mental health which can be exacerbated by gendered behaviours relating to masculinity (King et al, 2020). Research highlights however, that when men are familiar with problem-solving strategies to maintain their mental health they are open to using them but barriers towards identifying and engaging with professional health services exist which are often compounded by health literacy issues (Proudfoot et al., 2015; Milner, Shields & King, 2019). The significant and sustained improvement in participants' certainty; about how to maintain their personal mental health, around having a conversation about their mental health and feeling equipped with supports to maintain and enhance their mental health demonstrates the strength of the SFL intervention in encouraging positive mental health behaviours for men.

VII. Loneliness

As the Shed environment is recognised as a setting which promotes social support and thus combats against subjective feelings of isolation and loneliness (Moylan et al., 2015) it was anticipated that participants of SFL would have already potentially benefited from the social support offered in the Sheds which would be reflected in loneliness scores. This view was supported by the significant



reduction in loneliness scores reported at baseline (T1) compared to before SFL participants had joined their shed. SFL in fact did not have a significant impact on loneliness scores rather the social support already inherent in the Shed helped to facilitate elements of SFL. The scores in both cohorts remained statistically similar and significantly lower up to T3, highlighting the importance of the Shed to protect against feelings of loneliness. This is further underlined by the stark increase in loneliness scores in Cohort 2 at T3 and T4 when they were actively experiencing COVID-19 and at the loss of their shed as a social and emotional outlet (McGrath, Murphy & Richardson, 2020). These findings suggest that Sheds are protective against loneliness, and the loss of the Shed during COVID-19 as well as other meaningful social interactions are correlated with the increased feelings of loneliness. This highlights the need for and the value of tailored interventions such as SFL to ameliorate the impact of loneliness among the vulnerable cohort of men within Sheds.

VIII. Social Capital

Research implies that older men who are more vulnerable, such as those who live alone, are at risk of depressive symptoms due to lower levels of sense of belonging (McLaren, 2018).

The significant increase in those who felt like they belonged to their Shed post SFL highlights the potential of the SFL intervention to build upon and enhance the social support previously mentioned and further strengthen the Sheds environment so that more members feel like they belong to their Shed, offering them a sense of purpose and social capital which is supportive of positive wellbeing.

Research also discusses the relationship between social capital and wellbeing as well as its influence on health behaviours, such as physical activity, and engagement with health (Ueshima et al., 2010;



Emmering et al., 2018). Social capital is strengthened by networks among individuals such as those within the Shed, alongside norms of reciprocity and trust between them (Emmering et al., 2018). Alongside the significant improvement in belongingness, SFL participants also experienced a significant enhancement in feelings of close support and general trust, suggesting that SFL had a positive impact on social capital which may have also encouraged engagement with other positive health behaviours and practices within SFL.

IX. The SF-6D

Evaluating implementation costs is valuable to determine cost-effectiveness of the SFL intervention to justify resources as well as allocate them accordingly. Brazier et al., (2002) developed the SF-36 to perform economic evaluations of health interventions. The SF-6D is a shortened, less complex model for application in broader evaluations measuring six dimensions of health with the potential to define up to 18,000 states of health. Similarly to the Men on the Move programme



assessment, cost-effectiveness of SFL will be determined by comparing the costs (direct and indirect) of the programme to its benefits, which are captured as the impact on quality-adjusted life-years (QALYs) using the SF-6D. The assessment of the cost effectiveness of the SFL intervention will be an important determinant in scalability of SFL. Preliminary assessment of the SF-6D constructs using inferential tests so far has demonstrated a significant and sustained improvement in physical functioning, role limitation, mental health and vitality. Alongside these improvement and the noted wider improvement in health outcomes post SFL, the demonstration of the Men on the Move programme's cost-effectiveness (Kelly et al., 2020), a similar community model to SFL, supports the hypothesis that SFL is a cost-effective model which is good value for money particularly considering its reach in accessing a typically HTR group.

X. Smoking and Alcohol

Smoking remains a major public health issue worldwide with a general trend of smoking prevalence being higher among men (Kodriati, Pursell & Hayati, 2019). However, reductions in smoking prevalence among men have been noted in high-income countries and it is positive to note that a small proportion (8.4%) of SFL participants were reported to smoke at baseline with those who did smoke decreasing the amount smoked per day post SFL. This suggests

that SFL may have had a modest positive impact on smoking behaviours. Based on the recent reduction of men who smoke in the Irish population to 19% (Health Service Executive, 2019), the modifications in the external environment such as increasing taxes, restricted marketing and smoking-bans are likely to have been a factor in encouraging a percentage of SFL participants (41.8%) quitting tobacco use.

Overall alcohol consumption and frequency of binge drinking is higher in men than in women with up to 54% of Irish men classified as heavy episodic drinkers (Health Service Executive, 2017; Manthey et al., 2019). Results of SFL suggest that 68.3% of participants consumed alcohol which is less than the national figures for adult males of 79% (Department of Health, 2017). The lower rates of alcohol usage and consumption may be due to the age profile of the SFL participants but nonetheless a positive one with the SFL intervention potentially having a positive effect on alcohol consumption highlighted in the reduction in days drinking and units consumed post SFL. COVID restrictions may also have had an influence on alcohol behaviours (McGrath, Murphy & Richardson, 2020) and while units of alcohol consumed did increase at 12 months, albeit not significantly higher than baseline, it may warrant targeted intervention on alcohol behaviours in SFL to sustain positive change.

XI. Dietary Habits and Cooking Skills

Alongside active living, healthy eating is a key priority of the Healthy Ireland Men's action plan with many diseases related to the excess burden of ill health in men being preventable and increased

morbidity and mortality rates linked to life-style based determinants such as eating behaviours (Health Service Executive, 2017). Men are



more vulnerable to poor nutrition due to a variety of social determinants such as food shopping, preparation and cooking traditionally organised by women, with advertising, health literacy and health promotion messages related to healthy eating targeted towards, and subsequently engaging, more women. This is particularly the case for more vulnerable men

such as those who are older, live alone, or have lower educational attainment (Taylor et al., 2013; Stephens et al., 2018). Similar to the HATRICK approach which uses informal environments and social engagement opportunities to deliver messages around healthy eating, while also appealing to practical elements of cooking for men (Capperchione et al., 2017), SFL has demonstrated a positive and sustained change in attitudes towards cooking such as willingness to cook and confidence related to constructs around food shopping and preparation as well as increased confidence in healthier cooking methods. The positive outcomes post SFL in relation to healthy eating and cooking behaviours suggest that the Healthy Food Made Easy programme within SFL has been successful in engaging men with messages around healthy eating behaviours and encouraging positive and lasting changes.

XII. Supplementary components

Diabetes Awareness

Both biological and psychosocial factors are responsible for sex and gender differences in diabetes risk and outcomes with men suffering an excess burden of diabetes morbidity (Kautzky, Harreiter & Pacini, 2016). Research demonstrates that targeted training on diabetes can lead to health benefits alongside motivational nutrition and physical activity programmes with the latter being factors in the prevention of type 2 diabetes (Onofrio et al., 2018). The improvement in 6 out of 7 measured constructs relating to diabetes awareness, alongside the nutritional and physical activity components of SFL suggests that SFL has a



positive impact on diabetes awareness and risk. Moreover, the fact that 100% of respondents either “strongly agreed” or “agreed” that the diabetes component successfully improved their understanding of diabetes prevention, suggests that the workshop was successful in meeting its core objective and was also successful in engaging SFL participants.

safeTALK- Suicide prevention and awareness

Suicide rates are predominantly higher in men and largely influenced by gender and masculinity roles, with suicide being a preventable and avoidable mortality risk that needs a gendered approach in its prevention (O'Donnell & Richardson, 2018; King et al., 2020). The safeTALK training has been noted to improve participants' self-assessed abilities to recognise when someone has thoughts of suicide and take appropriate steps in connecting them to safety (Kaplan, 2018). The fact that men have a reticence at times around discussing mental health and suicide often fuelled by a lack of understanding about how to broach these sensitive subjects, makes this element of SFL a particularly valuable asset to SFL participants. The safeTALK intervention coupled with the gendered approach of providing homogeneity and safety in the shed, appear as demonstrated in the results, to have been effective in improving confidence in dealing with others who may be suicidal as well as identifying appropriate services and increasing confidence talking about suicide. These findings are extremely positive considering the breadth of literature that highlights men's difficulties in engaging with sensitive health topics (Yousaf, Grunfeld & Hunter, 2013). There was no significant change in willingness to talk openly and directly to a person about suicide, rather confidence to do so improved and this may be due to the fact that Sheds organically promote an environment of openness and social support (Bergin & Richardson, 2020).

Digital Literacy

Digital Literacy was added as a supplementary component to Sheds for Life in partnership with Age Action for the men who may identify themselves as requiring it. The component covers basic digital skills to help participants get online and was recognised as a valuable element to the programme responding to the growing digital divide that leaves those who do not have the capacity to get online, due to skills or resource at further risk of isolation and exclusion. Research



indicates that only 49% of people aged 50 or over in the EU use the internet and age has a differentiating effect with the likelihood of internet usage decreasing by 8% per year of age leading to considerable inequalities in those of 65-90 years (Seifert, Hofer & Rossel, 2019; Friemel, 2014). Activities of everyday are becoming increasingly digitised and it is therefore positive that those who participated in the digital literacy component of SFL experienced significant improvements in all measured constructs pertaining to basic internet usage skills such as accessing a website, sending an email and accessing online banking. There has been an exponential increase in the use of the digital forum in everyday life during COVID-19 which has left those unable to get online at further risk of exclusion and social isolation. Prior to COVID-19 9 out of the 22 sheds participating in SFL opted for the digital literacy training. It may be more pertinent now in the wake of COVID-19 for more sheds to avail of this training considering the increasing reliance on digital platforms in today's society. SFL may also need to respond to the needs of Shed members by considering the broader social determinants beyond skills training that exacerbate the digital divide such as lack of affordability, accessibility, willingness and fear of the unknown (Seifert, Cotton, & Xie, 2020).

Oral Health

Oral diseases are a major global public health problem affecting over 3.5 billion people (Watt et al., 2019). Moreover, there has been increasing evidence that health starts from the mouth, with poorer oral health causing multi-organ systemic implications ranging from insulin resistance, cardiovascular disease, cancers and neurodegenerative pathologies (Fiorollo, 2019). Despite this knowledge, of the greater systemic impact of oral health, there appears to be lack of recognition or awareness of this link among health providers and the general population (Kane, 2017). In high-income countries, current treatment-dominated specialised

approaches have been criticised for not addressing inequalities in oral health highlighting the urgent need for more proactive responses to prevent pathologies that impact population health (Watt et al., 2019).



The Oral Health component of SFL appeared to have a positive impact on participant's knowledge and awareness reflected in the results, particularly around the willingness and understanding of the importance of annual oral health checks. However, there was a lower uptake of this component with n=2 Sheds participating, perhaps reflecting the wider lack of awareness about the importance of oral health for overall wellbeing. Research also highlights how socioeconomic status is linked with oral pathologies such as oral cancer, dental caries, tooth loss and traumatic dental injuries (Singh, Peres & Watt, 2019). SFL may therefore benefit from further highlighting the importance of this component to improve uptake, particularly in the case of more at risk cohorts within the Sheds.

Cardiopulmonary Resuscitation Training

The CPR component of SFL was agreed upon collaboratively with stakeholders as a valuable component to SFL in response to evidence of the high rates of out-of-hospital cardiac arrest mortality and the need for increased rates of lay population training, where only an estimated 25% of victims currently receive CPR (Villalobos et al., 2019). Moreover, with the knowledge that ; 70-85% of cardiac arrests occur at home; victims of cardiac arrest have better survival outcomes and quality of life when they receive CPR by a trained bystander; the age demographic of those in the Sheds and their partner's likely being of increased risk of a cardiovascular event (Villalobos et al., 2019), CPR training was identified as an empowering and efficacy-building element of SFL that appealed to participants through their desire to protect those close to them. In addition, SFL recognised that Shed members enjoy hands-on learning opportunities, particularly those that are practical and skills-based that add value to the lives and experiences of men beyond work (Carragher & Golding, 2015). The CPR component was therefore pre-empted to be a popular component of SFL and an additional engagement hook for the wider programme. As perceived, the CPR component proved to have popular uptake with 18 out of 22 Sheds participating. Moreover, there was significant and sustained improved in constructs around recognising cardiac events, performing chest compressions and using AEDs, suggesting that the CPR element of SFL was successful in enhancing the efficacy and confidence of participants.

Cancer Awareness

Considering that as many as 1 in 2 people receive cancer diagnoses in their lifetime, the relevance of a cancer awareness component to SFL or any health promotion intervention requires little explanation. However, there is an excess burden of cancer-related risk and mortality for men which requires gender-specific response. A report by Drummond et al. (2017)

also highlights that men are more passive recipients of information on cancer and there exists a multitude of barriers to information seeking and engagement by men in relation to male-specific cancers such as; information overload, social norms and beliefs, literacy levels, lack of awareness of screening opportunities, lack of trust, limited access and financial barriers. Utilising social networks and ease of access to information however were noted facilitators. The context in which men receive information is highlighted as being as important as the format of the information with small groups where men gather notably conducive to active engagement with cancer awareness information. The environment of the Shed was therefore identified by stakeholders as an important setting to promote cancer awareness and screening messages and the workshop appears to have been effective in enhancing knowledge relating to cancer awareness evident in the reported increases in understanding of; cancer-related early detection signs, cancers most prevalent in men and cancer screening services.

XIII. Reach of Sheds for Life

Sheds for Life sought to engage a cohort of men's shed members with those considered "hard-to-reach" a key consideration. Considering the baseline objective health measures and demographical characteristics of the cohort of SFL participants it would appear that within the cohort of participants SFL was effective in engaging at risk groups of men. This is a similar finding to the Men on the Move programme which was successful in engaging a group of men where the majority were inactive, overweight or obese with multiple cardiovascular disease risk factors (Kelly et al., 2018). Findings from Kelly et al. (2018) also highlighted the need for more targeted approaches that engage "hard-to-reach" groups of men. While the SFL recruitment was similar to Kelly et al. (2018) in that participants were predominately white (99.3%) and cohabiting (73.4%), SFL did reach a cohort of men who were older (69.1 ± 9.136 years), where less than a quarter (23%) attended third level education with a minority (11.8%) in active employment. Alongside this, the cohort of SFL participants fit the criteria of "at-risk" in terms of health with the majority being overweight or obese with an average BMI of 29.9, higher than recommended waist circumference with a mean of 41.6 inches, not eating the recommended five portions of fruit and vegetables per day with a mean of 3.36 portions, blood pressure levels (mean 140/81) in the at-risk category, and the majority (68.5%) not meeting the physical activity guidelines. These findings suggest that SFL was effective in targeting a more harder to reach group and while there is a need to reach more diverse groups in terms of ethnicity and age, this cohort are reflective of the demographic in the Sheds and as previously mentioned also reflect the lower prevalence of diverse ethnicity in Ireland generally in older populations. It is also worth noting that the diverse background of the men in relation

to their socioeconomic status, educational attainment and living situation was also conducive towards enriching the learning and engagement of participants particularly for more at-risk men within the implementation environment. The overall estimated representativeness of those who were eligible (n=565) to participate versus those who enrolled at baseline (n=421) of 73% is positive considering the cohort of HTR men and highlights the effectiveness of the engagement process employed in SFL. The overall mean attendance was similar at 72.46% and also a positive finding suggesting that similar to Kelly et al. (2018) SFL demonstrates that gender-specific programmes can effectively engage at risk men in health interventions.

6.0 Conclusion

6.1 Limitations

As with every study, limitations exist, notably the subjective nature of the data and the inherent bias in the self-report format as well as inconsistencies in follow-up points. There may also have been an element of participant bias where rapport with the researcher may have influenced participant responses. However, it is worth noting that constructs of wellbeing and perceived health status are subjective in their own right and the evaluation is pragmatic in its approach, capturing insights from Sheddors in the real world context of a typically close-knit setting. Due to social restrictions during COVID-19, 6 and 12 month follow ups for Cohort two were also moved from being conducted in person to phone administered. However, every effort was made to communicate questions and responses clearly and ensure participants responded independently. Moreover, Sheddors would have completed the questionnaire on at least two previous occasions meaning that they were familiar with the researchers, process and format. Finally, the impact of COVID-19 during follow up influenced the trajectory of participant wellbeing outcomes in Cohort 2 meaning it was necessary, in the case of relevant outcomes, to analyse the two cohorts separately reducing sample size in some instances. However the assessment of these outcomes during COVID-19 has provided valuable insights into the impact of COVID-19 on the wellbeing outcomes of SFL participants (McGrath, Murphy & Richardson, 2020).

6.2 Conclusion

Phase one implementation has demonstrated that SFL is an effective model that engages Men's Shed members with health and wellbeing and encourages positive and sustained change in terms of health and wellbeing outcomes. It has highlighted the conducive environment of the Sheds as settings in which to activate gender-specific approaches built upon the organic health promotion qualities of the Shed, that effectively engage men in a safe, familiar and informal way while providing opportunities for structured health and wellbeing initiatives through this inclusive, community-based approach. The collaborative partnership approach enriches the depth and quality offered within SFL adding credibility to the intervention which also enhances engagement among participants. The sustained effect across implementation environments highlights the capability of the SFL approach to be

transferrable across multiple and variable Shed settings. It is important that SFL remains true to its ethos as it evolves over time to respect the environment of the Sheds and continually respond to needs of Shed members. The wider evaluation will aim to protect the integrity of SFL in its wider roll-out by assessing implementation outcomes and adapting SFL in collaboration with key stakeholders while ensuring fidelity to uphold and strengthen impact. As SFL progresses it is also important to refresh its elements and revisit past participants to encourage sustained impact and maintenance of positive behaviour change. The SFL programme has highlighted the potential that tailored and targeted men's health interventions have for addressing gender inequalities in health and can inform health promotion strategies in Sheds as well as other community-based settings that engage men with health.

6.3 Recommendations

The following recommendations have emerged in response to the research findings of phase one implementation of SFL. They also consider the future trajectory of SFL informed by the broader evaluation and consider key stakeholders across the implementation environment; individual, partner, organisation and systems level. (i) Individual level- continue to implement SFL to engage more at risk men with health and promote change in attitudes, beliefs and behaviours that enhance the physical, mental and social health of men; (ii) Partner Level- Continue to evolve and strengthen the partnership approach that adds credibility and enriches SFL while also enhancing potential for sustainability and scale up; (iii) Organisation Level – The IMSA to continue to be ambassadors for SFL while communicating with local resources to implement SFL at local level; (iv) Systems level- Use key insights from SFL to lobby funding for its sustainability and inform policy for community-based men's health approaches more broadly.

R1: Respond to the evolving needs of Shed Members

A central tenet to the SFL programme is its goal to respond directly to the needs of the Shed members and men more broadly. In order to enhance acceptability and adherence to SFL participants should feel catered for and also feel that their input matters. Moreover, as society evolves and responds to the changing social climate, it is important that SFL follows suit. COVID-19 in particular has highlighted how the needs of populations can change over time and the importance of responding to those needs. A key recommendation for the SFL programme is to continually monitor the broader implementation environment and perform needs assessments with the Shed members to ensure that SFL is meeting their needs in relation to health and wellbeing.

R2: Make provision for follow-on supports post SFL

Once SFL establishes itself and becomes embedded into the routine environment of the Sheds and wider implementation environment, it is important for the programme to develop the capability to revisit past participants to encourage maintenance of positive behaviours. For this to happen it will be necessary to adapt and refresh SFL's content in order to deliver a follow-on or step down approach for participants who have completed the ten-week programme. This will not only encourage individual maintenance but will help SFL to become a routine and stable element to the Sheds environment.

R3: Ensure that engagement is based on informed choices

The ethos of SFL is to promote positive health and well-being in a way that respects the autonomy of Shed members and enriches, not undermines, the environment of the Sheds. The optional components of SFL give participants a sense of autonomy and control over their choices which is an important recruitment facilitator. It is also important when self-selecting into components of SFL that Shed members recognise the value of these components and how they may enhance their wellbeing. It is necessary therefore to balance the sense of autonomy for Shed members with evidence of the importance of SFL components to prevent what may be an important addition to certain Sheds being overlooked by promoting informed decision making.

R4: Maintain and strengthen partnerships

The partnership approach between the IMSA and organisations who deliver SFL has increased the strength, sustainability and acceptability of the programme. These partnerships which were fostered over time recognise the need to address gender inequalities in health, and the need to reach and engage this cohort of men in a way that it is gender-sensitive and respects the Sheds environment. This approach enhances the capacity of SFL to deliver through a greater pool of resources and expertise across the implementation climate. It is vital to the success of SFL that these partnerships are respected and maintained while also seeking out new alliances that recognise the value of SFL, have similar values and vision and that can respond to the needs of Shed members through the gender-specific strategies of SFL.

R5: Maintain a collaborative approach with Shed members

The collaborative nature of SFL facilitates sharing of key insights that inform facilitators and barriers to implementation of SFL. Working collaboratively at partner level ensures transparency and open communication which encourages adoption of SFL at partner level. Collaboration at individual level with Men's Shed members, fosters a sense of reciprocity that enhances acceptability of SFL while also ensuring that SFL is an appropriate model in terms of its content and delivery that effectively responds to the needs of participants. Collaboration at individual level also informs the identification of leaders or health champions within the Sheds who are instrumental in communicating messages about SFL and encouraging engagement and participation at ground level.

R6: Assess for Cost-effectiveness

SFL has demonstrated that it is a model which has positive and sustained effect on health and wellbeing outcomes of participants. Preliminary evidence also suggests that it is demonstrating value for money by being one of few successful interventions that engage HTR men and by improving health outcomes that will determine quality adjusted life years. In order to clearly demonstrate that SFL is cost saving to decision makers who may support SFL, it is important to apply the findings to determine cost-effect in quantitative format.

R7: Inform implementation outcomes for scale-up

The broader evaluation's hybrid approach towards assessing implementation and effectiveness outcomes aims to blend these two lines of research to encourage more rapid translational gains into the real-world and variable settings of the Sheds and encourage more effective implementation. The current SFL model has demonstrated effect and implementation outcomes critically need to be informed to understand the method of implementation that incurred effect in order to strengthen this approach as well maintain fidelity to the implementation strategy to ensure integrity of SFL is maintained during wider implementation. Assessing the variable contextual factors of the implementation setting may mean adaptations to the SFL model may be necessary but it is critical that outcomes are informed to maintain fidelity to SFL's core objectives while adapting to suit the local context. It is important that methods to measure these outcomes are accurate and consistent to produce a high quality evaluation that informs decision making going forward. The implementation science approach will identify barriers and facilitators towards effective implementation in an iterative process

and provide clear differentiation of implementation outcomes from clinical outcomes which form a blueprint to scale-up SFL ensuring that effect is maintained at scale.

R8: Disseminate SFL findings to key stakeholders

Dissemination of SFL research findings which highlight the success of a gender-specific community based men's health programme that also provides a blueprint for practical application will be a valuable addition to other researchers, practitioners and the wider community. SFL research findings will have a key role to play in the sustainability of SFL but will also help to inform men's health programmes more broadly. These findings will also have practical applications that can help to inform men's health policy and tackle the excess burden of ill-health and mortality for men. Widely disseminating the research findings of SFL will also be instrumental in lobbying support of funders to ensure its sustainability and wider-roll out.

Funding Statement: This work was supported by the Irish Research Council
[Project ID EBPPG/2018/256]

7.0 References

- Baker, P. (2016). Men's health: a global problem requiring global solutions. *Trends In Urology & Men's Health*, 7(3), 11-14.
- Baker, P., White, A. & Morgan, R. (2020) Men's health: COVID-19 pandemic highlights need for overdue policy action. *Lancet*, 395 (10241). pp. 1886-1888. ISSN 1474-547X DOI: [https://doi.org/10.1016/S0140-6736\(20\)31303-9](https://doi.org/10.1016/S0140-6736(20)31303-9)
- Barton, K., Wrieden, W. & Anderson, A., 2011. Validity and reliability of a short questionnaire for assessing the impact of cooking skills interventions. *Journal of Human Nutrition and Dietetics*, 24(6), pp.588-595.
- Bauer, M., Damschroder, L., Hagedorn, H., Smith, J. & Kilbourne, A., (2015). An introduction to implementation science for the non-specialist. *BMC Psychology*, 3(1).
- Bergin, M. and Richardson, N. (2020) 'Sheds for Life': getting the balance right in delivering health promotion through Sheds in Ireland. Health Promotion International, daaa082.
- Bergström, G., Börjesson, M., & Schmidt, C. (2015). Self-efficacy regarding physical activity is superior to self-assessed activity level, in long-term prediction of cardiovascular events in middle-aged men. *BMC Public Health*, 15(1). doi: 10.1186/s12889-015-2140-4
- Brazier, J., Roberts, J., & Deverill, M. (2002). The estimation of a preference-based measure of health from the SF-36. *Journal Of Health Economics*, 21(2), 271-292. doi: 10.1016/s0167-6296(01)00130-8
- Caperchione, C.M., Bottonff, J.L., Oliffe, J.L., Johnson, S.T., Hunt, K., Sharp, P., Fitzpatrick, K.M., Price, R., & Goldenberg, S.L. (2017). The HAT TRICK programme for improving physical activity, healthy eating and connectedness among overweight, inactive men: study protocol of a pragmatic feasibility trial. *BMJ Open* 6(7), e016940.
- Carragher, L., & Golding, B. (2015). Older Men as Learners. *Adult Education Quarterly*, 65(2), 152-168. doi: 10.1177/0741713615570894
- Carroll, P., Kirwan, L., & Lambe, B. (2014). Engaging 'hard to reach' men in community-based health promotions. *International Journal Of Health Promotion And Education*, 52(3), 120-130.
- Central Statistics Office. (2016) *Census of Population 2016 - Profile 2 Population Distribution and Movements*. <https://www.cso.ie/en/releasesandpublications/ep/p-cp2tc/cp2pdm/pd/> (last accessed 20 July 2020).
- Central Statistics Office. (2016). *Census of Population 2016- Profile 8 Irish Travellers, Ethnicity and Religion*. <https://www.cso.ie/en/releasesandpublications/ep/p-cp8iter/p8iter/p8e/> (last accessed 25 November 2020)
- Central Statistics Office. (2019) *Urban and Rural Life in Ireland, 2019*. <https://www.cso.ie/en/releasesandpublications/ep/p-urli/urbanandrurallifeinireland2019> (last accessed 6 August 2020).

- Chen, H., & Hu, H. (2018). The relationship and mechanism between education and functional health status transition among older persons in China. *BMC geriatrics*, 18(1), 89. <https://doi.org/10.1186/s12877-018-0785-4>
- Cislaghi, B., & Cislaghi, C. (2019). Self-rated health as a valid indicator for health-equity analyses: evidence from the Italian health interview survey. *BMC Public Health*, 19(1). doi: 10.1186/s12889-019-6839-5
- Culph, J., Wilson, N., Cordier, R., & Stancliffe, R. (2015). Men's Sheds and the experience of depression in older Australian men. *Australian Occupational Therapy Journal*, 62(5), 306-315.
- Curran, G., Bauer, M., Mittman, B., Pyne, J., & Stetler, C. (2012) Effectiveness-implementation hybrid designs. *Medical Care*, 50, 217–226.
- Damschroder, L., Aron, D., Keith, R., Kirsh, S., Alexander, J., & Lowery, J. (2009) Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Science*, 4.,50.
- Department of Health (2019). Health in Ireland: Key Trends 2019. Government of Ireland. Retrieved from: https://www.drugsandalcohol.ie/31508/1/Health_in_Ireland-Key_Trends_2019.pdf
- Di Onofrio, V., Gallé, F., Di Dio, M., Belfiore, P., & Liguori, G. (2018). Effects of nutrition motivational intervention in patients affected by type 2 diabetes mellitus: a longitudinal study in Naples, South Italy. *BMC Public Health*, 18(1). doi: 10.1186/s12889-018-6101-6
- Diener, Ed., Richard, E.L., & Shigehiro, O. (2018). Advances and open questions in the Science of Subjective Well-Being. *Collabra: Psychology* 4(1):15.
- Donoghue, O., O'Connell, M., & Kenny, R. (2016). *WELLBEING: Physical Activity, Social Participation and Psychological Health in Irish Adults Aged 50 Years and Older*. Dublin: TILDA.
- Drummond, F.J., Reidy, M., Drennan, J., Murphy, M., Fowler, C., VonWagner, C., Murphy, D., McNamara, A., Ryan, H., Saab, M., O'Mahony, M., & Hegarty, J. (2017). Men's Cancer Prevention and Health Literacy. The MeCHanic Study. Irish Cancer Society.
- Emmering, S., Astroth, K., Woith, W., Dyck, M., & Kim, M. (2018). Social capital, health, health behavior, and utilization of healthcare services among older adults: A conceptual framework. *Nursing Forum*, 53(4), 416-424. doi: 10.1111/nuf.12268
- Fiorillo, L. (2019). Oral Health: The First Step to Well-Being. *Medicina*, 55(10), 676. doi: 10.3390/medicina55100676
- Fish, J., Prichard, I., Ettridge, K., Grunfeld, E., & Wilson, C. (2015). Psychosocial factors that influence men's help-seeking for cancer symptoms: a systematic synthesis of mixed methods research. *Psycho-Oncology*, 24(10), 1222-1232.
- Ford, S., Scholz, B., & Lu, V. (2015). Social shedding: Identification and health of men's sheds users. *Health Psychology*, 34(7), 775-778.
- Friemel, T. (2014). The digital divide has grown old: Determinants of a digital divide among seniors. *New Media & Society*, 18(2), 313-331. doi: 10.1177/1461444814538648

- Garcia, A. L., Reardon, R., Hammond, E., Parrett, A., & Gebbie-Diben, A. (2017). Evaluation of the "Eat Better Feel Better" Cooking Programme to Tackle Barriers to Healthy Eating. *International journal of environmental research and public health*, 14(4), 380.
- Garcia, AA., Villagomez, ET., Brown, SA., Kouzekanani K, & Hanis CL. The Starr County Diabetes Education Study: development of the Spanish-language diabetes knowledge questionnaire. *Diabetes Care*. 2001 Jan;24(1):16-21. doi: 10.2337/diacare.24.1.16.
- Griffith, D., Bruce, M., & Thorpe, R. (2019). Men's Health Equity. doi: 10.4324/9781315167428
- Health Service Executive. (2016) *Healthy Ireland – Men. HI-M 2017 – 2021. National Men's Health Action Plan*. <https://www.hse.ie/eng/services/publications/healthyirelandmen.pdf> (last accessed November 2020).
- Irish Men's Sheds Association (2018). *Guidance for Effective Engagement with Men's Sheds: Training Manual*.
- Joshanloo, M., & Jovanović, V. (2020). The relationship between gender and life satisfaction: analysis across demographic groups and global regions. *Arch Womens Ment Health* 23, 331–338. <https://doi.org/10.1007/s00737-019-00998-w>
- Kane, S.F. (2017). The effects of oral health on systemic health. *General Dentistry* 149 (411), 30-35.
- Kaplan, G. (2018). A Formative Evaluation of the safeTALK Training in Manitoba. https://www.pc.gov.au/__data/assets/pdf_file/0004/250915/sub796-mental-health.pdf.
- Kautzky-Willer, A., Harreiter, J., & Pacini, G. (2016). Sex and Gender Differences in Risk, Pathophysiology and Complications of Type 2 Diabetes Mellitus. *Endocrine reviews*, 37(3), 278–316. <https://doi.org/10.1210/er.2015-1137>
- Kelly, L., Harrison, M., Richardson, N., Carroll, P., Robertson, S., Keohane, A., & Donohoe, A. (2019). Reaching beyond the 'worried well': pre-adoption characteristics of participants in 'Men on the Move', a community-based physical activity programme. *Journal Of Public Health*, 41(2), e192-e202. doi: 10.1093/pubmed/fdy134
- Kelly, L., Harrison, M., Richardson, N., Carroll, P., Robertson, S., Keohane, A., & Donohoe, A. (2018). Reaching beyond the 'worried well': pre-adoption characteristics of participants in 'Men on the Move', a community-based physical activity programme. *Journal Of Public Health*, 41(2), e192-e202. doi: 10.1093/pubmed/fdy134
- King, K., Dow, B., Keogh, L., Feldman, P., Milner, A., & Pierce, D. et al. (2020). "Is Life Worth Living?": The Role of Masculinity in the Way Men Aged Over 80 Talk About Living, Dying, and Suicide. *American Journal Of Men's Health*, 14(5), 155798832096654. doi: 10.1177/1557988320966540
- Kodriati, N., Pursell, L., & Hayati EN. (2018) A scoping review of men, masculinities, and smoking behavior: *The importance of settings*. *Glob Health Action*. 2018;11(sup3):1589763.
- Koorts, H., Eakin, E., Estabrooks, P., Timperio, A., Salmon, J., & Bauman, A. (2018) Implementation and scale up of population physical activity interventions for clinical and community settings: the PRACTIS guide. *International Journal of Behavioral Nutrition and Physical Activity*, 15, 51.

Layte, R., & Banks, J. (2016). Socioeconomic differentials in mortality by cause of death in the Republic of Ireland, 1984-2008. *The European Journal of Public Health*, 26(3), 451-458.

Lefkowich, M. and Richardson, N. (2015) Men's health in alternative spaces: exploring men's sheds in Ireland. *Health Promotion International*, 33, 525–535.

Lefkowich, M., Richardson, N., & Robertson, S. (2017). "If We Want to Get Men in, Then We Need to Ask Men What They Want": Pathways to Effective Health Programing for Men. *American Journal Of Men's Health*, 11(5), 1512-1524.

Lundberg, O., & Manderbacka, K. (1996) Assessing reliability of a measure of self-rated health. *Scandinavian Journal of Social Medicine*, 24, 218–224.

Manthey, J., Shield, K., Rylett, M., Hasan, O., Probst, C., & Rehm, J. (2019). Global alcohol exposure between 1990 and 2017 and forecasts until 2030: a modelling study. *The Lancet*, 393(10190), 2493-2502. doi: 10.1016/s0140-6736(18)32744-2

McGrath, A. (2020) *The Impact of COVID-19 on Irish Men's Sheds Members and Their Sheds*. <https://menssheds.ie/wp-content/uploads/2020/05/Impact-of-Covid-19-on-Irish-Mens-Sheds-AMCGRATH2020.pdf> (last accessed 6 August 2020).

McGrath, A., Murphy, N. and Richardson, N. (2020) The impact of the COVID-19 pandemic on the wellbeing of Irish Men's Shed members. *Health Promotion International*. DOI: 10.1093/heapro/daaa113

McLaren, S. (2018). The Relationship between living alone, sense of belonging, and depressive symptoms among older men: the moderating role of sexual orientation. *Aging & Mental Health*, 24(1), 103-109. doi: 10.1080/13607863.2018.1531373

Milner, A., Shields, M., & King, T. (2019). The Influence of Masculine Norms and Mental Health on Health Literacy Among Men: Evidence From the Ten to Men Study. *American journal of men's health*, 13(5), 1557988319873532. <https://doi.org/10.1177/1557988319873532>

Milton, K., Bull, F., & Bauman, A. (2011) Reliability and validity testing of a single-item physical activity measure. *British Journal of Sports Medicine*, 45, 203–208.

Moylan, M., Carey, L., Blackburn, R., Hayes, R., & Robinson, P. (2013). The Men's Shed: Providing Biopsychosocial and Spiritual Support. *Journal Of Religion And Health*, 54(1), 221-234. doi: 10.1007/s10943-013-9804-0

Nurmi, M. A., Mackenzie, C. S., Roger, K., Reynolds, K., & Urquhart, J. (2018). Older men's perceptions of the need for and access to male-focused community programmes such as Men's Sheds. *Ageing and society*, 38(4), 794–816.

O'Donnell, S., & Richardson, N. (2018). Middle Aged Men and Suicide in Ireland: Men's Health Forum in Ireland Report.

OECD (2013). *OECD Guidelines on Measuring Subjective Well-Being*. Paris: OECD Publishing, doi: 10.1787/9789264191655-en

OECD (2020). *How's Life? 2020: Measuring Well-being*, Paris: OECD Publishing.

Office for National Statistics. (2015) Harmonised Concepts and Questions for Social Data Sources Interim Harmonised Principle: Personal Well-being. Crown, Fareham.

<https://gss.civilservice.gov.uk/wp-content/uploads/2016/03/S14-INTERIM-PRINCIPLE-Personal-Well-being-V1.1-June-16.pdf> (last accessed 6 August 2020).

Olanrewaju, F., Ajayi, L., Loromeke, E., Olanrewaju, A., Allo, T., & Nwannebuife, O. (2019). Masculinity and men's health-seeking behaviour in Nigerian academia. *Cogent Social Sciences*, 5(1). doi: 10.1080/23311886.2019.1682111

Olliffe, J., Rossnagel, E., Bottorff, J., Chambers, S., Caperchione, C., & Rice, S. (2019). Community-based men's health promotion programs: eight lessons learnt and their caveats. *Health Promotion International*, 35(5), 1230-1240. doi: 10.1093/heapro/daz101

Olliffe, J., Rossnagel, E., Kelly, M., Bottorff, J., Seaton, C., & Darroch, F. (2019). Men's health literacy: a review and recommendations. *Health Promotion International*, 35(5), 1037-1051. doi: 10.1093/heapro/daz077

Patrick, S., & Robertson, S. (2016). Mental health and wellbeing: focus on men's health. *British Journal Of Nursing*, 25(21), 1163-1169. doi: 10.12968/bjon.2016.25.21.1163

Peters, D., Adam, T., Alonge, O., Agyepong, I., & Tran, N. (2014). Republished research: Implementation research: what it is and how to do it. *British Journal Of Sports Medicine*, 48(8), 731-736. doi: 10.1136/bmj.f6753

Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A. et al. (2011) Outcomes for implementation research: conceptual distinctions, measurement challenges, and research agenda. *Administration and Policy in Mental Health and Mental Health Services Research*, 38, 65–76.

Proudfoot, J., Fogarty, A. S., McTigue, I., Nathan, S., Whittle, E. L., Christensen, H., Player, M. J., Hadzi-Pavlovic, D., & Wilhelm, K. (2015). Positive strategies men regularly use to prevent and manage depression: a national survey of Australian men. *BMC public health*, 15, 1135

Rapport, F., Clay-Williams, R., Churruca, K., Shih, P., Hogden, A., & Braithwaite, J. (2017). The struggle of translating science into action: Foundational concepts of implementation science. *Journal Of Evaluation In Clinical Practice*, 24(1), 117-126. doi: 10.1111/jep.12741

Resnick, B., & Jenkins, L. (2000) Testing the reliability and validity of the self-efficacy for exercise scale. *Nursing Research*, 49, 154–159.

Richardson N., Dunne N. & Clarke N. (2010). The Larkin Unemployment Centre: Men's Health and Wellbeing Programme Evaluation Report. Centre for Men's Health, IT Carlow.

Richardson, N., Smith, J.A., Robertson, S., & Baker, P. (2019) Global men's health policy. In: Griffith, D.M., Bruce, M.A. and Thorpe, R.J., (eds.) *Men's Health Equity: A Handbook*. Routledge, pp. 203-224. ISBN 9781138052963

Robertson, S, White, A, Gough, B. (2015) *Promoting Mental Health and Wellbeing with Men and Boys: What Works?* Leeds: Centre for Men's Health, Leeds Beckett University

Robertson, S., & Baker, P. (2017). Men and health promotion in the United Kingdom: 20 years further forward? *Health Education Journal*, 76(1), 102-113.

Russell, D. (1996) UCLA Loneliness Scale (Version 3): reliability, validity, and factor structure. *Journal of Personality Assessment*, 66, 20–40.

- Salgado, D. M., Knowlton, A. L., & Johnson, B. L. (2019). Men's health-risk and protective behaviors: The effects of masculinity and masculine norms. *Psychology of Men & Masculinities, 20*(2), 266-275. <http://dx.doi.org/10.1037/men0000211>
- Seidler, Z., Dawes, A., Rice, S., Oliffe, J., & Dhillon, H. (2016). The role of masculinity in men's help-seeking for depression: A systematic review. *Clinical Psychology Review, 49*, 106-118. doi: 10.1016/j.cpr.2016.09.002
- Seifert, A., Cotten, S., & Xie, B. (2020). A Double Burden of Exclusion? Digital and Social Exclusion of Older Adults in Times of COVID-19. *The Journals Of Gerontology: Series B*. doi: 10.1093/geronb/gbaa098
- Seifert, A., Hofer, M., & Rössel, J. (2019): Older adults' perceived sense of social exclusion from the digital world, *Educational Gerontology*, DOI: 10.1080/03601277.2019.1574415
- Singh, A., Peres, M., & Watt, R. (2019). The Relationship between Income and Oral Health: A Critical Review. *Journal Of Dental Research, 98*(8), 853-860. doi: 10.1177/0022034519849557
- Smith, J., Griffith, D., White, A., Baker, P., Watkins, D., Drummond, M., & Semlow, A., 2020. COVID-19, Equity and Men's Health. *International Journal of Mens Social and Community Health, 3*(1), pp.e48-e64.
- Stephens, L., Crawford, D., Thornton, L., Olstad, D., Morgan, P., van Lenthe, F., & Ball, K. (2018). A qualitative study of the drivers of socioeconomic inequalities in men's eating behaviours. *BMC Public Health, 18*(1). doi: 10.1186/s12889-018-6162-6
- Step toe, A., & Fancourt, D. (2019). Leading a meaningful life at older ages and its relationship with social engagement, prosperity, health, biology, and time use. *Proceedings Of The National Academy Of Sciences, 116*(4), 1207-1212. doi: 10.1073/pnas.1814723116
- Stewart-Brown, S., Tennant, A., Tennant, R., Platt, S., Parkinson, J. and Weich, S., 2009. Internal construct validity of the Warwick-Edinburgh Mental Well-being Scale (WEMWBS): a Rasch analysis using data from the Scottish Health Education Population Survey. *Health and Quality of Life Outcomes, 7*(1).
- Taylor, P. J., Kolt, G. S., Vandelanotte, C., Caperchione, C. M., Mummery, W. K., George, E. S., Karunanithi, M., & Noakes, M. J. (2013). A review of the nature and effectiveness of nutrition interventions in adult males--a guide for intervention strategies. *The international journal of behavioral nutrition and physical activity, 10*, 13. <https://doi.org/10.1186/1479-5868-10-13>
- The Department for Digital, Culture, Media and Sport (2017). The Community Life Survey 2016-2017. Retrieved from: <https://www.gov.uk/government/statistics/community-life-survey-2016-17>. Accessed: 25/11/2020
- Thompson, A., Anisimowicz, Y., Miedema, B., Hogg, W., Wodchis, W., & Aubrey-Bassler, K. (2016). The influence of gender and other patient characteristics on health care-seeking behaviour: a QUALICOPC study. *BMC Family Practice, 17*(1). doi: 10.1186/s12875-016-0440-0
- Thorpe, R. J., Jr, & Halkitis, P. N. (2016). Biopsychosocial Determinants of the Health of Boys and Men Across the Lifespan. *Behavioral medicine (Washington, D.C.), 42*(3), 129–131. <https://doi.org/10.1080/08964289.2016.1191231>

Ueshima K, Fujiwara T, Takao S, et al. (2010) Does social capital promote physical activity? A population-based study in Japan. *PLoS ONE*. 2010;5:e12135.

Van Doorn, D., Richardson, N., Meredith, D., McNamara, J., Osborne, A., & Blake, C. (2020). Farmers Have Hearts Cardiovascular Health Programme: Detailed Baseline Report: TEAGASC. Retrieved from: <https://www.teagasc.ie/media/website/publications/2020/Farmers-Have-Hearts---Detailed-Baseline-Report.pdf>

Villalobos, F., Del Pozo, A., Rey-Reñones, C., Granado-Font, E., Sabaté-Lissner, D., Poblet-Calaf, C., Basora, J., Castro, A., & Flores-Mateo, G. (2019). Lay People Training in CPR and in the Use of an Automated External Defibrillator, and Its Social Impact: A Community Health Study. *International journal of environmental research and public health*, 16(16), 2870. <https://doi.org/10.3390/ijerph16162870>

Walli-Attaei, M., Joseph, P., Rosengren, A., Chow, C., Rangarajan, S., & Lear, S. et al. (2020). Variations between women and men in risk factors, treatments, cardiovascular disease incidence, and death in 27 high-income, middle-income, and low-income countries (PURE): a prospective cohort study. *The Lancet*, 396(10244), 97-109. doi: 10.1016/s0140-6736(20)30543-2

Watt, R., Daly, B., Allison, P., Macpherson, L., Venturelli, R., & Listl, S. et al. (2019). Ending the neglect of global oral health: time for radical action. *The Lancet*, 394(10194), 261-272. doi: 10.1016/s0140-6736(19)31133-x

WhatworksWellbeing (2018) How to measure wellbeing: Recommended Questions. <https://measure.whatworkswellbeing.org/homepage/recommended-questions/> (last accessed 25 November 2020)

White, A. (2011). The State of Men's Health in Europe. Extended Report. European Commission; Brussels, Belgium

Wilson, N., & Cordier, R. (2013). A narrative review of Men's Sheds literature: reducing social isolation and promoting men's health and well-being. *Health & Social Care In The Community*, 21(5), 451-463.

World Health Organization (2018) *The health and wellbeing of men in the WHO European Region: better health through a gender approach*. WHO Regional Office for Europe, Copenhagen.

Wu, S., Wang, R., Zhao, Y., Ma, X., Wu, M., & Yan X, et al. (2013). The relationship between self-rated health and objective health status: a population-based study. *BMC Public Health*. 13(320):1–9.

Wyke, S., Hunt, K., Gray, C., Fenwick, E., Bunn, C., & Donnan, P. et al. (2015). Football Fans in Training (FFIT): a randomised controlled trial of a gender-sensitised weight loss and healthy living programme for men – end of study report. *Public Health Research*, 3(2), 1-130.

Yousaf, O., Grunfeld, E., & Hunter, M. (2013). A systematic review of the factors associated with delays in medical and psychological help-seeking among men. *Health Psychology Review*, 9(2), 264-276.

Sheds for Life Impact Report: The Impact of Implementation Phase one on the health and wellbeing outcomes of participants

Prepared by: Aisling McGrath, Dr. Niamh Murphy and Dr. Noel Richardson 2021



ISBN: 978-1-8384706-09

Irish Men's Sheds Association, Irish Farm Centre, Naas Rd, Drimnagh, Dublin 12, D12 YXW5. **Telephone:** 01 891 6150 **Email:** wellbeing@menssheds.ie

Website: www.menssheds.ie | www.malehealth.ie  @IrishSheds

 www.facebook.com/Irishmensshedassociation