exwell MEDICAL

Annual Review 2022

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ExWell Chairman Statement 2022

I am delighted to be able to report on a year of substantial progress for ExWell Medical. We have significantly increased our reach and now operate in 20 centres nationally; we have continued to achieve demonstrable impact with our growing participant base; we have broadened and deepened our trust-based relationships with the many partners who help us achieve our mission, and we have continued to strengthen our financial position.

In the pages that follow Noel will describe in detail what has been achieved. I want to take this opportunity to discuss HOW it has been achieved by elaborating on the values of ExWell. We have put a lot of time and effort into discussing and debating these values and take them very seriously. In truth they have emerged from a combination of observation (on the emerging personality of our organisation) and aspiration (articulating who we want to be and how we want to behave).

1. Patient-centred

We seek to transform the lives of the chronically ill. They are our reason to exist. We approach this in a holistic manner (e.g., striving to deliver social interaction as well as exercise interventions), on an inclusive basis, with a belief that everyone can do some exercise and that it is our job to make this possible. A deep respect for our participants governs all that we do.

2. Can do attitude

ExWell will always find a way. The knee jerk reaction is not why we can't do something, but rather how can we make it happen. This requires resilience on our part to pick ourselves up, dust ourselves off, and try again in the face of any disappointment or challenge. And it involves fostering the creativity / innovation to find another way when necessary.

3. Passion & commitment

ExWell does a different kind of passion. It's not loud, it's not "fill the room" charisma, it's not even smooth. It's the passion that comes from ExWell's noble purpose. We look for it in everyone who joins us, but we recognize it comes in many forms. The common characteristics are the commitment to excellence and the desire to serve. We want everyone who is part of our team to feel pride in what we do, in how we do it, and in how they are playing their part in making the difference. Finally, life is too short. Our passion comes with a sense of energy and fun.

4. Collaboration based on trust

ExWell's instinct has always been to trust, to believe the best of everyone we meet, and to take everyone at face value. This has perhaps hurt us on some occasions in the past, but we are sure that in the long run it serves us best.

The only way to deliver our mission is through collaboration with others and we believe this requires building trust based on:

a. integrity (we tell the truth)
b. reliability (we do what we say we will do)
c. a win / win approach (we strive for mutual benefit)
d. doing what is right (we behave ethically at all times)

We will seek out those who share these characteristics.

5. Pursuit of truth, not ego

ExWell has a big heart, and a big head. We are fact-based, research/data-driven and focused on objectively assessing our impact. This means we have nowhere to hide. Most of us have a scientific background, so the pursuit of the truth in relation to any issue, once done honestly and respectfully, should suit us. We have no place for "politics", we have no room for pursuit of ego.

We believe in the hierarchy of ideas and the obligation to dissent and to be dissented against, because out of disagreement comes insight.

6. We are a team

This means we commit to each other to give honesty of effort, be the best we can be, to act with courage, and to look after each other.

We are happy to hold ourselves accountable to these values.

During the year, three members rotated off the board/advisory group. Catherine McGuigan, Niall Moyna and Audrey McKeown. I want to acknowledge their huge contribution over their time with us. I am delighted to welcome our new Board members (Anne Dermody, Grainne McMorrow and Professor Susan Smith). We have been very fortunate to attract an incredible group of experts to our Board and Advisory Group, who give freely and generously of their time, in order to help Noel and the team achieve ExWell's full potential.

I want to finish by expressing my appreciation to Noel, Danny and the whole team for what they have achieved over the last 12 months and indeed since we all started on this journey. We all are looking forward with excitement and anticipation to the year ahead.

I would also like to congratulate ExWell's Founder and CEO Dr Noel McCaffrey who was named one of the United Nations 'Healthy Ageing 50', a group of 50 truly inspirational individuals from around the world recognised as outstanding leaders with extraordinary achievements in the field of Exercise Medicine. Noel is Ireland's only awardee. From myself and the ExWell team, we congratulate Noel on achieving such a prestigious accolade.

Lar Bradshaw, Chairperson, ExWell Medical

ExWell CEO Statement 2022

ExWell's performance in 2022 fills me with satisfaction and pride because of a job well done by everyone on the team. I am also very excited and full of hope and optimism for the future.

ExWell has a noble mission, and our work is based on five key elements.

1. Exercise classes

The first is the exercise classes, both the face-to-face group classes and the on-line offering. Led by the delivery team, we have set about bringing more consistency to the way we teach classes, without losing the spark that comes from the unique personality and creativity in different staff members. We want to foster and celebrate this aspect of ExWell.

It is very important to remember that every single participant has an incredible story to tell and an inspiring journey to share. It can be easy to lose sight of the extra-ordinary transformation in people that we are witnessing every day. This achievement by participants can be lost in the crowd and can become hidden in the overall excitement, buzz and 'chaos' of a large class. Remember how astonished we all were when we stood back and realised that Irene, a lady waiting for a lung transplant who has been with us for 6 years, was actually *running* in the class, pulling her oxygen trolley behind her. This was quite incredible to see. Other participants have literally thrown away walking sticks or have experienced the joy of running again for the first time in 30 years. With everything else that is going on in ExWell, we must never lose sight of these amazing transformations that are happening before us.

2. Social interaction

The second key element is social interaction which is beautiful, informal and unplanned. This is the essence of ExWell. As we know, for some people the ExWell class is the only time they leave their homes. It is a place where they feel safe and where new friendships are formed and old friendships are rekindled. The ExWell community welcomes everyone.

3. Impact measurement

Impact measurement is the third element. We are delighted to be able to say that our impact evidence is growing all the time. We know from our testing and retesting that our programme works, that it works quickly, that the changes seen are of a magnitude that make a practical and meaningful difference to participants' daily lives and that those who do the best in relative terms are actually those who start off the weakest (the very people who may lack confidence to try the programme *because* they are the weakest).

4. Research

The fourth element is research. We want to contribute to the body of knowledge that will help ExWell and others to do a better job of treating chronic illness in community settings through exercise programmes. We now have a new Research Committee, chaired by Professor Susan Smith, and we have ambitious plans to become a very productive research organisation. This process is underway.

5. Participant engagement and retention

The fifth very important aspect of ExWell is trying to improve our performance in the area of participant engagement and retention. All public health programmes face the big challenge of encouraging participants to try the intervention and to not drop out. ExWell is no different. Our participation rate at 12 weeks after starting with ExWell is running at about 60%, which is comparable with rates seen in other community-based rehabilitation programmes nationally and internationally. Nevertheless, we want to work very hard to maximise engagement and adherence. This challenge has become a focus of our research, and we hope to design a strategy to maximise participant engagement (having been referred) and to minimise dropout (having started the programme).

ExWell continued a trajectory of rapid growth in 2022. We finished 2021 operating in 11 centres (6 in Dublin and 5 outside Dublin). By the end of 2022 we had 20 centres, hosting over 1600 weekly participant visits. This number of centres was a little short of our 2022 target, but we have solid plans to open between 8 and 12 new centres by the end of 2023 (Table 1). Our staff numbers have increased in parallel, and this will continue. Figure 1, on the following page, outlines the planned trajectory of staff numbers, centres and participant visits into 2023. In addition to our on-site classes, our online offering has progressed to the stage of trialling among ExWell participants, with a view to a formal launch in 2023.

Table 1. Centres operating by end of 2022 and new centres planned for 2023.

Current Centres 2022 (20)		**Planned New Centres 2023 (12)**	
Dublin (12)	**Outside Dublin (8)**	**Dublin (6)**	**Outside Dublin (6)**
Clontarf	Carlow	Coolock	Clara
Ballymun	Kilkenny	Kilbarrack	Mullingar
Ballybough	Waterford	Kilmacud	Longford
Mulhuddart	Tullamore	Ballyfermot	Turloughmore Galway
Abbotstown	Portlaoise	Ballyboden	Athlone (second site)
Tallaght	Athlone	Mountjoy Prison	
Kiltipper	Sligo		
Clondalkin	Naas		
Loughlinstown			
Sandyford			
Swords			
The Naul, Balbriggan			

ExWell's continued work with the HSE has been particularly important. Our biggest success in 2022 was achieving a 2-year HSE funding arrangement for the Tallaght / Naas area (CHO 7). We also secured a new HSE funding arrangement for two new centres in North Dublin (CHO 9) in Coolock and Kilbarrack, to start in early 2023. In addition, the funding of the midlands programme in Athlone, Portlaoise and Tullamore, continued in 2022. Building closer links with the HSE will be the bedrock of future ExWell success, which to-date has been very encouraging.

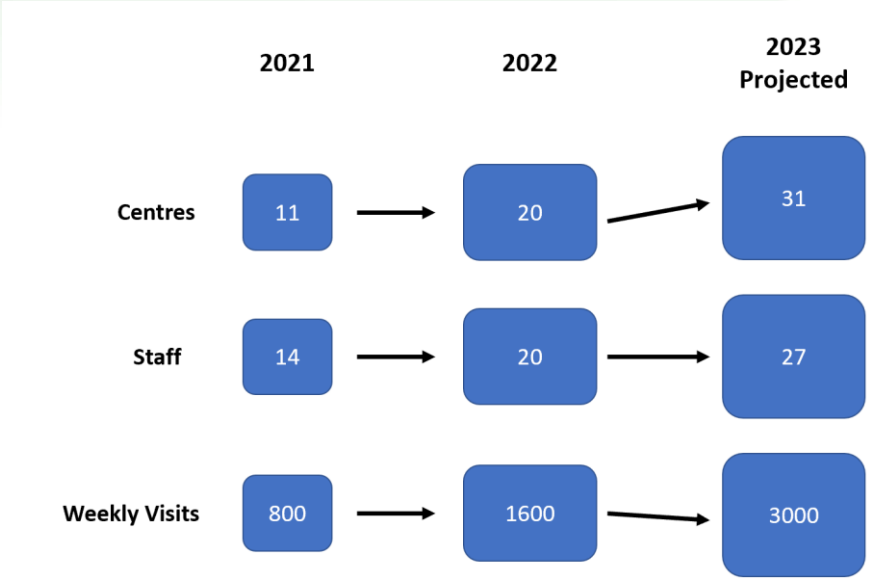


Figure 1 Number of centres, staff and weekly visits for 2021 and 2022 and projections for 2023

Our experience with other areas of activity apart from the core exercise classes has been very interesting and we face some key strategic decisions. For example, we have a great deal to offer the Nursing Home / Step Down facility sector, from which there is strong interest in ExWell. But delivering the ExWell programme in these facilities is a very different undertaking compared with group exercise classes in community settings. The differences include higher participant frailty levels, practical logistical issues in getting nursing home residents to a common venue within the facility at a class time, greater difficulty in carrying out testing and different expectation levels among participants and their families.

In 2022 we completed a very successful pilot programme aimed at bringing the ExWell programme to Home Care service users. The rationale was that this is a highly vulnerable group which is susceptible to the life-transforming and very expensive transitions of becoming bed-bound or hospitalised or moving permanently into Nursing Homes. Preventing or deferring these transitions, through enhanced physical mobility and confidence, would have major personal and societal benefit. The participants would be facilitated and encouraged to engage in physical activity by their home care staff who would receive appropriate training and support. The next stage in this project is to generate an approved training module for Home Care staff to be included in their formal training which we aim to achieve in 2023.

I feel both grateful and privileged to work with such a wonderful ExWell team, led by our Head of Operations Danny Fagan. They all come to work every day bringing great energy, good humour, talent and genuine compassion for the participants. We are working hard to make ExWell an attractive and fulfilling workplace.

Finally, I want to sincerely thank our Board, and Advisory Group, who take a strong hands-on role in providing advice, guidance and direction to myself and to other members of the ExWell team. This is critically important in helping us to steer the ExWell ship in the right direction. They are the hidden strength of ExWell.

For myself, no form of work could be more fulfilling than ExWell. I love every minute of it. I hope our journey forward together continues to be successful and that in time we will be celebrating having ExWell in every community in Ireland.

Dr Noel McCaffrey, CEO, ExWell Medical

Financial Review

In 2022 ExWell Medical had an income of €1,089,884 which compared to an income of €845,321 in 2021. Grants and Sponsorship accounted for 13% of our income and they are a great support to the work that we do. A Grant funded by Rethink Ireland was awarded to ExWell Medical through the Social Innovation Fund in 2018 for a three-year period. This funding amounted to €480,000 and other non-financial supports over a three-year period and €80,000 was reflected in this year's accounts as the grant finished in June 2022. In 2022 Novartis awarded €40,000 to sponsor individual programmes.

Figure 2 illustrates the income sources from 2022. Income from participants amounted to €205,786. The majority of income to support class delivery was received from the Health Service Executive (HSE), amounting to €496,548. Other Programme income of €145,265 was received from Dublin City Council and Bartra/Belmont Healthcare for the delivery of our programme at multiple locations.

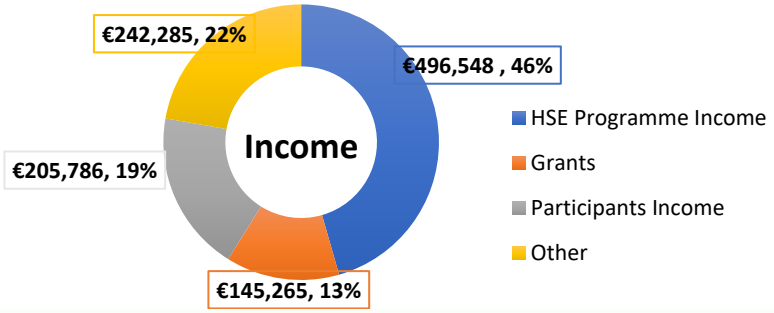


Figure 2. Income sources 2022

ExWell Medical is committed to openness and transparency both within the organisation and externally with donors, funders, participants and the public. The annual financial statements are prepared in accordance with the Companies Act 2014 and FRS 102.

Expenditure in 2022 (Figure 3) was €892,5929 which was up from €572,639 in 2021. Payroll costs amounted to €656,908 (74%). This created a net surplus for the year on the income and expenditure account of €197,832, (2021 €272,682) giving rise to a tax liability of €24,729. In 2022 one staff member received salaries of more than €60,000 and there were no pension contributions made.

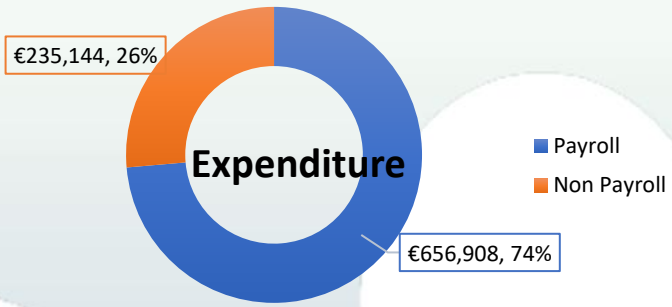


Figure 3. ExWell Expenditure 2022

ExWell Medical accounts are audited by Copsey Murray Accountants each year and the financial year runs from 1 January to 31 December. The extracts above are taken from the audited accounts for the year ending 31 December 2022.

Brendan Gillen, Chief Financial Officer

Summary Infographics

THE GROWTH

20	Full-time ExWell staff	↑ 6 compared to 2021
1600	**Weekly visits across all ExWell Centres**	↑ **800** compared to 2021
20	ExWell venues operating by end of 2022	↑ 9 compared to 2021

Mission

To transform the lives of people and families living with chronic illness, through community-based, medically-led exercise programmes.

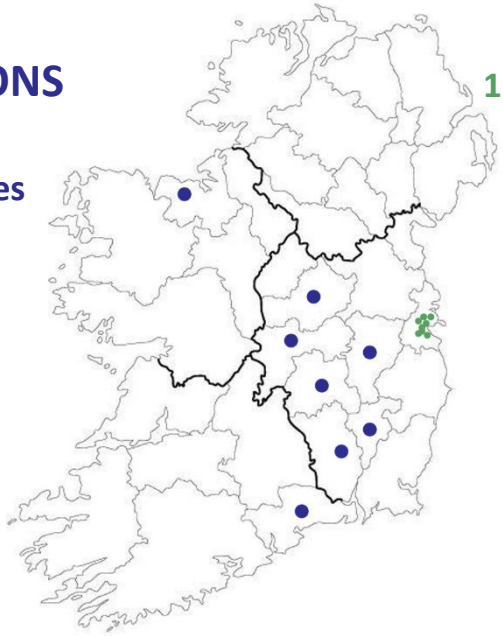
Vision

To bring the ExWell service to every community in Ireland and to make it accessible to anyone who would benefit from it.

2022 LOCATIONS

8 Non-Dublin Centres

- Carlow
- Kilkenny
- Waterford
- Tullamore
- Portlaoise
- Athlone
- Sligo
- Naas



12 Dublin Centres

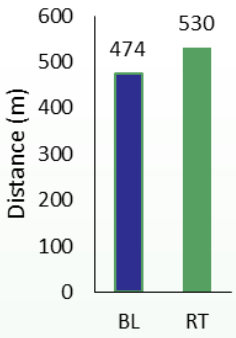
- Clontarf
- Ballymun
- Ballybough
- Mulhuddart
- Abbotstown
- Tallaght
- Kiltipper
- Clondalkin
- Loughlinstown
- Sandyford
- Swords
- The Naul, Balbriggan

THE IMPACT

6 Minute Timed Trial

Measure of **aerobic fitness**

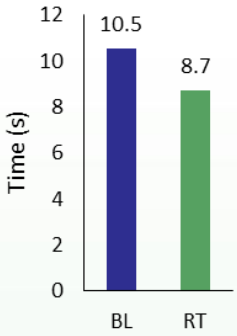
↑12% (Average of 56 meters further, N=725)



5 Rep Sit-to-Stand

Measure of **lower body strength**

↑ 17% (Average of 1.8 seconds faster, N=735)

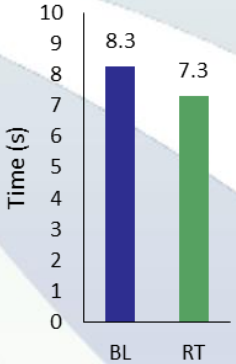


*Note: **BL**; Baseline scores, **RT**; Retest scores

Timed Up and Go

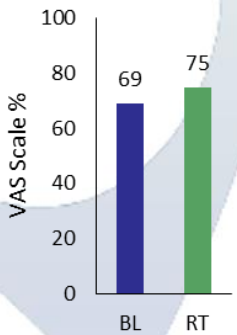
Measure of **balance, coordination, risk of falls**

↑ 12% (Average of 1.0 second faster, N=661)



Self-Rated Health

↑ 6% (Improvement on average, N=467)



** Test results compare most recent retest in 2022 to each participant's baseline scores

THE FEEDBACK

"Since I joined ExWell I am so much fitter and stronger. Joining ExWell is one of the best things I've done for myself in years. It has had a positive effect on my mind and body."

↑ STRENGTH

SOCIAL ENGAGEMENT

All exercises are adaptable to accommodate the different mobility levels in the room and the after-class cup of tea is a chance for bonding and banter with the other classmates. I highly recommend."

"I have secondary progressive MS and was referred to ExWell to help me improve physical strength. My aim on joining was frankly to delay the need for having to use a wheelchair. 5 years later I am still mobile."

↑ PHYSICAL HEALTH

"Before I found it very hard to walk with my breathing. Could not do much at home. Since I started, my breathing has got a lot better, I can walk for longer, do my housework and change the bed. The difference!"

"I joined ExWell after breast cancer surgery. It was the best thing I ever did and (after treatment) the single most important step I took in my recovery from surgery and getting back to normal."

FUN & ENJOYMENT

"All along, the excellent staff have encouraged and given me the confidence to do the best I can during each session."

↑ CONFIDENCE

"I was physically and emotionally weak when I started the programme. However, after almost two months of participating I can confidently say that I feel much improved. My strength and balance have improved as has my self-confidence".

Overview of ExWell Centres

The ExWell Medical headquarters are currently based in the Irish Wheelchair Association in Clontarf. By the end of 2022, ExWell offered classes across 20 venues throughout the country. There were previously 8 centres in the Dublin region including Clontarf, Tallaght, Kiltipper, Clondalkin, Loughlinstown, Abbotstown, Ballybough and Balbriggan. Four new centres were added to the Dublin region in 2022, namely, Swords, Sandyford, Ballymun and Mulhuddart.

Prior to 2022, there were only three centres outside Dublin including Athlone, Waterford and Kilkenny. The number of regional centres more than doubled during 2022 with the addition of 5 new ExWell venues at Tullamore, Portlaoise, Naas, Sligo and Carlow. More detailed overviews for each centre are included in Appendix A.

In addition to increasing the number of ExWell locations, attendance rates at all classes grew steadily throughout the year. Figure 4 illustrates the growth in average attendance each month from 1000 visits in July to 1650 in November 2022. Attendance rates often drop in December due to holidays and adverse weather conditions that can make it difficult for some people to attend classes. Attendance was not formally monitored at all centres prior to July, however, enhanced surveillance of attendance rates and identifying reasons for drop-out is now a key focus to ensure ExWell can support those who are at risk of non-engagement or early dropout.

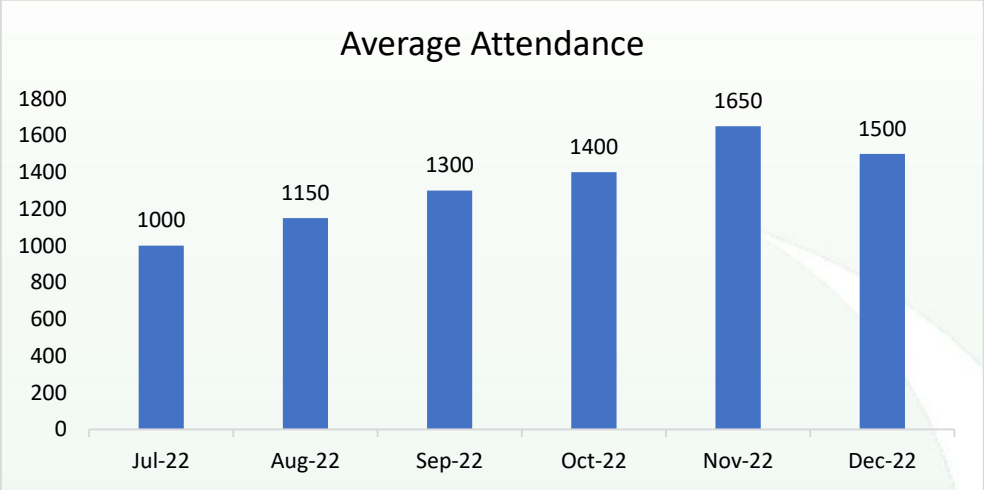


Figure 4. Average weekly attendance across all ExWell centres from July to December 2022

Funding

ExWell would love to eventually be able to offer fully funded classes at all venues for a minimum of 12 weeks. Currently, there are a mix of funded, part funded and non-funded classes. The opportunity to avail of funded and part-funded classes is with thanks to the various funding partners who support and believe in ExWell's mission and vision.

The Dublin Midlands Hospital Group initially funded a six-month pilot programme at Athlone Regional Sports Centre in 2021. Following on from its success, they provided additional funding to not only continue in Athlone but also to expand the service to Tullamore and Portlaoise in 2022. Their support has been invaluable in ensuring that people across the Midlands can avail of the ExWell service without cost being a barrier.

Classes in Tallaght Leisure Centre, Thomas Davis GAA, Clondalkin Leisure Centre and Monread Community Centre are also funded by the HSE. From 2023 new participants starting at these four venues will be offered the

opportunity to participate in a research project investigating the impact of community-based exercise classes on various aspects of health and wellness for those living with chronic illness. The research will be conducted within CHO 7 by researchers and medical professionals associated with Trinity College Dublin.

Active Cities Dublin joined forces with ExWell and ran a pilot programme between May and December 2022. This initiative, supported by four local authorities, Dublin City Council, Fingal County Council, South Dublin County Council and Dún Laoghaire Rathdown County Council, provided funding for the delivery of three 8-week blocks of classes at Clondalkin, Ballymun, Swords and Sandyford. The classes at Rowlagh Community Centre, Clondalkin discontinued after the first block due to the introduction of HSE funded classes at Clondalkin Leisure Centre. The remaining three venues gained in popularity over each block and hope to continue delivering classes into 2023 and beyond.

Various centres offered classes at a reduced cost thanks to support from various bodies who provided things like facility access or partly covered fees. These included Mulhuddart who were supported by Riverside Medical and Fingal County Sports Partnership, Ballybough with classes subsidised by the North East Inner City Project and The Naul, Balbriggan who were provided facility access by The Naul GAA club and part funding from the Yew Medical Centre. Sport Ireland provided funding support to the Carlow centre which allowed people with medical cards to access the classes at a reduced cost.

The University of Pittsburgh Medical Centre (UPMC) Ireland are a fantastic regional partner of ExWell who offer ExWell classes in the Southeast of Ireland in Kilkenny and Waterford. ExWell support the UPMC teams with referrals and inductions, whilst UPMC staff manage and deliver the classes. UPMC are expanding across Ireland, and with that, hope to add more ExWell classes at new venues in the coming years. These classes did not receive any funding in 2022, similar to Clontarf, Loughlinstown, Abbotstown and Sligo.

Volunteer and Placement Opportunities at ExWell Classes

ExWell offers a unique opportunity for students studying an array Sport and Health Science courses to avail of practical, hands-on experience during their studies. ExWell have welcomed students from various colleges and universities including Dublin City University, Technological University of Dublin, Technological University of the Shannon, Atlantic Technological University, South East Technological University and University College Dublin. These placement and volunteer opportunities have led to full time employment at ExWell for many new graduates. Not only do the students benefit from working with participants and ExWell employees, ExWell employees and the participants also gain from the individuality that students bring to the classes. New ideas and perspectives are encouraged and welcomed to ensure that the ExWell service is ever improving and remains interesting, purposeful and exciting for all involved.

Class Atmosphere and Social Engagement

Over time, each ExWell centre develops a unique family like atmosphere. Instructors play music throughout the class which provides a greater sense of fun and enjoyment whilst doing the exercise. All participants are encouraged to work at their own pace. Every participant is there to improve their own health and wellbeing through exercise and with that common goal comes a unique shared experience and global understanding among those attending the classes. Despite the seriousness of the underlying reasons for attending the ExWell classes, fun, enjoyment and friendships are often cited as the key factors that keep participants returning to classes each week.

ExWell are incredibly proud of the new friendships and bonds that have formed throughout 2022. Participants regularly comment on how important the social engagement is and many catch up after class for a social cuppa and a chat. Some venues have on-site cafes such as the Cúl Brew café at Thomas Davis GAA, whilst other venues have onsite kitchens where participants can make their own tea or coffee at the end of their hour-long class. Staff working at the various community, leisure and GAA centres that host the ExWell classes have also contributed massively to the special relationships that have developed, and their support and kindness is highly valued by ExWell. We look forward to seeing what 2023 has in store.

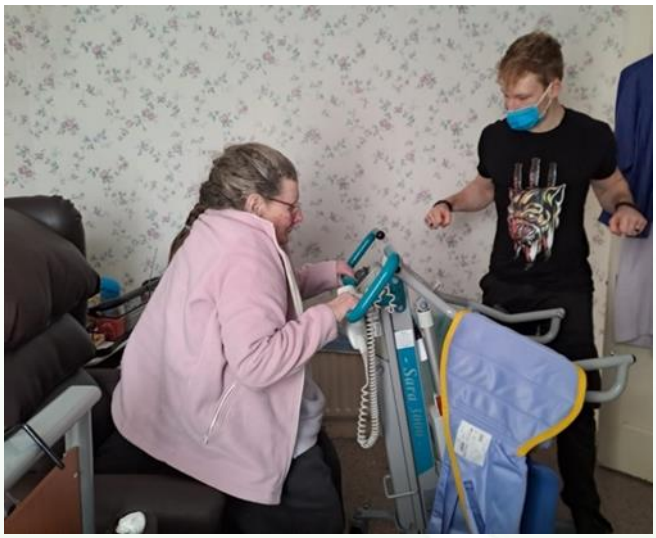
Other ExWell Programmes

In addition to the in-person centre-based classes mentioned above, ExWell have engaged in various other projects including the Trinity Community Care programme, various cancer-related projects, an Irish Heart Foundation Online Heart Failure Programme and the St Anne's Parks project. Each of these are discussed below.

Trinity Community Care

The ExWell Medical Pilot Programme with Trinity Community Care (TCC) began in February 2022 with 50 participants completing their home-induction assessment. The programme ran for a total of 9 months and involved home-care service users of TCC receiving 30-minute exercise sessions twice weekly. This programme was set up as a pilot project funded by the HSE to support elderly, frail people with chronic illness to maintain an independent lifestyle in their own homes. The programme was unique for ExWell in that it was delivered by TCC staff who were trained and supported by ExWell staff and provided with resource materials including the 'ExWell Home Exercise Booklet'.

The pilot project came to an end in December 2022 and positive results were observed across four outcome measures. The time taken to complete the 5 rep sit-to-stand, timed up and go and dual task decreased at retest compared to baseline. Participants' self-rated health also significantly improved from baseline to retest.



In 2023, we hope to secure funding to expand the programme and build on the success of the pilot by developing a sustainable, expanded ExWell service in association with TCC. We hope to expand the service across the full TCC service user base, provide more comprehensive training and supports for nursing staff alongside more extensive oversight from ExWell staff.

ExWell Services to Support Cancer Patients

Exercise can have a profoundly positive impact on those living with and beyond cancer and it is our aim to empower patients to navigate the difficult circumstances of their treatment journey and increase exercise self-efficacy to assist with treatment and improve long-term health management.

This would not be possible without the support of our various partners, funders and those who raise awareness and refer patients to our service. During 2022, ExWell received funding support from Novartis and the Mater foundation for cancer-related projects. In addition, a large number of referrals were received from the breast cancer service in the Mater, primarily the oncology clinic run by Prof Cathy Kelly. Many of our Cancer Prepare referrals in 2022 came from Dr Murphy in Mercy University Hospital Cork.

Cancer participants often choose to engage in a hybrid approach with ExWell. This includes attending the group-based onsite classes and also online classes from their own home.

The recent addition of the Levels Programme, mentioned previously, offers greater scalability to engage in the online option whilst also supporting progression as participants improve their fitness over time. The main options for cancer patients include the following:

a. **Move On**, a 12-week programme which helps cancer patients to return to their pre-cancer lifestyle. Move On was initially conceived for patients who had completed their primary treatment but has evolved over the years to accommodate more complex cases, including patients receiving chemo-radiotherapy.
b. **Cancer Prepare**, which offers exercise support (supervised and online) to patients preparing for curative cancer surgery. This programme gives patients "something to do" while awaiting surgery, improves their physical and psychological readiness for surgery and places them in an environment of intense peer support and allows them to have a role in controlling their health while undergoing cancer treatment.
c. **Living Life**, which provides a gentler programme for patients with metastatic and recurrent cancer. The main focus is enjoyment and working with the patients to deliver whatever exercise experience they want.
d. **Mainstream ExWell**, which recognises the benefit of the normal ExWell chronic illness rehab programme to patients who either have forms of cancer that may behave like chronic illnesses (such as myeloma and prostate cancer) or are on long term cancer medication which have cardiometabolic side effects. The risks associated with these medications can be dramatically reduced through lifestyle changes built on regular exercise.
e. **CanTeen programme**, which is a recent pilot that offered a hybrid (online and face to face) programme to adolescent survivors of childhood cancer.

CanTeen (Teen Cancer Project)

In collaboration with colleagues from the Technological University of the Shannon, Athlone, and CanTeen Ireland (an advocacy and support group for survivors of childhood and adolescent cancer), ExWell conducted a pilot 12-week exercise programme for survivors of childhood and adolescence cancer (SCAC). The project took place between November 2021 and March 2022. The aim was to evaluate the feasibility and impact of a 12-week group-based exercise program and involved three phases.

Phase one was the **intervention design** and involved interviews and focus groups with SCAC, their parents or guardians and other key stakeholders to accumulate advice and feedback on the most appropriate intervention design. In addition, a review of literature was conducted on previous interventions for SCAC, and findings were used to inform the design of the pilot exercise program.

Phase two involved the **delivery of the pilot 12-week group exercise programme**. A mixed online and in-person delivery model was utilised across the 12 weeks. Physical functioning, physical activity levels and health-related quality of life were assessed at baseline, 6 weeks and 12 weeks.

Phase three entailed a **programme review**. All participants and exercise instructors involved in the study completed a review survey upon completion of the intervention. The purpose of the review survey was to learn about the participants' experiences of the programme and assess any factors that may improve the programme in the future.

The pilot programme was deemed a success. A total of 11 participants completed the programme, and improvements were observed in physical functioning, health-related quality of life, confidence and physical activity levels by the end of the 12 weeks. A report was generated internally within ExWell outlining the results of the study in detail. As a result of the positive findings and feedback from the pilot programme, ExWell Medical has continued to work with CanTeen delivering regular zoom and in-person classes to this unique cohort.

In addition to our community-based and online exercise classes we offer targeted support and communication to patients living with cancer where required. We have a weekly zoom induction for those joining us remotely and a monthly support zoom where patients can connect and discuss progress, thoughts and concerns with each other and exercise professionals.

Throughout 2022, there were 184 cancer patients referred to ExWell. Of those, 35 were referred through the Mater breast cancer pilot programme, 22 through Cancer Prepare and 4 of these referrals were through the PANO trial.

In relation to the benefits of exercise in cancer treatment, ExWell has completed (or is currently engaged in) a substantial body of research, briefly summarised as follows:

a. In lung cancer patients, we have shown that pre-operative exercise achieves a 12.5% increase in fitness and a 15% increase in health-related quality of life.

b. In colo-rectal and prostate cancer patients taking part in an exercise programme with ExWell, a 12% increase in fitness and a 10% increase in quality of life occurred over a period of just 3 weeks.

c. The same prostate cancer cohort reported that the 3-week programme provided social connectedness and a sense of optimism and was a stepping stone on the road to recovery.

d. A major randomised controlled trial (RCT) has just been completed in collaboration with Beaumont Hospital examining the impact of exercise on quality of life, fitness and perioperative morbidity in patients undergoing surgery for oesophageal cancer.

e. A new RCT is commencing, in collaboration with the Mater, which will examine the impact of exercise on wellness and other outcomes in patients with peritoneal malignancy.

"At my first ExWell class a year ago I felt overwhelmed & sad due to my diagnosis. I didn't feel like exercising, and felt I was worst in the class, but I was encouraged from the start. Just knowing that taking part in the class assists my medical treatment and reduces its side effects is huge. It gives me back some sense of control. Most of us attending are in the same boat and can encourage each other and have a laugh too. Over time my fitness & confidence has increased. I'd be lost without the routine and social outlet while being off work too to be honest. I never regret a class!!"
Clare, Cancer Patient

Irish Heart Foundation Online Heart Failure Programme

A 12-week pilot exercise programme was delivered online for heart failure patients between February and May 2022 in partnership with the Irish Heart Foundation (IHF). Participants were referred to the programme by the IHF and all came from the Cork region. Classes were delivered twice weekly over the 12 weeks.

For the first eight weeks, an average of eight participants attended each class. This fell to five per class for the final 4 weeks. Improvements were seen in aerobic fitness and strength. A follow-up programme has been agreed for 2023.

ExWell Medical and Bartra Healthcare

Towards the end of 2021, ExWell partnered with Bartra Healthcare to deliver a 3-month pilot project at Beaumont Lodge Transitional Care Unit as part of their reablement programme. Due to the success of the pilot, classes at Beaumont Lodge continued into 2022.

Beaumont Lodge is a Transitional Care Unit within the Bartra Healthcare network, specialising in transitional as well as respite care for patients, mainly elderly, with diverse clinical profiles. Most Beaumont Lodge residents are challenged by a combination chronic illness or frailty or a combination of both, while some are navigating a post-operative pathway with a good prospect of full recovery. Others present a longer-term care challenge because of cognitive decline and dementia. A priority focus in Beaumont Lodge, for suitable residents, is on reablement with a view to facilitating onward discharge to home or other care facilities. In this context every patient receives a physiotherapy-guided personal programme and is offered numerous social engagement and recreational options by the Activities staff to suit their individual preferences.

ExWell and the Activities Team at Beaumont Lodge aimed to build a culture in which exercise participation was viewed as a normal and expected component of the Bartra experience. All residents were encouraged to take part in the classes twice a week and were reassured that the programme was enjoyable, beneficial and suitable for all abilities.

The St Anne's Park Pilot Project

ExWell has an excellent relationship with Dublin City Council (DCC) and is currently running DCC-supported projects in Ballybough and Ballymun. Following on from the successful introduction of outdoor ExWell classes, it was proposed that we would examine the possibility of a parks project as one element of the ExWell roll-out. It was felt this could also contribute positively to the Active Cities agenda. It was agreed that ExWell would run a pilot project in St Anne's Park and that the experience gained would be the basis for considering further plans.

The specific aims of the pilot were as follows:

1. Feasibility Assessment:

We wanted to understand if the practical challenges of delivering classes in St Anne's could be addressed to the satisfaction of ExWell and DCC. These challenges included:

- Convenient parking for participants
- Access to toilets
- Identification of a suitable exercise area
- Availability of storage for ExWell's equipment
- Opportunity for participants to socialise before or after classes

2. Participant Acceptability and Uptake:

While we felt the St Annes classes would be popular, there was a risk that participants might feel self-conscious and 'on show'.

3. Public Awareness and Feedback

One of the potential benefits of conducting ExWell classes in public parks is to increase awareness of the programme and to normalise (in the public eye) participation in physical activity by all members of the community, including those with chronic illness. We wanted to informally gauge the level of interest shown by passers-by and their general opinion about the project.

How It Went

The park permit was approved and received with ease. The planning phase and delivery phase both worked well. There was no additional training required for the delivery staff given that all staff were current employees of ExWell. Likewise, no additional marketing / promotion of the programme was required as the participants involved were all current ExWell participants.

Feasibility was demonstrated. Participants enjoyed the experience. They had access to parking, toilet facilities and most importantly the café for their post-class cuppa (a key social benefit of our programme). ExWell Management was fully supported by the DCC Parks Department to allow the delivery team to store some light exercise equipment and some chairs. This was a great help as it meant transport of equipment was not needed daily.

ExWell participants enjoyed the outdoor option and have since requested an outdoor option on a more regular basis. Remarkably there were no rainy days that caused cancellations in 2022. Some participants found the exposure to other park users difficult in the beginning as bystanders often watched the class in action. Positive feedback included enjoying the fresh cooler outdoor air (a real plus for those living with pulmonary disease) and the variety of moving to different parts of the park.

ExWell Research

In 2022, ExWell Medical made significant developments in the research strand of the programme. A variety of different aspects and sub-groups were explored, and some exciting new collaborations were established. An overview of the primary research activities and milestones achieved this year are presented below.

CHO7 Project

The CHO7 project is an extensive research activity which ExWell has undertaken in collaboration with an expert team of researchers and medical professionals from Trinity College Dublin (TCD). Professor Susan Smith and Dr Muireann O'Shea are the primary collaborators involved in this large-scale study. Programme lead in Dublin West, Aodhaghan O'Deasmhunaigh is the leading ExWell team member of this project. The aim of the project is to evaluate the processes and impact of the ExWell programme delivered through CHO7 and to examine the feasibility of future research determining clinical and cost effectiveness. A unique factor included in this study will be the ability to capture healthcare utilisation through collaboration with a number of referring GP practices.

Between September and December 2022, the research team involved in this project met on a number of occasions to establish the main study design. A TCD based ethics application was completed within this timeframe. Ethical approval for this study was achieved in December 2022 to allow data collection to commence in January 2023.

Inflammatory Bowel Disease (IBD) Project

The IBD project is a collaboration with Dr Neasa McGettigan and Dr Karen Boland from Beaumont Hospital. The aim of this project is to investigate the impact of a physician-led exercise programme on quality of life, muscle mass and clinical response in IBD patients during induction with biologic therapy. Participants recruited to the exercise component of this study are referred to the standard ExWell service for a total of 20 weeks. Recruitment for this project began in September 2022 and there are currently 10 participants attending the programme. The protocol for this study was published in 2020 (McGettigan et al., 2022). Recruitment is expected to be completed for this project in 2023.

Levels Project

The Levels project is a new service offering online ExWell classes where individuals start at a level determined by their baseline test results. Participants can progress through the levels over time depending on their feedback after each class. Significant developments were achieved within the levels project in 2022. Through extensive work led by Dr Fiona Skelly (ExWell Medical) and Niamh Crowley (external software developer), the online platform through which this project will be hosted has been designed and will be ready to launch in 2023 (figures 5 and 6). The aim of the next phase of this project is to recruit 50 participants to trial the online levels service.

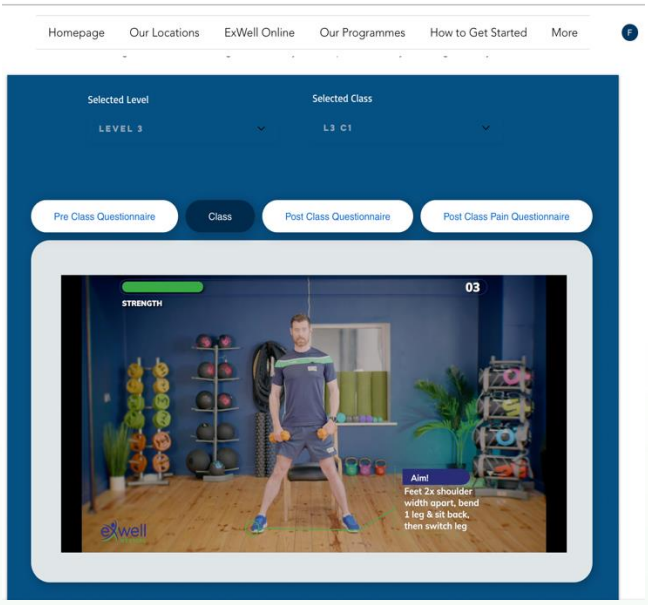


Figure 5. Levels Platform – ExWell Class

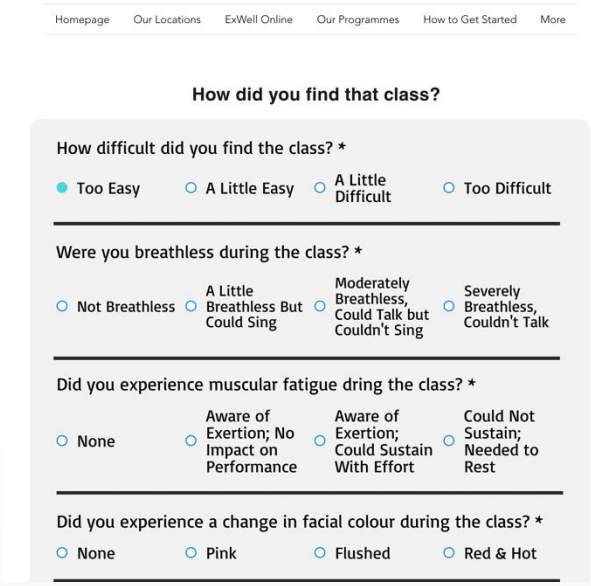


Figure 6. Levels Platform – Post Class Questionnaire

Final Year Projects

In 2022, five final year projects were completed by students from the Technological University of the Shannon, Athlone. Titles and authors are listed below:

- The Impact of Community-Based Exercise Rehabilitation on Chronic Pain, by Bethan Travers
- ExWell Medical: Reasons for Dropout from Community-Based Exercise Rehabilitation for Individuals with Chronic Health Disease, by Emma Smyth
- The Prevalence of musculoskeletal conditions in group community-based exercise rehabilitation and the effectiveness and feasibility of conducting musculoskeletal pre-exercise screening, by Sasha Ricken O'Leary
- An investigation into non uptake and dropout from a clinical exercise programme for breast cancer in Ireland, by Sean Moyles
- ExWell Medical: The preferences and opinions of young adults with chronic health conditions for participation in community-based exercise rehabilitation, by Shannon Quinn

Research Committee

A new research committee was set up to provide clear leadership, guidelines, targets and pathways that will govern how research projects are selected and conducted for ExWell Medical. The committee members include Professor Susan Smith, Dr Noel McCaffrey, Professor Sean Kennelly, Professor Paul McLoughlin, Dr Fiona Skelly (PhD) and Dr Lisa Kelly (PhD). The research vision is to design, conduct, analyse and disseminate research that will inform best practice in exercise-based chronic illness rehabilitation for people in community settings.

Impact

When participants are inducted into the ExWell programme, they complete various tests to assess physical functioning. These include the 6-minute timed trial, 5 rep sit-to-stand, timed up and go and the timed up and go dual task. The handgrip strength test was introduced to some centres towards the end of 2022. Participants are also asked to rate their health on the day using a visual analogue scale. Participants progress is monitored by reassessing at intervals throughout the year.

It is important to note that the results are based on those that were active participants in the programme for at least four weeks whilst some participants were active for over a year. Data for those that dropped out of the programme or who missed the re-assessment days are not included. The retention rate for participation from induction to beyond four weeks was approximately 60%. Due to logistical challenges, the time period between baseline and retesting varied considerably as the re-testing was carried out at quarterly intervals regardless of when the participants were inducted. A new retention policy is being devised for 2023 which will help to inform reasons for drop-out and subsequently highlight key areas that can be addressed to maximise engagement and participation in the future.

Paired sample t-tests were run using SPSS to compare participants baseline data to their most recent test results. Although the time period between baseline and retest scores varies across individuals the overall results demonstrate some very positive findings. An overall summary of the test results is presented here whilst the in-depth analysis of each test can be found in Appendix B.

Summary of overall test results

Figure 7 illustrates the pre and post-test scores for the 6-minute timed trial, five rep sit-to-stand, timed up and go and the self-rated health tests. There was an average improvement of 56 metres for the 6-minute timed trial which included data from 725 participants across 16 centres. The average improvement for the 5 rep sit-to-stand and timed up and go tests were 1.8 and 1.0 seconds, respectively. Self-rated health scores also increased from pre to post-test with an average increase of 6% based on data from 467 participants across 11 centres.

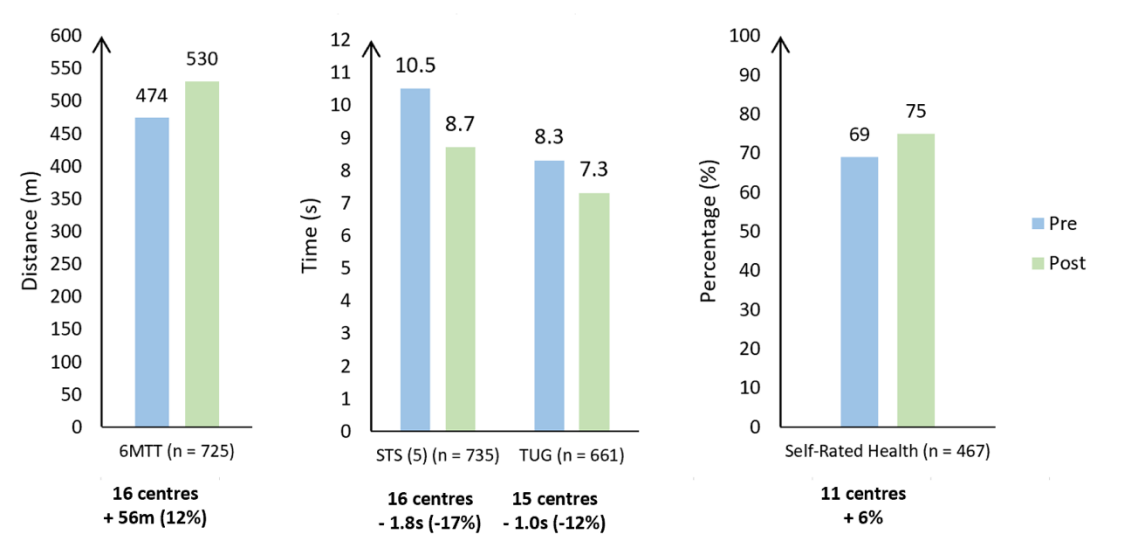


Figure 7. Summary of overall test results
Note: 6MTT: 6 Minute Timed Trial, STS (5): 5 Rep Sit-to-Stand, TUG: Timed Up and Go

The ExWell Team 2022

Aodhaghan O'Deasmhunaigh

Programme Manager: Dublin West

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Niamh Smyth

Clinical Exercise Coordinator

Programme lead: Thomas Davis GAA

BSc. Sport Science and Health

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Clinical Exercise Coordinator

Programme lead: Tallaght Leisure Centre

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Cein McMonagle

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Programme lead: Naas and Sandyford

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MSc. Exercise Physiology

Cliona McGowan

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BSc. Athletic Therapy and Training

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Precious Aderinwale

Clinical Exercise Coordinator

BSc. Physical Activity and Health Science

Sophie Gibney

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Rita Trentz

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BSc. Physical Education for Older Adults

Colm O'Meara

Clinical Exercise Coordinator

Programme lead: Cancer Services

BSc. Sport Science and Health

MSc. Exercise Physiology

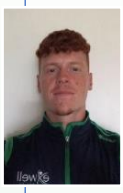
Ciaran Gaule

Clinical Exercise Coordinator

Programme lead: Abbotstown

Exercise & Health Fitness (HCEHF)

Personal Training (NCEF)



Shane McMonagle

Clinical Exercise Coordinator

BSc. Health Science and Physical Activity

Ingrid McLoughlin

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Programme lead: Sligo

BSc. Public Health and Health Promotion

Edel Larkin

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Programme lead: Athlone

BBS. Sport Management

NCEF (National Certificate Health and Fitness)

Lisa Kelly

Clinical Exercise Coordinator

Programme lead: Tullamore, Portlaoise

BSc. Athletic Therapy and Training

PhD. Sport and Health Science

Liam Hughes

Programme lead: Carlow

BSc. Sport and Exercise Science

Fiona Skelly

Clinical Exercise Specialist (Research and Clinical Testing)

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PhD. Clinical Exercise Physiology

Brendan Gillen

Chief Financial Officer

Chartered Accountant

FCCA, MSc

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Head of Operations

BSc. Sport Science and Health

Cathy Dowdall

Administration and Medical Referral

Lorraine Corcoran

Administration and Medical Referral

Dr Emmett Byrne

Medical Officer and General Practitioner

LRCP & SI, MB BCh NUI, MICGP, BE

Dr Noel McCaffrey

Chief Executive Officer

MB, BSc, MSc, FSEM

Our Partners

ExWell greatly appreciates the support from all our partners throughout 2022. We look forward to strengthening these relationships in the years to come.

Appendix A. ExWell Centres 2022

Dublin West: Tallaght Leisure Centre, Thomas Davis GAA, Clondalkin Leisure Centre, Monread Community Centre, Naas

Four centres are grouped under the Dublin West umbrella including Thomas Davis GAA Club, Tallaght Leisure Centre, Clondalkin Leisure Centre and Monread Community Centre, Naas. This is ExWell's busiest region and Tallaght Leisure centre was our busiest centre across the network in 2022. Thomas Davis GAA and Clondalkin Leisure Centre have also both gained in popularity and participants enjoy a social cuppa after classes at the on-site cafés. Naas is the newest addition to the Dublin West funded project which started in November 2022 and offers a fantastic opportunity for those further out from Dublin to avail of the ExWell service.

The HSE funds participants to attend ExWell classes across the four venues twice a week for 12 weeks after which they can continue participating under a fee-paying plan if they wish. From January 2023, Dublin West participants will be invited to participate in a CHO 7 research project in partnership with medical professionals and researchers from Trinity College Dublin. This research project aims to investigate the impact that community-based exercise classes have on the health and wellbeing of people living with chronic illness.

Participants are referred to each of the Dublin West venues from various medical practices and hospitals around Tallaght, Kildare and surrounding areas. A large number of referrals come from consultants at Tallaght University Hospital and Peamount Hospital. There are also strong links with third level institutions like Tallaght University Dublin, University College Dublin, Trinity College Dublin and Dublin City University as students studying Sport and Health Science, Athletic Therapy and Nutrition courses take up placement opportunities with ExWell. Students gain practical hands-on experience and are also a huge support to staff and participants at classes.

"Through ExWell, my fitness levels have increased, and I have since taken up other exercising activities also. I look forward to the weekly classes and thoroughly enjoy both the exercises and social interactions within the group. All along, the excellent staff have encouraged and given me the confidence to do the best I can during each session."

Philip

Dublin 18: Loughlinstown (DLR Leisure Centre)

ExWell Medical at DLR Leisure Loughlinstown is currently our most popular centre in Dublin Southeast. The programme was launched back in October 2018 by Brendan starting off with just 2 classes a week. By January 2019 the numbers had grown so much this was brought up to 6 classes with 3 different standards catering for all abilities. The numbers have seen a steady growth since then finishing the year with an average of 90 visits per week. This continuously increasing interest can be attributed to some of our main attractions at our centre in Loughlinstown which include the rowing machines, our teas and coffees after the classes, and definitely Brendan's interesting music choice!

It's all hands-on deck from the team in DLR with Brendan, Cein, Cliona, Grainne and Jonathon there every week and the addition of new faces every few weeks from both Physiotherapy and Athletic Therapy students doing undergraduate courses in UCD and DCU. These students assist the instructors by running injury clinics and gaining valuable work experience with the programme all while having a bit of fun in the process.

Participants are referred from various sources including Caritas House Day hospital clinic, Consultants and Link Co-ordinators from St. James hospital, local GP's and Primary Care Centres as well as other local healthcare providers. Thanks to the large number of referrals being received from these sources on a daily basis, we are proud to announce the recent addition of 2 more ExWell classes in Loughlinstown for 2023 run by Dr. Noel Mc Caffrey. Thanks to the addition of these classes and our regularly scheduled inductions, our numbers are continuing to grow more and more each week.

"I have secondary progressive MS and was referred to ExWell to help me improve physical strength. My aim on joining was frankly to delay the need for having to use a wheelchair. 5 years later I am still mobile."

Sharon Gallen

Dublin 15: Abbotstown (National Indoor Arena)

Our classes in the National Indoor Arena, which is based in the Sport Ireland Campus in Abbotstown, Dublin have been running since the beginning of 2020. There are currently 5 classes a week, two on a Monday morning and three on a Wednesday.

Ciarán Gaule has led the Abbotstown programme since they started along with coach Sue Kelly. Sue who was a big favourite with the Abbotstown members moved on from the campus at the end of 2022. Coach Michal Muchynski will take over for Sue in 2023. The venue has also been able to offer the opportunity to DCU students Liadh, Lorna, Cliona and Eve to help assist during the class, they have been a great asset to all the members and our Sport Ireland team. We have had a strong core of attendees who have been with us since the very start of the programme and they never miss a week with new faces joining us regularly, the feel-good 60s and 70s music plays a big part in that.

Over the two to three years a real family atmosphere has been created and built on with everyone always in good spirits, willing each other to improve, giving their very best in each class and leaving with smiles on their faces as they chat to a friend. In 2023 we hope to get more people involved in our classes and hope to add more classes to our schedule.

"This class has had a profound effect on my physical and mental health, and my fitness levels, mobility and balance have increased substantially. The classes are always friendly, and you are always reminded to work at your own level. It's the perfect combination of push and encouragement. All exercises are adaptable to accommodate the different mobility levels in the room and the after-class cup of tea is a chance for bonding and banter with the other classmates. I highly recommend."
Marie Giles-Corrigan

Dublin 15: Mulhuddart (Mulhuddart Community Centre)

The programme in Mulhuddart was a pilot programme delivered in Mulhuddart Community Centre towards the end of 2022. The programme was funded by Riverside Medical as part of their access to a deprivation fund. In addition, Fingal County Sports Partnership supported the project by providing venue access fees. As a result, participants could attend the programme for a reduced fee of €20 per month (€2.50/class). ExWell delivered 2 classes weekly from October to December 2022.

The main referral source was the Riverside Medical Centre which referred 68 patients to the Mulhuddart ExWell programme.

"Really enjoyed getting out and getting to know new people. Felt a lot better after the exercise. I'm grateful for being given the chance to take part and would highly recommend".
Maeve Hough

Dublin 3: Clontarf (Irish Wheelchair Association)

Since September 2021, the Irish Wheelchair Association (IWA) in Clontarf has been the ExWell headquarters. There are currently 14 classes per week at Clontarf catering for all levels of abilities including beginner, standard and advanced. The hall in the IWA is both large and accessible and can hold upwards of 40 participants.

Participants are referred to ExWell Clontarf by physios, doctors, GPs and consultants around the local area. The venue also offers opportunities for students studying Athletic Therapy and Sports Science in DCU to gain valuable work experience as part of their undergraduate degrees.

Different types of classes are being trialled at Clontarf including yoga, Pilates, core and flexibility classes. Another fun and very successful addition to ExWell Clontarf is Fridays Choir class which started in November 2022. ExWell Choir takes place every Friday at 12.15 with approximately 30 participants attending each week.

The ExWell UNITY Choir

The ExWell Unity Choir is led by Lorraine Lee, an experienced singing teacher who loves to work with people of all ages and singing ability. The choir is suitable for all singing levels with a primary emphasis on having fun and socialising. Singing requires contraction and coordination of muscles that support breathing and research suggests that group singing can benefit those living with chronic lung conditions such as chronic obstructive pulmonary disease. Choir takes place once per week on Fridays in Clontarf following classes at 12pm. Plans are already in place to start a second group in Dublin West.

> *"I joined ExWell after breast cancer surgery. It was the best thing I ever did and (after treatment) the single most important step I took in my recovery from surgery and getting back to normal."*
> Maeve Fahy

Dublin 3: Ballybough (Ballybough Community, Youth and Fitness Centre)

ExWell in Ballybough commenced in February 2022 as a follow on from a previous pilot project delivered on the grounds of Our Lady of Lourdes Church, Sean McDermott Street over the Spring and Summer of 2021. Ballybough classes are supported by the Dublin North East Inner City (NEIC) Project. The NEIC project deals with a highly complex community which includes multigenerational residents, immigrants, asylum seekers and people who are homeless and/or struggling with addiction. Chronic illness is more common in lower socioeconomic groups and is highly prevalent in the NEIC.

Thanks to funding from NEIC, participants could participate in two classes per week for a small fee of €2 per class up until June 2022. The funding ended throughout the summer months, however, ExWell continued delivering the programme with a proposed interim model to ensure partial costs of the programme could be funded. Firstly, NEIC agreed to fund facility access in Ballybough Community, Youth and Fitness Centre. Two hours of studio access was provided each week in addition to a 1.5-hour booking once per month for inductions of new participants. This allowed ExWell to continue its service at Ballybough at a reduced rate of €20 per month for the remainder of 2022.

Approximately 120 people were referred to the programme in Ballybough with a total of 90 people inducted over 7 induction dates. The average number of weekly visits grew from less than 20 prior to September to approximately 34 after September. The growth in attendance was likely due to an increased referral and induction rate throughout the second half of 2022.

A new proposal for a longer-term funding model has been submitted to support the continuation and growth of the classes at Ballybough throughout 2023 and beyond.

"Before I found it very hard to walk with my breathing. Could not do much at home. Since I started, my breathing has got a lot better, I can walk for longer, do my housework and change the bed. The difference!"
Linda Smith

Dublin North: Balbriggan (Naul GAA)

ExWell classes in The Naul GAA club, Balbriggan continued after the successful completion of a five-week pilot programme in summer 2021. The pilot programme was initiated by GPs at the YEW Medical Centre who approached ExWell Medical to run a 5-week pilot programme. The venue at The Naul GAA club was made available at no cost and YEW Medical Centre contributed partial funding sourced from a deprivation fund to support the pilot project. Due to the interest and the positive findings from the pilot project, classes continued at Balbriggan since then.

The venue offers an ideal opportunity for students studying Sport and Health Science courses across Dublin universities such as DCU, Dundalk IT, and UCD to volunteer and apply for work experience. This work placement programme allows students to gain valuable work experience as part of their undergraduate degree programmes.

"I was physically and emotionally weak when I started the programme. However, after almost two months of participating I can confidently say that I feel much improved. My strength and balance have improved as has my self-confidence".
Tom Dunne

Active Cities Dublin: Sandyford, Ballymun, Swords

The ExWell Medical / Active Cities pilot programme in Dublin commenced in May 2022 and ended in December 2022. The project was funded by Active Cities Dublin. The overall goal of the Active Cities project is that everyone in Dublin will have both the opportunity and motivation to actively participate in sports and physical activity. The vision of the Active Cities project is to see the maintenance of an active lifestyle become an accepted part of the cultural norm in Dublin. ExWell partnered with the 4 local authorities within the greater Dublin area (Dublin City Council, Fingal County Council, South Dublin County Council and Dún Laoghaire Rathdown County Council) to deliver three 8-week blocks of twice-weekly ExWell classes.

The initial uptake was slow with Ballymun the only centre to reach capacity for the first 8-week block. Sandyford and Swords grew steadily over time whilst the Clondalkin Active Cities programme at Rowlagh Community Centre discontinued after the first block due to a separate HSE-funded programme starting in Clondalkin Leisure Centre.

Sandyford (Dún Laoghaire Rathdown County Council (DLR)), had a very slow uptake during the Summer and Autumn months, however, it grew to almost full capacity towards the end of the year. DLR supported the programme throughout 2022 and have generously continued to assist the programme by providing facility access fees at Sandyford Community Centre into 2023.

Ballymun (Ballymun Dublin City Council) reached its capacity in 2022 at Ballymun Sport and Fitness Centre. However, some challenges existed with adherence and drop out resulting in poor attendance towards the end of the year. The Dublin Sport and Wellbeing Partnership (DSWP) have offered invaluable support and are providing additional funding to continue the ExWell classes in Ballymun into 2023. This will allow current and new participants to continue to enjoy the programme there.

Swords (Fingal County Council) started slowly with poor uptake of classes at Fingallians GAA club in the initial stages. However, following a strong emphasis on developing the referral pathway in Swords the programme took off towards the end of the year. It grew to almost double its commitment to over 100 weekly visits. The programme will continue into 2023 and currently follow on funding support is sought from Fingal County Council.

ExWell are incredibly grateful to all those who support the Active Cities project including the funders, the facilities, all those involved in referring participants to the programme and the participants themselves who bring bundles of enthusiasm and energy to the classes each week.

ExWell in the Midlands: Athlone, Tullamore, Portlaoise

Following on from the success of a 6-month pilot programme in Athlone Regional Sports Centre, the Dublin Midlands Hospital Group granted further funding to continue the Athlone programme and to add two new venues at Tullamore and Portlaoise in 2022. Tullamore classes were first held in St Mary's Youth and Community Centre from May 2022, but moved to the larger, more accessible venue at Mucklagh Community Centre in October. Portlaoise started as a satellite programme in June offering two classes per week at St Mary Sports Hall.

Classes at Athlone Regional Sports Centre hit full capacity by the end of 2022 and graduated 60 participants from the funded classes. Almost 50% of these participants opted to stay in the ExWell programme and moved into paid ExWell classes and 10% chose to progress to a non-ExWell gym package. The Tullamore and Portlaoise classes were almost at capacity by December 2022, consequently, we hope to add more classes at both venues in 2023.

A strong referral network has been established across the Midlands and includes consultants from the Midlands Regional Hospital Tullamore, Midlands Regional Hospital Portlaoise, Cuisle Cancer Support Centre, local GP's, community nurses, physiotherapists, occupational therapists and social prescribers. ExWell in the Midlands also has good links with staff and students from Sport and Health Science courses at the Technological University of the Shannon. Students gain valuable work experience through placement opportunities with ExWell Medical.

We look forward to welcoming new participants to all three venues during 2023. We hope to support anyone looking to continue ExWell classes after 12 weeks to continue with non-funded options should they wish to do so. We also aim to further expand the Midlands services through the addition of ExWell classes in Mullingar, Co Westmeath and Clara, Co Offaly.

"The professional way in which the programme is constructed is superb as is the delivery by the staff at all the classes. I look forward to the classes. The exercises have definitely helped in limbering up my body. I can now get out of a chair without holding on to a table! That's an achievement for me."
Pat Dillon

Sligo (Sligo Regional Sports Centre)

ExWell Medical Sligo has been in operation since January 2022 and is a non-funded programme. Classes were initially run on the campus of the Atlantic Technological University but moved to the Sligo Regional Sports Centre, Cleveragh in September 2022 to make it more accessible for participants. There are currently six classes per week.

The programme offers students studying Health Sciences at The Atlantic Technological University (ATU) and various other Third Level institutes in the region the opportunity to gain valuable work experience as part of their undergraduate programmes. To date, six students have completed their work placement with the programme (5 from ATU, 1 from Technological University of the Shannon TUS). Students from ATU also volunteer at classes on a weekly basis.

So far in 2023 the Sligo branch has increased the number of classes per week from 4 to 6 and hopes to add more days per week for 2023 to accommodate the growing interest in Sligo.

Referrals to the programme are from local GPs, community physiotherapists and Consultants from Sligo University Hospital.

"My doctor recommended the ExWell programme. I enrolled earlier this year and the classes have built my confidence, improved my outlook and my mobility and balance is getting better all the time. It has also rekindled some old contacts. So, extend the programme it really helps and might keep me out of hospital a bit longer and also gives me a better quality in old age. I am 80 years old."
Eamonn Dunn

ExWell in the South East: Kilkenny, Waterford, Carlow

The University of Pittsburgh Medical Centre (UPMC) Ireland is ExWell's regional partner and manages the ExWell centres in Kilkenny and Waterford. UPMC is a not-for-profit international private hospital network headquartered in Pittsburgh, USA. In Ireland, UPMC is committed to incorporating the design and delivery of clinical exercise programmes across all its patient cohorts as one activity within its new Institute for Health. UPMC and ExWell share similar core values, and this has underpinned a valuable partnership.

In 2022, UPMC continued running ExWell's two programmes in the South East Technological University (SETU), Waterford Arena and The Watershed, Kilkenny. Both programmes involved UPMC delivery staff and students from SETU in Waterford. The programmes were considerably smaller than other ExWell centres and had no support funding throughout 2022. This limited their ability to grow. On average 15-20 people attended twice per week in Waterford while 25-30 people attended twice weekly in Kilkenny. In addition to the two centres, UPMC supported the launch of a third centre in Wexford in 2022. Unfortunately, this programme did not have sufficient numbers to continue beyond 2022.

The trends of referrals, inductions and active participants were quite static throughout 2022. A considerable factor in this was the referral rate, which was significantly lower than in other regions. The retention of participants was strong and regular attendance was seen from those who were inducted. These are promising signs for the future. A renewed focus on the South East is planned for 2023 with a particular emphasis on the referral pathway through UPMC clinical teams in addition to local GP's and other allied health professionals.

ExWell is extremely grateful for the support from UPMC Ireland and the two facilities (SETU, Waterford and The Watershed, Kilkenny) in the South East throughout 2022.

Carlow (South East Technological University, Carlow Campus)

A third ExWell centre in the South East region of Ireland is offered at the SETU Carlow campus and is separate to the UPMC partnership. The Carlow programme started in March 2022 and is part-funded by Sport Ireland until early 2023. The funding allows medical card holders to attend classes at a cost of €2.50 per class. The cost for non-medical card holders is €10 per class.

By the end of 2022, Carlow offered four classes per week, led by Liam Hughes who is often assisted by volunteers from the Health Sciences Department at SETU Carlow. The ExWell programme offers a unique opportunity for students to gain hands-on practical experience working with special populations.

Classes in Carlow consist of people across a broad age range from 40 to 92 years of age. The programme has been hugely successful, and participants have reported reduced visits to the doctor and decreased symptoms of anxiety and depression. Instructors also work one-on-one with stroke patients to aid their recovery.

"Since I joined ExWell I am so much fitter and stronger. Week by week I've found myself being able to lift a little heavier and for more repetition. My aerobic fitness has improved so much. Last October I did not believe I could run. Now I know I can, not far or fast but I can and that is huge for me. Joining ExWell is one of the best things I've done for myself in years. It has had a positive effect on my mind and body. Thank you for providing such brilliant exercise classes."
Veronica Naughton.

Appendix B. Detailed Test Results

The following section outlines the pre and post-test results for each centre for the 6-minute timed trial, sit-to-stand, timed up and go, timed up and go dual task, handgrip strength test and the health-related quality of life score. As mentioned in the main body of this report, the test results refer to those who were active participants in the programme for at least 4 weeks, however the time period between baseline and retesting varied from 4 weeks to over a year.

The 6 Minute Timed Trial

The Six Minute Timed Trial is a test of cardio-respiratory fitness. Participants are asked to walk, jog or run as many lengths as possible on a 20m track in 6 minutes. A greater distance covered during the reassessment represents an improvement in this test. An improvement of ≥30.5m is considered the minimally clinical important difference for individuals with chronic disease (Bohannon and Crouch, 2017). Baseline and retest scores were available for 725 participants across 16 centres who demonstrated an average improvement of 56m (12%) overall (Figure 8). Significant improvements were observed across 13 of the 16 centres. Further analysis revealed that those in the lowest tertile at baseline improved the most (average improvement of 76m), compared to the middle (57m) and highest (38m) tertiles.

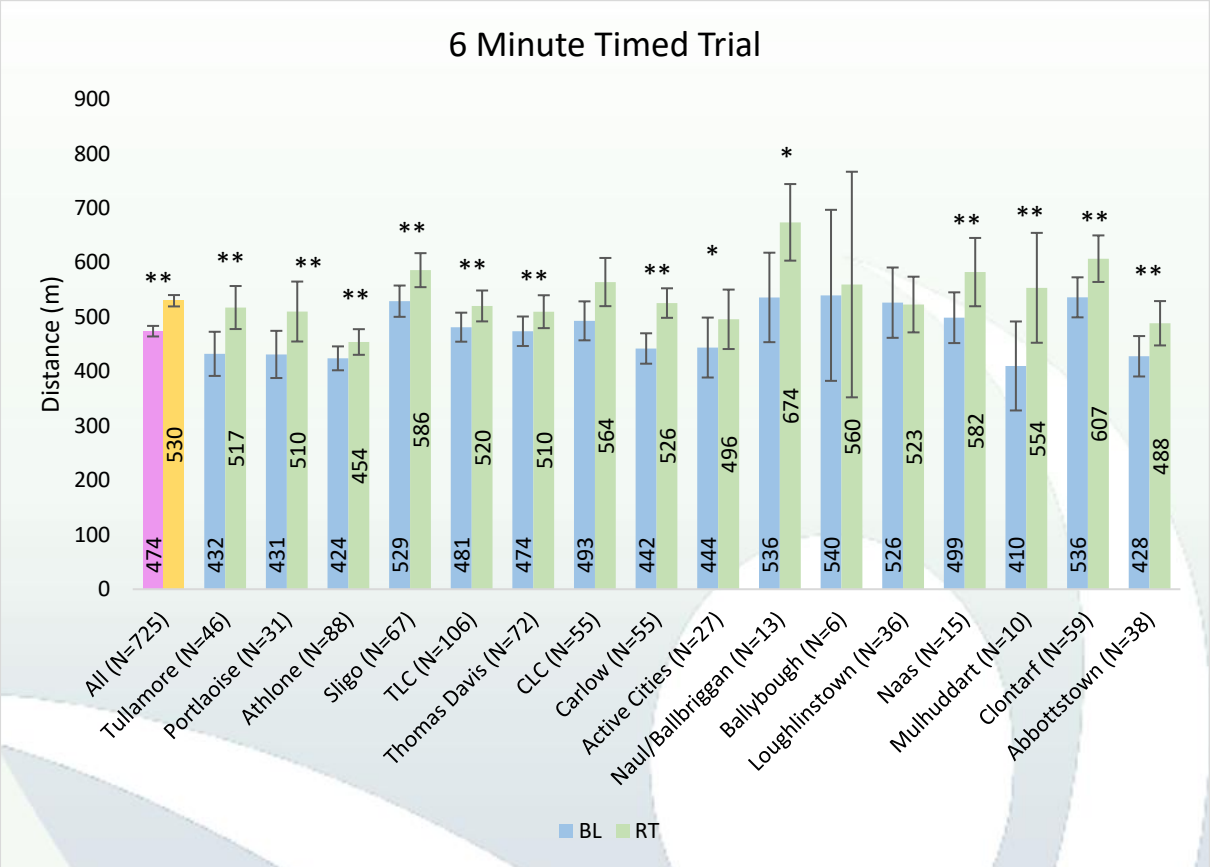

Figure 8. Baseline and retest scores for the six-minute timed trial
*Note: BL: Baseline, RT: Retest, TLC: Tallaght Leisure Centre, CLC: Clondalkin Leisure Centre, **p≤0.001, *p<0.05*

The Sit to Stand Test

The Sit to Stand test is an assessment of lower body strength. Participants are asked to stand up and sit down from a chair 5 times as fast as possible. The time it takes to complete the 5 repetitions is recorded. A quicker time indicates better lower body strength. An improvement of ≥1.7 seconds is considered clinically meaningful in individuals with chronic lung disease (Jones et al., 2013). The average improvement for 735 participants across 16 centres was 1.8 seconds (Figure 9). Further sub-analysis revealed that the group classified in the lowest third at baseline for the 5 rep sit-to-stand improved the most (average improvement 3.7 seconds) compared to the middle third who had an average improvement of 1.4 seconds and the highest third with an average improvement of 0.6 seconds.

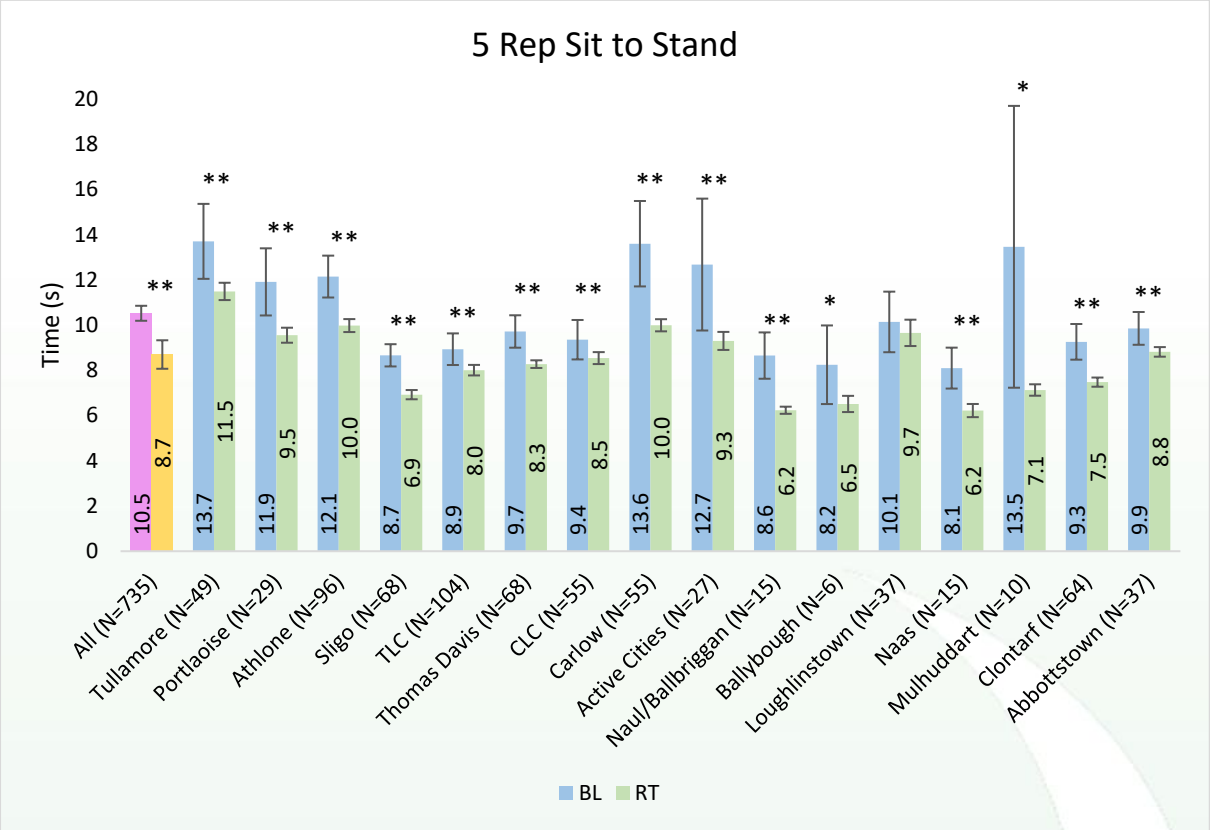

Figure 9. Baseline and retest scores for the five rep sit-to-stand test
*Note: BL: Baseline, RT: Retest, TLC: Tallaght Leisure Centre, CLC: Clondalkin Leisure Centre, **p≤0.001, *p<0.05*

The Timed Up and Go (TUG) Test

The TUG test is a measure of balance, co-ordination and risk of falling. Participants are required to stand up from a chair and walk around a cone which is placed 3 metres away, walk back to the chair and sit back down. A faster time in this test indicates a reduced risk of falling. In addition, slower TUG time is associated with an increased risk of incident myocardial infarction, congestive heart failure and mortality (Chun et al., 2021). In terms of clinical significance, Mesquita et al., (2016) investigated the impact of pulmonary rehabilitation on patients with COPD and deemed improvements between 0.9 to 1.4 seconds to be clinically significant.

In our sample, a statistically significant improvement of 1 second was observed overall (N=661). All centres reported improved average times for their most recent retest compared to baseline scores of which 12 centres were statistically significant (Figure 10). Similar to the 6-minute timed trial and the 5 rep sit-to-stand, participants in the lowest tertile at baseline improved the most (1.9 seconds) followed by the middle (0.8 seconds) and highest tertile (0.2 seconds).

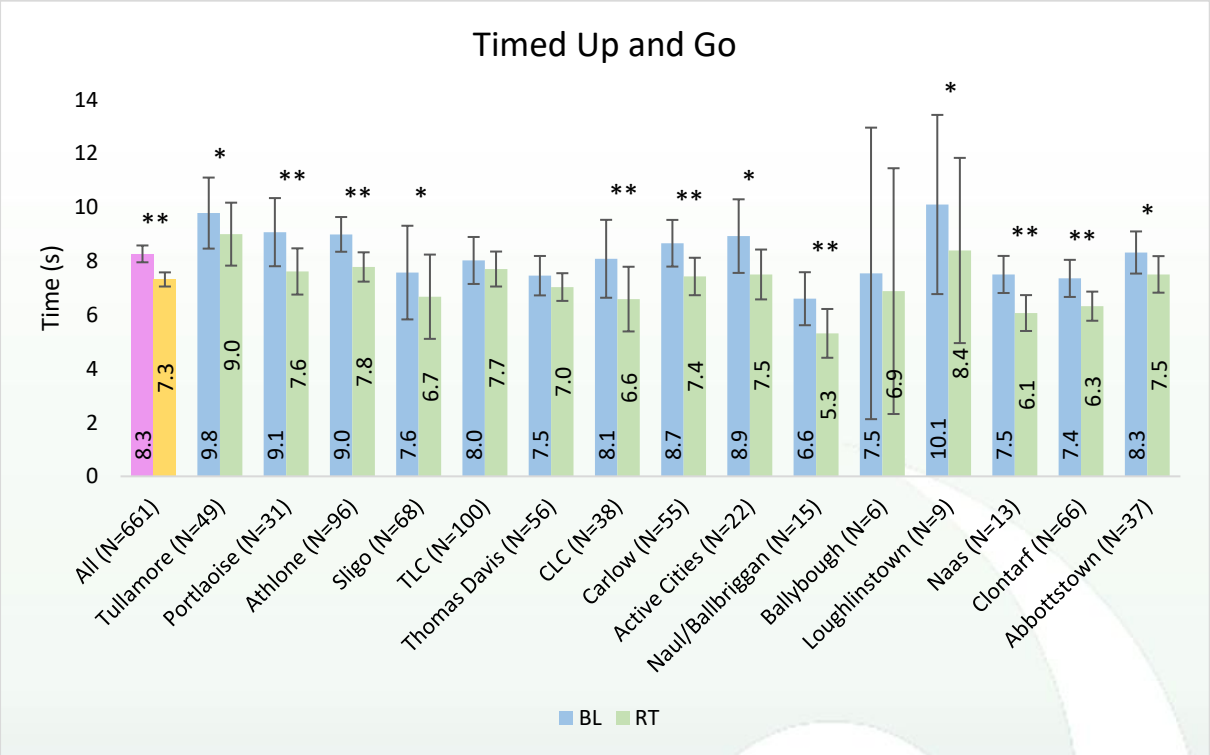

Figure 10. Baseline and retest scores for the timed up and go test
*Note: BL: Baseline, RT: Retest, TLC: Tallaght Leisure Centre, CLC: Clondalkin Leisure Centre, **p≤0.001, *p<0.05*

The Dual Task (DT) Test

The Dual Task test applies a cognitive assessment to the TUG test and may detect early cognitive decline. Participants are required to carry out the TUG test described above and simultaneously complete a cognitive challenge such as reciting the months of the year backwards or calling out letters of the alphabet in random order. Again, an improvement in this test is identified if participants can complete the test in a faster time. The overall average improvement for 650 participants was 0.9 seconds and was statistically significant. Again, all 15 centres reported improved times at retest, 11 of which were statistically significant (Figure 11).

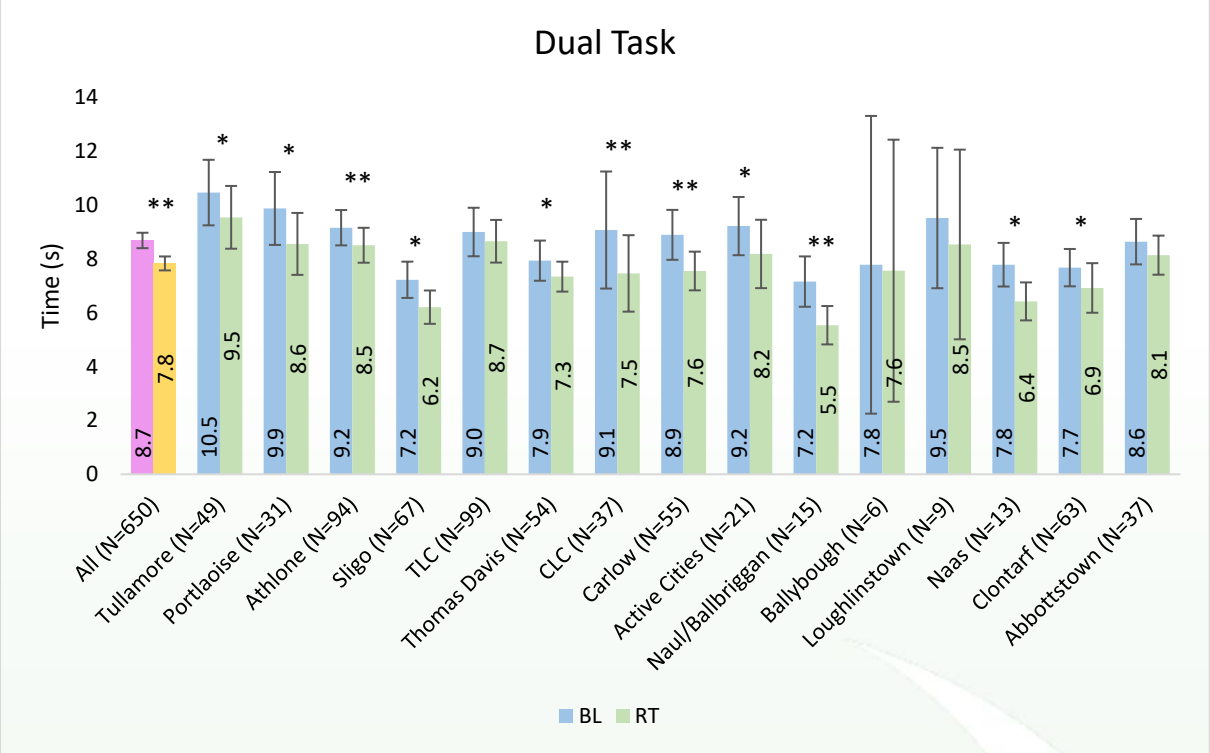

Figure 11. Baseline and retest scores for the dual task test
*Note: BL: Baseline, RT: Retest, TLC: Tallaght Leisure Centre, CLC: Clondalkin Leisure Centre, **p≤0.001, *p<0.05*

Handgrip Strength Test

Handgrip strength is the effort needed to grasp an object and is necessary for various functional activities in daily life such as opening jars and carrying groceries. In addition to being a direct measure of hand and forearm muscle strength, handgrip strength is also regarded as a good indicator of overall muscle strength. Reduced handgrip strength is also associated with an increased risk of having a chronic illness (Cheung et al., 2013) and is a useful measure to identify older adults at risk of poor health status (Bohannon, 2019). Handgrip strength was measured using a hand dynamometer. A higher score indicates a greater grip strength. Figure 12 illustrates a significant overall average improvement of 2.4Kg from baseline to retest for 197 participants. Significant improvements were observed across all three centres who measured handgrip strength.

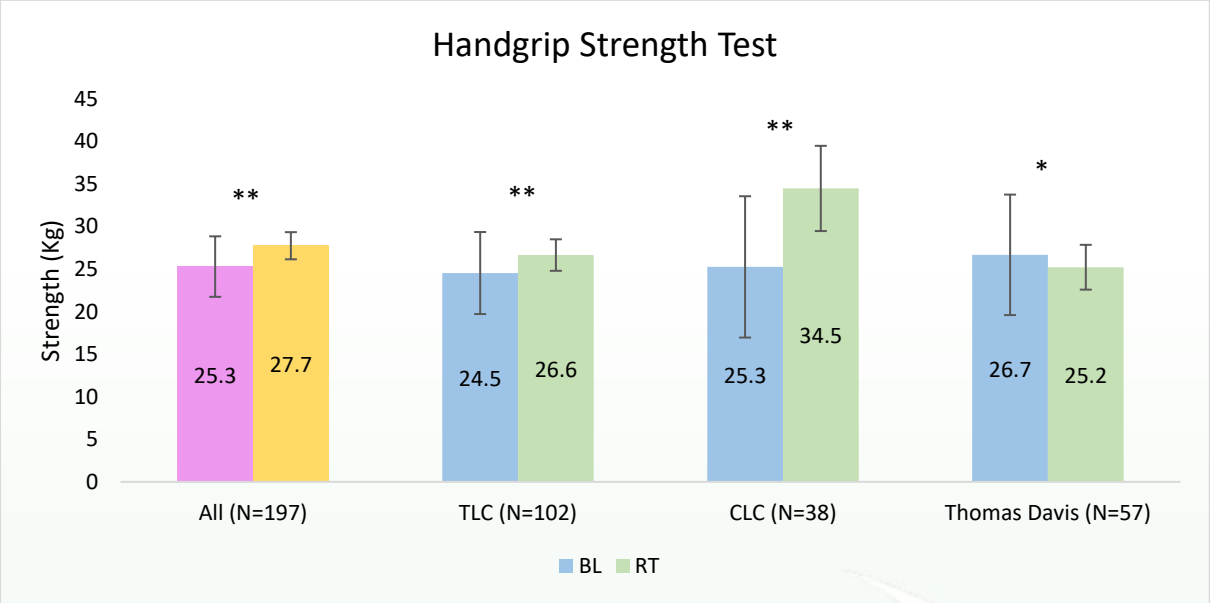

Figure 12. Baseline and retest scores for the handgrip strength test
*Note: BL: Baseline, RT: Retest, TLC: Tallaght Leisure Centre, CLC: Clondalkin Leisure Centre, **p≤0.001, *p<0.05*

Health-related Quality of Life

To assess health-related quality of life, participants are presented with an image of a scale measuring from 0 to 100, with 0 representing the worst imaginable health state and 100 representing the best imaginable health state. Participants are asked to draw a mark on the scale at the point that represents their perception of their overall health at that time. Higher scores represent better levels of perceived health state. Figure 13 illustrates an overall significant improvement of 6% for 467 participants. Although the average score increased for 10 of the 11 centres, the improvements were statistically significant for four centres.

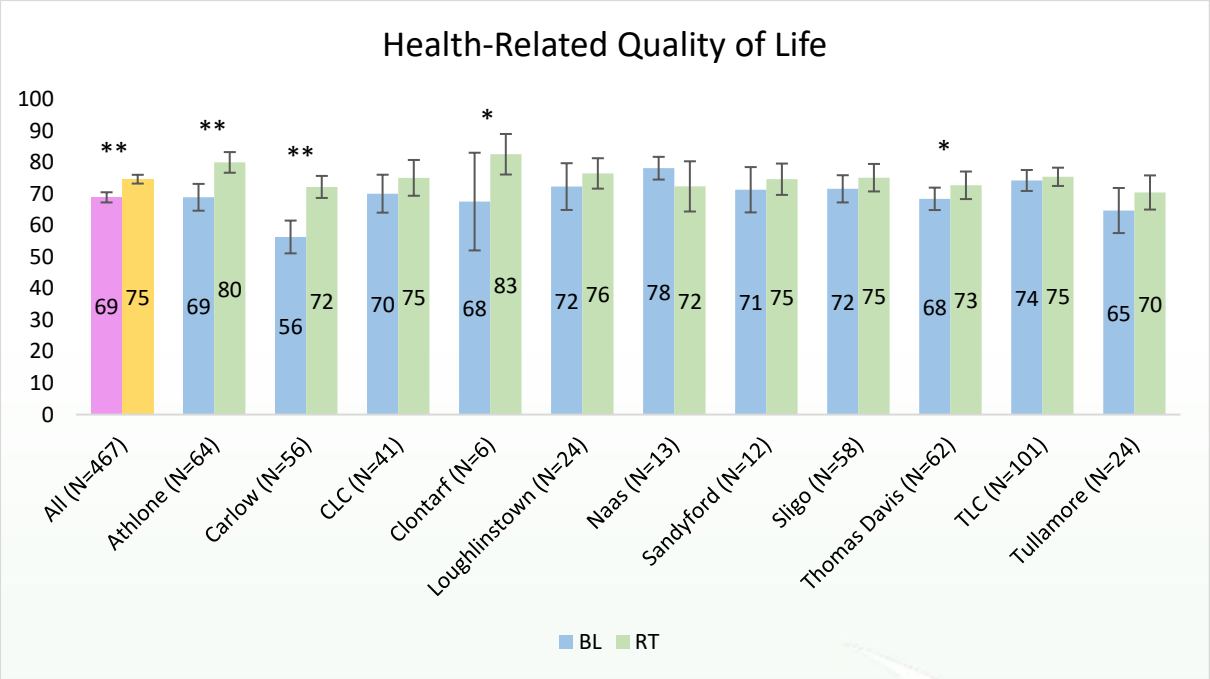

Figure 13. Baseline and retest scores for health-related quality of life
*Note: BL: Baseline, RT: Retest, TLC: Tallaght Leisure Centre, CLC: Clondalkin Leisure Centre, **p≤0.001, *p<0.05*

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Appendix C. ExWell Governance

Corporate Structure

ExWell Medical is a Company Limited by Guarantee and is a social enterprise with a not-for-profit ethos. It was founded in January 2019 by Dr Noel McCaffrey.

Organisational Structure

The organisation structure is laid out in Figure 14 below. The following committees report to the Board:

1. Finance committee: Chair Clive Kilmurray
2. Remuneration committee: Chair Grainne McMorrow
3. Nominations Committee: Chair Chris Kelly
4. Research Committee: Chair Professor Susan Smith

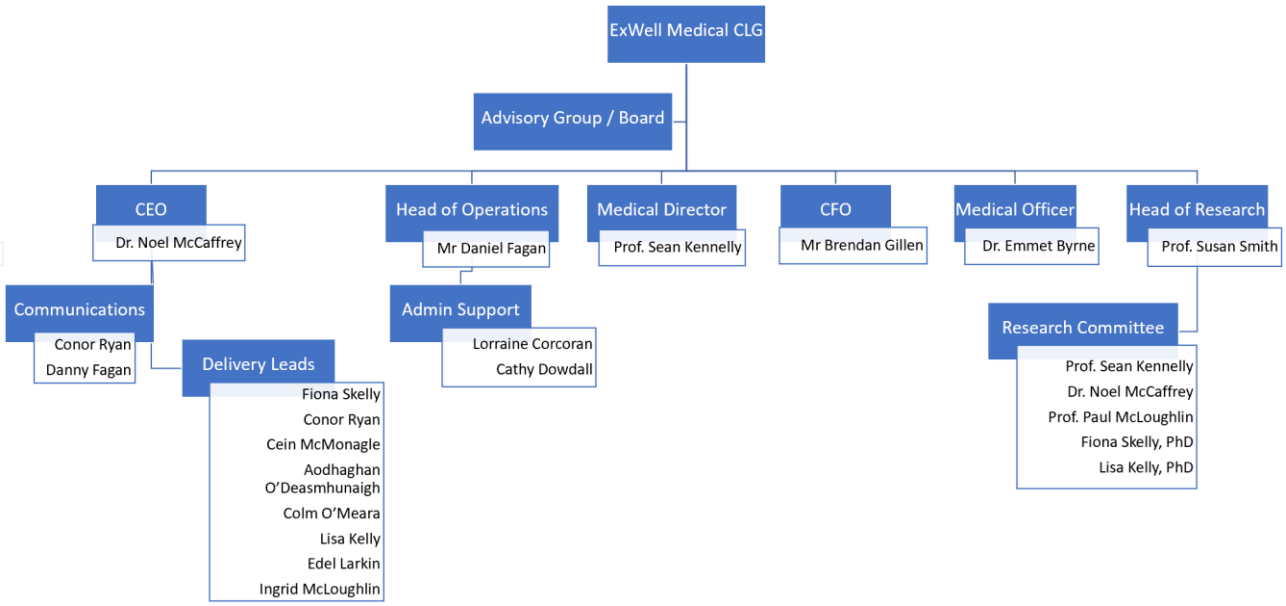

Figure 14. ExWell Medical's Organisational Structure 2022

Executive Team

There are five members on ExWell's executive team. Dr Noel McCaffrey and Danny Fagan are full time employees. Brendan Gillen and Dr Emmett Byrne are part-time employees and Professor Sean Kennelly has an honorary position.

ExWell Advisory Board 2022

Lar Bradshaw
Chairperson,
Retired Managing Partner of McKinsey & Company

Prof. Sean Kennelly
Consultant Physician in Geriatric and Stroke Medicine, Tallaght University Hospital

Anne Dermody
Retired Business Development Director with Rethink Ireland

David Beirne
Senior Vice President UPMC International (University of Pittsburgh Medical Centre)

Dr. Noel McCaffrey
Founder and CEO of ExWell, Sports and Exercise Medicine Specialist

Prof Susan Smith
Professor of General Practice, Trinity College

Chris Kelly
Retired CRH Senior Executive, ExWell Participant

Grainne McMorrow
International Human Rights Lawyer and Jurist, ExWell Participant

Clive Kilmurray
Entrepreneur and Corporate Finance Specialist

Diarmuid McNamee
Managing Director of Tower View, Chair of the Dublin Simon Community Board


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