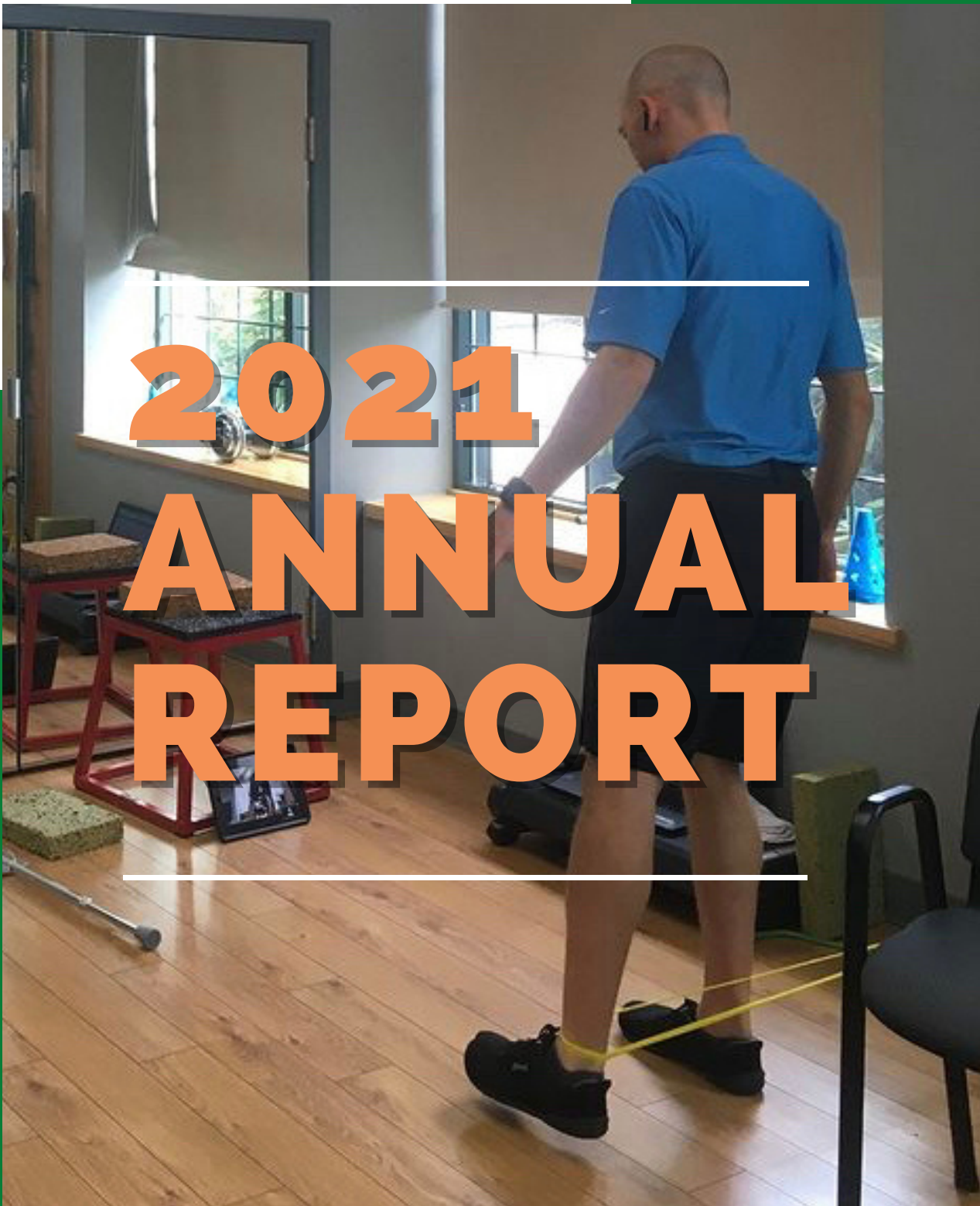




GLA:D[®]
AUSTRALIA

2021 ANNUAL REPORT



EDITORIAL

About 1 in 5 Australians over the age of 45 have osteoarthritis. The GLA:D® program aims to improve the care of people with knee and hip osteoarthritis through education and exercise therapy, as recommended by international treatment guidelines. GLA:D® was originally launched in Denmark in 2013 and its implementation began in Australia in 2017.

The 2021 Annual Report presents an overview of the GLA:D® Australia program and reports the results from our data registry. The data were obtained from GLA:D® Australia participants for the period of January 2018 to December 2021.

Following on from embedding a new physiotherapist certification process throughout 2021, GLA:D® Australia will use 2022 to focus on greater support for these certified physiotherapists through targeted Professional Development sessions.

GLA:D® Australia Team



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WHAT IS GLA:D®?

All major international guidelines recommend patient education and exercise as the first choice of treatment – combined with weight reduction, if necessary. GLA:D®, Good Life with osteoarthritis from Denmark, is an education and exercise program developed by researchers in Denmark for people with knee or hip osteoarthritis symptoms.

GLA:D® education and exercises provided can be applied to everyday activities, ensuring participants develop skills to self-manage their osteoarthritis. By strengthening and improving confidence with exercise, participants develop better capacity to become or stay active, prevent symptom progression and reduce pain.

GLA:D® aims to accelerate implementation of the national clinical guidelines into clinical practice, and the overall objective is to ensure that:

1. All people with osteoarthritis have equal access to evidence-based treatment irrespective of place of residence or financial situation; and
2. Surgery is considered only when non-surgical treatment measures have not led to satisfactory outcomes

In line with the original Danish program, GLA:D® Australia consists of three core elements:

1) Physiotherapist education, training and support

GLA:D® Australia education and training workshops involve:

- ✓ Pre- and post-workshop knowledge testing
- ✓ Interactive learning sessions related to osteoarthritis management
- ✓ Practical sessions to train patient education and exercise prescription skills
- ✓ Group discussions about overcoming barriers to implementation

2) GLA:D® Australia intervention delivery

All registered participants receive a standardised but individualised program based on need and goals:

- ✓ 2 participant education sessions
- ✓ 12 sessions of physiotherapist supervised group exercise therapy delivered twice weekly for six weeks

3) Data collection of patient outcomes

All program participants are registered into an online participant data registry, with an 'opt out' consent process for contributing to collection of participant-reported data



GLA:D® AUSTRALIA PHYSIOTHERAPISTS

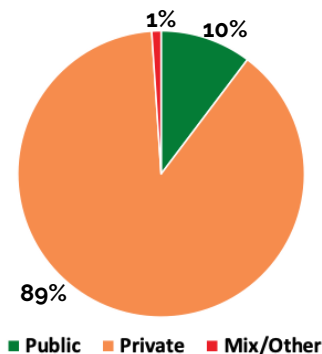
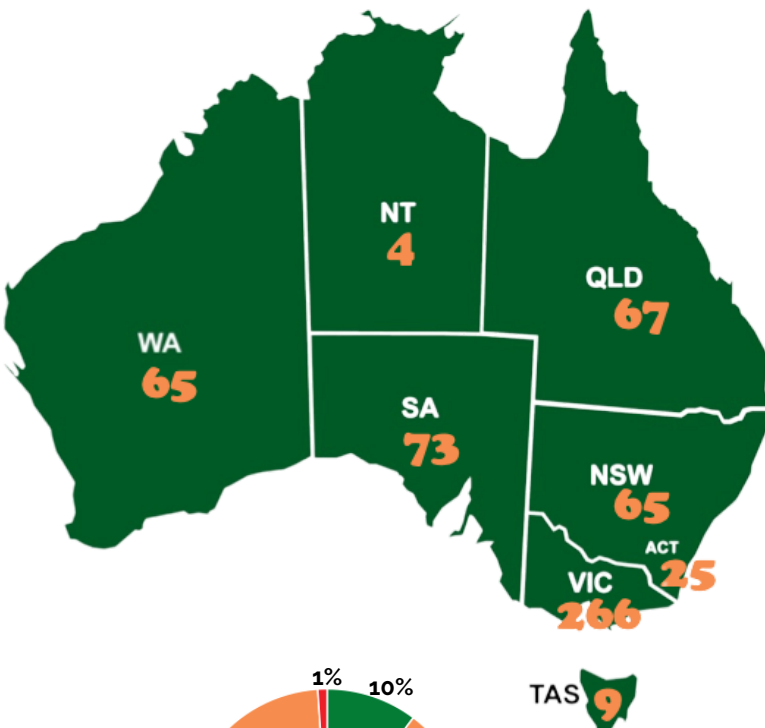
GLA:D® is available in all states of Australia!

The first GLA:D® Australia physiotherapist training course was delivered in March 2017, with **31** courses held around Australia since this time by December 2021.

2138 physiotherapists trained from all states and territories

1562 physiotherapists have completed **certification** so that they can provide the full GLA:D® program in their clinic.

574 sites implemented GLA:D® Australia between March 2017 and December 2021, including private (89%) and public (10%) settings. Their names are listed on the GLA:D® Australia website.



GLA:D® course online

In the past 2 years, we delivered **9** online courses, training **935** physiotherapists. **89%** of physiotherapists attending were satisfied with the course

GLA:D® program via telehealth

We supported clinics and physiotherapists to provide the GLA:D® program via telehealth.

At the end of 2021, more than **270 clinical settings** were providing online delivery of the GLA:D® program.

Professional development sessions

In September 2021, we had Dr Paul O'Halloran presenting "**How motivational interviewing can be implemented to improve rehabilitation outcomes**".

In November 2021, we had Professor Ilana Ackerman and two patients with osteoarthritis talking about "**Consideration of falls prevention within osteoarthritis care**".



GLA:D® AUSTRALIA PARTICIPANTS: WHO ARE THEY?

Number of participants

Between January 2018 and December 2021, **10424** participants had taken part in the GLA:D® program from all Australian states and territories.

82% reported their knee as their primary problem joint

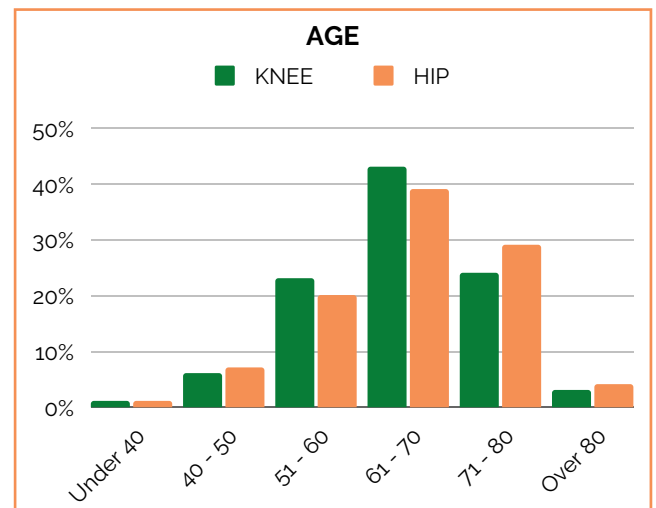
18% reported their hip as their primary problem joint

Characteristics

A total of **71%** of the GLA:D® participants were **women**.

The average age for all participants was **65 years**, with the youngest being a 23 year-old man and the oldest being a 93 year-old woman.

Knee participants had an average BMI of 30.3 and hip participants of 28.6. A total of **80%** of the knee participants and **71%** of the hip participants **were overweight or obese**.



Symptoms

74% of the knee participants and **68%** of the hip participants have had osteoarthritis symptoms for **more than a year** when starting GLA:D®

Previous surgery

42% of the knee participants and 25% of the hip participants had undergone previous surgery before they started the GLA:D® program.

Comorbidities

61% of the knee participants and **58%** of the hip participants have **other conditions**. The most common conditions are high blood pressure (30%) and high cholesterol (18%).

GLA:D® AUSTRALIA PARTICIPANTS: 3 MONTHS RESULTS

Reduced Pain

After the GLA:D® program, the average **knee/hip pain intensity decreased** by **33%** (from 45 to 30 mm on VAS (visual analogue scale) 0-100) for knee participants and **27%** (from 44 to 31 on VAS 0-100) for hip participants.

Reduced intake of painkillers

After the GLA:D® program, **47%** of the knee participants and **42%** of the hip participants reported that **they are using less or much less medication**, such as paracetamol, NSAIDs (non-steroidal anti-inflammatory drugs) or opioids.

| | KNEE | HIP |
|-----------------|-------|-------|
| Pain | - 33% | - 27% |
| Medication | - 47% | - 42% |
| Quality of life | + 31% | + 22% |
| Walking speed | + 14% | + 10% |



Reduced pain and intake of painkillers, improved physical function and quality of life

Higher quality of life

After the GLA:D® program, average joint-related **quality of life increased** by **31%** for knee participants (KOOS (Knee injury and Osteoarthritis Outcome Score) QoL from 42 to 55) and **22%** for hip participants (HOOS (Hip disability and Osteoarthritis Outcome Score) QoL from 46 to 56).

Improved physical function

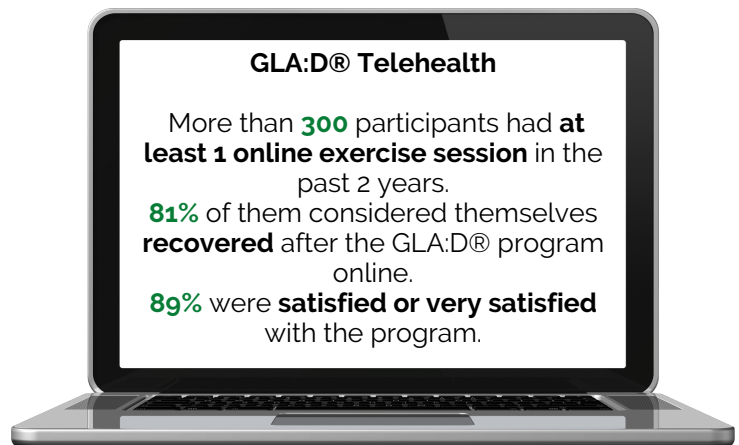
For both knee and hip participants, the **number of sit to stands** in 30 seconds **increased by 27%** from 11 repetitions before GLA:D® to 14 repetitions after GLA:D® program.

After the GLA:D® program, the average **walking speed increased** by **14%** (from 1.51 m/sec to 1.72 m/sec) for knee participants and **10%** (from 1.53 m/sec to 1.68 m/sec) for hip participants.

8 out of 10 patients attended at least 1 education session and 10 exercise-therapy sessions

GLA:D® Telehealth

More than **300** participants had **at least 1 online exercise session** in the past 2 years.
81% of them considered themselves **recovered** after the GLA:D® program online.
89% were **satisfied or very satisfied** with the program.



GLA:D® AUSTRALIA PARTICIPANTS: 12 MONTHS RESULTS

Reduced Pain

The reduction in pain was maintained one year after starting the GLA:D® program. The knee participants experienced an **average pain reduction of 31%** (from 45 to 31 mm on VAS 0-100) and the hip participants an average pain reduction of **27%** (from 44 to 32 on VAS 0-100) compared with before GLA:D® program.

Reduced intake of painkillers

One year after starting the GLA:D® program, **50%** of the knee participants and **48%** of the hip participants reported that **they are using less or much less medication**, such as paracetamol, NSAID or opioids.

Higher quality of life

One year after starting the GLA:D® program, participants reported a further **improvement in average joint-related quality of life**. Knee participants reported a **38%** improvement (KOOS QoL from 42 to 58) and hip participants a **24%** improvement (HOOS QoL from 46 to 57) compared with before GLA:D® program.

| | KNEE | HIP |
|---------------------------------|-------|-------|
| Pain | - 31% | - 27% |
| Medication | - 50% | - 48% |
| Quality of life | + 38% | + 24% |
| Physical activity participation | + 9% | + 6% |



Physical activity participation

One year after commencing the GLA:D® program, the number of knee participants undertaking **regular physical activity of at least moderate intensity increased 9%** (UCLA physical activity scale from 54% to 63%) and the number of hip participants increased **6%** (UCLA physical activity scale from 52% to 58%).

Joint replacement surgery

26% of the knee participants desired surgery before commencing GLA:D®. **63%** of these participants **had not received surgery and no longer desired surgery** one year after starting the GLA:D® program. 24% of the hip participants desired surgery before commencing GLA:D®. **49%** of these participants had not received surgery and no longer desired surgery one year after starting the GLA:D® program.

FINAL WORDS

Interpretation of results

The analyses included in this Annual Report are entirely descriptive and the results should be interpreted with caution. The data are based on validated questionnaires, objective functional tests and other questions whose validity has not yet been examined. We have strived to achieve the highest degree of validity in data collection in a real world clinical practice setting.

To rule out competing causal factors, the analyses have been done excluding patients who have had joint replacement surgery during the follow-up period. Consequently, the most obvious competing causal factor has been taken into account. The analyses do not involve a control group, and therefore it is possible that factors other than the GLA:D® program may have affected the results.

The majority of GLA:D® participants are people who are able and willing to pay at least some of the cost for the program in a private clinic, and who are able to attend appointments at a physiotherapy service. Consequently, it cannot be ruled out that the composition of the participant population may have affected the results. Overall, the generalisability of the results seems acceptable in relation to knee and hip osteoarthritis participants who are able and motivated to participate in GLA:D® Australia. However, the above limitations must be considered when interpreting the results of this Annual Report.

International collaboration in GLA:D®

GLA:D® has been implemented in 8 countries.

Teams from all countries are a part of the GLA:D® International Network (GIN). The aims of the network are to share experiences and to ensure standardisation and homogeneity in delivering GLA:D® in the different countries.

A common website was established in 2019:
www.gladinternational.org

GLA:D® International Network

2013: GLA:D® Denmark

2015: GLA:D® Canada

2017: GLA:D® Australia

2017: GLA:D® China

2019: GLA:D® Switzerland

2019: GLA:D® New Zealand

2020: GLA:D® Austria

2021: GLA:D® Germany

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