



GLA:D[®]
AUSTRALIA

2022 ANNUAL REPORT

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Sport and Exercise Medicine
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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 2022 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 2022.

We are glad to inform that in 2022 we started an expansion of the GLA:D® program including Accredited Exercise Physiologists on our team of GLA:D trained clinicians. This expansion will help more people around Australia to access the program, and enhance the capabilities of multi-disciplinary clinics to offer the program.

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) Clinician 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 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



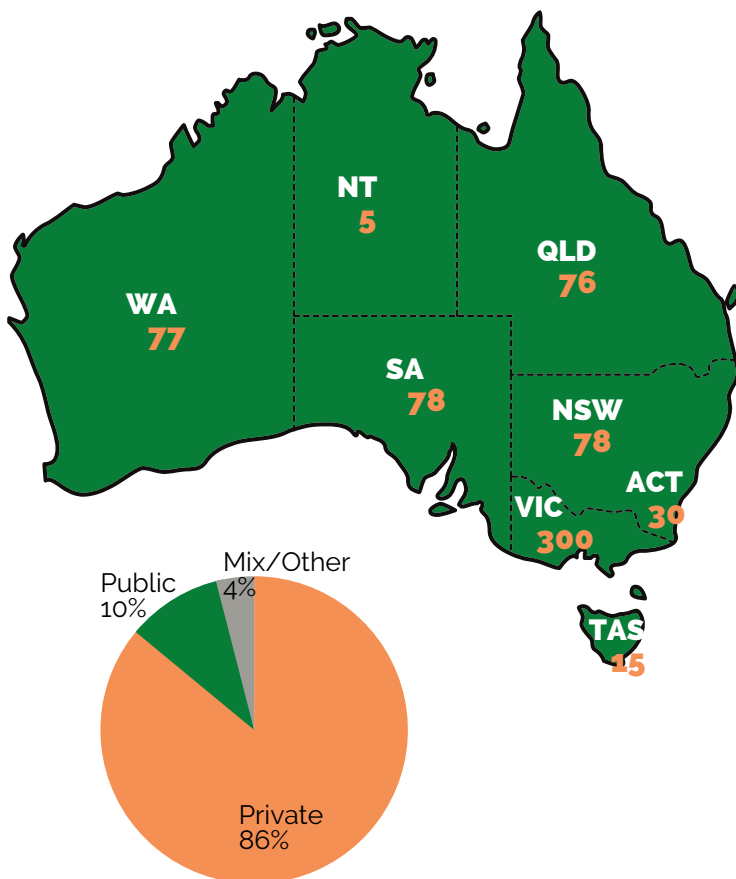
GLA:D® is available in all states of Australia!

The first GLA:D® Australia Physiotherapist training course was delivered in March 2017, with **36** courses held around Australia since this time by December 2022.

2550 Physiotherapists trained from all states and territories

1975 Physiotherapists have completed **certification** so that they can provide the full GLA:D® program in their clinic.

659 sites implemented GLA:D® Australia between March 2017 and December 2022, including private and public settings. Their names are listed on the GLA:D® Australia website.



117 clinics offered the GLA:D® program via telehealth

12 in ACT, 14 in NSW, 11 in QLD

10 in SA, 2 in TAS, 60 in VIC, and 8 in WA

WELCOME TO THE ACCREDITED EXERCISE PHYSIOLOGISTS

In July and October 2022, we had two pilot training courses with 23 Accredited Exercise Physiologists from NSW (3), VIC (8) and WA (12) to identify learning targets, potential knowledge gaps, and how to best facilitate the delivery of GLA:D® to more Australians via Accredited Exercise Physiologists



87% of the Accredited Exercise Physiologists attending were **satisfied** with the course and **100%** of them considered themselves **ready to deliver** the GLA:D® Program

Future training courses

From now, all of our GLA:D® Australia training courses will be open to Physiotherapists and Accredited Exercise Physiologists.

They will be referred to as

GLA:D CLINICIANS



PROFESSIONAL DEVELOPMENT SESSIONS

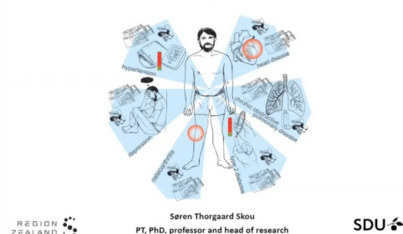
In 2022, we provided 5 Professional Development sessions for GLA:D® trained clinicians with current certification



In February, we had **Professor Soren Skou**, co-developer of GLA:D® and the Project lead of GLA:D® in Denmark, presenting

"Multimorbidity is the next major health priority and physiotherapists can play a central role in future models of care"

Multimorbidity is the next major health priority and physiotherapists can play a central role in future models of care



In March, we had **Dr Allison Ezzat**, Post-Doctoral Researcher and member of GLA:D® Australia Team, presenting

"Telehealth in musculoskeletal physiotherapy practice: The evidence, resources, and clinical tips you need"



In July, we had **Dr Anthony Goff**, Assistant Professor at Singapore Institute of Technology, presenting

"How to provide high-quality patient centered education for people with knee osteoarthritis: Promoting engagement in first-line care and introducing a new web resource"



In August, we had **Dr Adrienne Forsyth**, A/Professor, Nutrition & Dietetics at Australian Catholic University and Adjunct A/Professor, Food, Nutrition & Dietetics at La Trobe University, AdvAPD, AdvSD, AEP, presenting

"Navigating diet and weight management in practice"



NAVIGATING DIET AND WEIGHT MANAGEMENT IN PRACTICE

Dr Adrienne Forsyth
A/Prof Nutrition & Dietetics
AdvAPD AdvSD AEP



In November, we had **Mr Nigel Hartnett**, Knee and Orthopaedic Surgeon specialist in knee reconstruction, knee replacement and complex revision knee replacement, presenting

"Knee osteoarthritis: How to manage the patient prior to surgical referral"



KNEE OSTEOARTHRITIS



***All PD sessions were online and the recordings are available to Certified GLA:D® Clinicians**

To request the recordings, please get in contact via: glad.australia@latrobe.edu.au



GLA:D® AUSTRALIA PARTICIPANTS: WHO ARE THEY?

Number of participants

Between January 2018 and December 2022, **12884** participants had taken part in the GLA:D® program from all Australian states and territories.

82% reported their knee as their primary problem joint

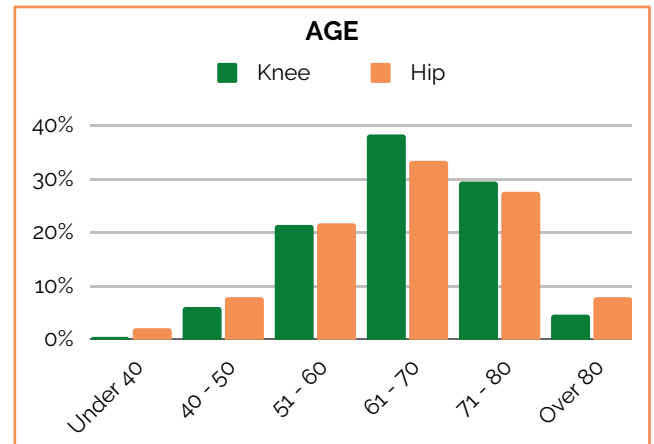
18% reported their hip as their primary problem joint

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 94 year-old man.

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

6 in 7 participants reported **joint stiffness** first thing in the morning.

72% of the knee and **30%** of the hip participants reported experiencing **crepitus, clicking or grinding** in their joint.

88% of the knee participants and **91% of the hip participants** reported **reduced joint movement**.

Comorbidities

66% of the knee participants and **65%** of the hip participants have **other health conditions**. The most common conditions are high blood pressure (32%) and high cholesterol (22%).

Previous surgery

42% of the knee participants and **26%** of the hip participants had undergone previous surgery before they started the GLA:D® program.



GLA:D® AUSTRALIA PARTICIPANTS: 3 MONTHS RESULTS

Reduced Pain

After the GLA:D® program, the average **knee/hip pain intensity decreased** by **31%** (from 45 to 31 mm on VAS (visual analogue scale) 0-100) for knee participants and **28%** (from 43 to 31 on VAS 0-100) for hip participants.

Reduced intake of painkillers

After the GLA:D® program, **46%** of the knee participants and **41%** of the hip participants reported that **they were using less or much less medication**, such as paracetamol, NSAIDs (non-steroidal anti-inflammatory drugs) or opioids.

	KNEE	HIP
Pain	- 31%	- 28%
Medication	- 46%	- 41%
Quality of life	+ 31%	+ 19%
Walking speed	+ 14%	+ 12%

"The GLAD program was excellent in giving me ongoing exercises to maintain mobility and strength in my knees and hips. Given that I have osteoarthritis in both knees and am still keen to play sport, a regular management regimen is essential to my quality of life."

Female, 55 years with symptoms for more than 10 years

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 **19%** for hip participants (HOOS [Hip disability and Osteoarthritis Outcome Score] QoL from 47 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 1.49 m/sec to 1.70 m/sec) for knee participants and **12%** (from 1.51 m/sec to 1.69 m/sec) for hip participants.



3 in 4 participants attended at least 1 education session and 10 exercise-therapy sessions



87% of the participants were **satisfied or very satisfied** with the GLA:D® Program

90% of the participants use what they have learned in GLA:D® at **least once a week**



GLA:D® AUSTRALIA PARTICIPANTS: 12 MONTHS RESULTS

Reduced Pain

The knee participants experienced an **average pain reduction** of **29%** (from 45 to 32 mm on VAS 0-100) and the hip participants an average pain reduction of **23%** (from 43 to 33 on VAS 0-100) compared with before GLA:D® program.

Reduced intake of painkillers

One year after starting the GLA:D® program, **49%** of the knee participants and **46%** of the hip participants reported that **they were using less or much less medication**, such as paracetamol, NSAID or opioids.

Higher quality of life

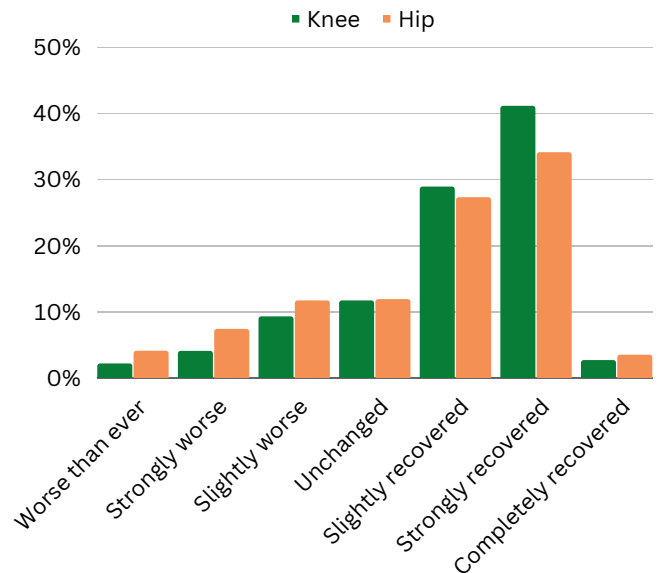
One year after starting the GLA:D® program, participants reported a further **improvement in average joint-related quality of life**. Knee participants reported a **35%** improvement (KOOS QoL from 42 to 57) and hip participants a **21%** improvement (HOOS QoL from 47 to 57) compared with before GLA:D® program.

	KNEE	HIP
Pain	- 29%	- 23%
Medication	- 49%	- 46%
Quality of life	+ 35%	+ 21%
Physical activity participation	+ 10%	+ 9%

"GLA:D program was informative, I learnt that exercise are important to keep knee joint healthy and pain free. I wish I had known this before and could have taken corrective action before..."

Male, 69 years with symptoms for more than 2 years

71% of all participants rated themselves as at least slightly recovered one year after starting the GLA:D® program



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 10%** (UCLA physical activity scale from 54% to 64%) and the number of hip participants increased **9%** (UCLA physical activity scale from 53% to 62%).

Joint replacement surgery



3 in 4 knee participants

who desired surgery **had not received surgery and no longer desired surgery** one year after starting the GLA:D® program.



5 in 8 hip participants

who desired surgery **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 9 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

2021: GLA:D® Ireland

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