GLA:D Hip & Knee Program
Alberta Feasibility Evaluation Report

Alberta Internal Report #1

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March 2021

Alberta GLA:D Feasibility Evaluation Overview

Alberta Internal Report #1

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March 18, 2021

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Table of Contents

About This Report

The ***purpose*** of this internal report is to provide a high-level overview of the evaluation findings, advise how the Bone and Joint Health Strategic Clinical Network may continue to support the GLA:D program in Alberta, and inform a business case for GLA:D programming and/or OA management platform.

The ***audience*** for this report is internal stakeholders who were directly involved in the implementation of the GLA:D hip and knee program in in Alberta. Specifically, this includes:

- BJH SCN Leadership team
- SCN Program Officers
- GLA:D providers in Alberta
- Co-leads and project managers for the BJH SCN's working groups within the *BJH SCN Hip and Knee Program*
- Key partners (e.g. ABJHI, McCaig Bone and Joint Health Institute)

The information presented in this report will be broadly disseminated outside of the Alberta group through peer reviewed manuscript publications (in progress).

Key considerations:

The information presented in this report is based on data collected specifically for this evaluation, information gathered as part of the project management process, and information collected in response to BJC requests (fidelity checks), and descriptive data provided by the GLA:D Canada team (# of registered clinics, patients).

The findings from provider and patient interviews are being prepared for publication. Although the findings presented here are high level, they draw on our evaluation results. As such, we kindly request that this report is not widely distributed at this time so as not to negatively impact publication opportunities.

Lastly, the AB GLA:D Feasibility Evaluation was expanded to incorporate two additional aspects to our assessment of GLA:D:

1. As we are interested in understanding potential variations across the province in relation to GLA:D implementation, we determined it was relevant to further investigate if there are any variations in outcomes across public and private settings as well as for those participants living in metro, urban, and rural locations. We have ethical approval for this aspect of the evaluation and have submitted the required data request to GLA:D Canada. We anticipate the analysis will be completed before the end of the 2020/2021 fiscal year (March 2021).

2. With COVID-19, the face-2-face (F2F) delivery of GLA:D was suspended in the spring of 2020. There was a fast response provincially, nationally, and internationally to enable virtual delivery of GLA:D (and GLA:D training for providers). This was not planned nor anticipated during our initial evaluation planning; however, it presented a unique opportunity to capture the experience of providers and patients of the virtual delivery mechanism/model in relation to on-going program delivery and sustainability in Alberta. We have received ethical approval for this expansion of the qualitative study, and data collection was initiated in August 2020.

Executive Summary

The Good Life with osteoArthritis: Denmark (GLA:D) program is an evidence-based education and neuromuscular exercise program for individuals living with hip and knee OA. GLA:D implementation in Alberta was initiated in 2016, with the first training session hosted by the Bone and Joint Health Strategic Clinical Network (BJH SCN) in partnership with Bone and Joint Canada (BJC).

GLA:D has been successfully embedded within the Alberta landscape, with clinics and providers offering GLA:D located across the 5 zones and the rural-urban continuum. Most clinics are able to sustain the GLA:D program within their local contexts. Spread of the program continues with increasing numbers of providers trained year over year and across different types of public and private settings (e.g. publicly funded clinics, Primary Care Networks (PCNs), private rehabilitation clinics). Overall, GL:AD can be feasibly incorporated within the Alberta health care space, accommodated for context-specific implementation factors. Key barriers included low referrals from doctors (primarily family physicians and orthopedic surgeons), limited space, and challenges specific to rural locations (distance to GLA:D site; different funding opportunities; communities). Key facilitators of implementation included word of mouth advertising by Albertans, access to space, smart packaging of the program that allowed for easy translation in various settings, administrative supports, and leadership support (locally, provincially, and nationally).

Outcomes of GLA:D in Alberta are comparable to what has been reported to date in Ontario and Denmark. Emergent benefits include weight loss and adoption of healthier behaviours post-GLA:D. Although generally GLA:D is perceived as effective, it is not consistently effective for all who participate in the program. Outcomes and interview findings elucidate that there are individuals who did not benefit from GLA:D.

Sustainability of the program requires consideration at the clinic level and individual level. Ability for GLA:D to be continued within a local context requires appropriate resourcing and consistent enrollment into the program. Hence, continued information dissemination and program promotion is critical. At the individual level, sustaining the impact of GLA:D is dependent on continued support post-GLA:D, on-going access to the program, and behaviour change that includes maintenance of regular exercise.

As spread of the program continues, a number of recommendations (outlined in the concluding section) may be considered to enhance appropriate access and support sustainability of the program. The BJH SCN played an important role in initiating the implementation of GLA:D to date as a central coordination and communication ‘hub’ for GLA:D in Alberta. Given its provincial orientation and responsibility in relation to the program to date, the BJH SCN may continue to play an important role in informing the continued development to the program and more targeted spread across the province.

Background

Good Life with osteoArthritis: Denmark (GLA:D) program is an evidence-based education and neuromuscular exercise program for individuals living with hip and knee osteoarthritis (OA)[1]. Feasibility, safety, and effectiveness of GLA:D have been demonstrated in Danish adults with mild to severe hip and knee OA, including significant improvements in pain, quality of life (QOL), self-efficacy, function, reduced use of pain medications, and return to work. Program feasibility, including benefits to patients, in the Canadian context has also been reported in Ontario by Davis et al. (2019)[2].

GLA:D was introduced in Alberta in 2016, led by the Bone & Joint Health Strategic Clinical Network (BJH SCN), in partnership with Bone and Joint Canada (BJC). The BJH SCN endorsed and supported GLA:D as it aligned with the SCN's strategic goal of maximizing mobility and function, and supporting Albertans living with OA. To enable evidence-informed longer-term planning and sustainability of the program, the BJH SCN, in collaboration with University of Alberta researchers Drs. Beaupre and Jones, determined to undertake the Alberta GLA:D Feasibility Evaluation to:

- Explore and further understand the potential benefits for Albertans
- Generate understanding of the factors that enable successful implementation of GLA:D in Alberta
- Determine the feasibility of GLA:D in Alberta
- Inform how further expansion of the GLA:D program in Alberta should and/or could be pursued to ensure appropriate access to the program
- Inform a business case about sustainable spread and scale of GLA:D in Alberta

The specific **evaluation questions** we aimed to address in Phase 1 were:

1. What is the reach of the GLA:D program across the implementation sites?
2. What are the expectations of Albertans living with osteoarthritis (OA) of GLA:D?
3. What are the experiences of Albertans' living with OA of GLA:D?
4. What are the experiences of GLA:D trained providers and their clinic managers/directors GLA:D implementation?
5. Are there Alberta specific contextual factors that affect implementation of GLAD?

We have expanded our evaluation (Phase 2) to address the additional objectives:

6. Identify if outcomes vary across contexts, specifically across public vs private settings, and urban vs rural settings, and in relation to participant characteristics (BMI, sex)?
7. Explore the experience of virtual GLA:D
    a) What are the experiences of Albertans' living with OA of virtual GLA:D delivery?
    b) What are the experiences of GLA:D trained providers and their clinic leaders of virtual GLA:D implementation?
    c) How does the experience of providers and Albertans of F2F (in-person) and virtual GLA:D compare?

[1] https://www.glaid.dk/english.html
[2] https://pubmed.ncbi.nlm.nih.gov/29146385/

Methods

The feasibility evaluation is based on a staged mixed methods approach, with qualitative and quantitative data collected and analyzed between 2017 and 2020 for Phase 1 of this evaluation; Phase 2 is currently in progress.

The evaluation is **conceptually based on the RE-AIM Framework**[3], which consists of 5 dimensions considered to be core components of an implementation:

(R) each – what percent and type of patient is reached by the program?
(E) ffectiveness – what are the effects/benefits and for who is it effective/beneficial?
(A) doption – in what types of clinical settings is the program adopted?
(I) mplementation – how consistently are the program components implemented?
(M) aintenance – how many clinics were able to maintain the program or integrate as a regular standing program offered at their site? And how consistently are outcomes maintained?

Data collected for the evaluation include:

- Qualitative interviews with:
  - participants from the first two training cohorts (*completed*)
  - patients who participated in-person sessions between 2017-2019 (*completed*)
  - patients who participated in virtual GLA:D in 2020 (*in progress*)
  - providers offering virtual GLA:D (*in progress*)
- Expectation surveys from patients (pre-program only) (*completed*)
- Screening logs from providers (*completed*)

Interviews were conducted with rehabilitation professionals (physical therapists, kinesiologists) (n=17) and clinic managers or directors (n=2) from a range of setting types. Thirty-two Albertans living with OA participated in interviews and 385 completed expectations surveys (pre-program). Albertans who participated in the interviews were highly diverse in terms of their symptom picture, how they manage their OA, orientation to exercise, backgrounds, and current lifestyle (although most were retired).

To augment our findings and enable a more fulsome understanding related to our evaluation objectives, data and/or information from additional sources were included in the evaluation, specifically:

- Fidelity checks (completed by Kira Ellis, BJH SCN OA Practice Lead at the time of this evaluation)
- Counts of clinics offering GLA:D in Alberta and number of Albertans registered to the GLA:D Outcomes Database (from Bone and Joint Canada/GLA:D Canada Team, Inform Alberta, BJH SCN GLA:D provider database)
- Outcomes data collected by GLA:D Canada

[3] https://www.re-aim.org/

Findings

Emergent findings from the qualitative interviews with providers and Albertans who completed the GLA:D program, and supplementary information is organized and presented under the five domains of the RE-AIM Framework: Reach, Effectiveness, Adoption, Implementation and Maintenance. This section concludes with the perceived role of the BJH SCN in the implementation of GLA:D in Alberta.

Reach – *The absolute number, proportion, and representativeness of individuals who are willing to participate in a given initiative.*

Reach at the clinic level was highly variable. Based on screening logs of 3 clinicians and information provided during the interviews, 20% to 90% of patients referred to the GLA:D program were identified as suitable candidates through the providers' screening and assessment processes. This variability seems to be associated by marketing approaches used and presence of pre-existing group programming. Generally, in settings where the marketing was limited (within a clinic, target audience) and/or group programs were already offered at the site, reach was high – ranged from 50% to 90%.

Reach based on referrals outside of the clinic cannot be determined as we do not have information about the number of OA patients seen by providers outside of the GLA:D clinic that would refer to the program.

At the provincial level, it is estimated that 400,000 Albertans live with osteoarthritis. As of November 2020, based on registrations to the national GLA:D Outcomes Database, ~1600 Albertans had completed at least one GLA:D program. Therefore, the overall reach at the provincial level is low.

It is important to note that 'reach' was a challenging concept to capture in this evaluation. The screening log was not a useful tool as many did not complete the screening logs and many also voiced a high level of uncertainty as they were not involved in the initial referral process and, for some, the initial screening processes. Rough estimates provided during the interviews are just that, rough estimates as they draw on selective memory.

Effectiveness – *Impact of an intervention, including potential negative effects.*

The experiences and perceptions of GLA:D by providers who deliver the program and Albertans living with OA who took the program indicate that overall, GLA:D is acceptable and beneficial to individuals living with OA. Differences across settings (public/private and/or urban/rural) were not elucidated through the interviews.

The qualitative data not only corroborates the measured outcomes reported in the GLA:D Annual Report[4], it also enables a better understanding of the measured outcomes by further expanding the meaning of these numbers within participants' lived experiences.

Providers' observations and Albertans' experiences corroborates the measured outcomes reported in the GLA:D Annual Report[5]. Overall, participants reported positive impact in terms of pain, strength, mobility,

[4] https://gladcanada.ca/index.php/results
[5] *Ibid*.

and overall function. This translated to daily activities that for many were previously significantly limited or unavailable such as gardening, playing with grandchildren, recreational activities, and getting in and out of a vehicle. Even getting up on a horse (literally!).

Additional benefits described by participants:

- Enhanced confidence, empowerment, and motivation
- Establishing new habits and new behaviours in relation to physical activity and exercise
- Prevention of or delay in surgery
- Weight loss
- Improved muscle tone

Lack of lack of measured change does not mean a lack of improvement.

One provider noted that the chair stand-sit results did not increase as expected over the 6-week program period. However, the provider observed that the participants were doing the exercise with more intent – they were *"…more considerate of alignment at their post. So they were so careful to do them perfectly that they weren't necessarily going as fast as what they did initially".* (P7)

The group format was perceived to be an important a social element that contributed to the good outcomes as it created a supportive network making exercise a positive experience and normalized the reality of living with OA for some.

The education sessions were not only sources of information but also became a forum where participants could share their experiences or ask questions of each other. The OA-specific knowledge acquired appeared to enable participants to be prepared to better manage their OA. As one participant said – "*I now know what to do*".

Expectations

Participants' expectations of the program were captured in a pre-program expectation survey[6] (see Appendix 1). Of the 385 respondents, the majority (~45%) were from the Edmonton zone, and specifically Edmonton. There was a relatively even distribution of participants who attended GLA:D in public funding vs private clinic settings.

Overall, participants had expectations that GLA:D would help with their pain and physical abilities. Almost all participants (~82%) expected pain relief; majority expected most pain to be relieved, whereas a few (10%) expected that all pain to be resolved. Physical abilities - from joint movement to walking to participating in recreational activities - were rated as very important and expected to improve with GLA:D. Expectations related to use of transport or driving, assistive devices, and work did not apply to majority of survey respondents. Majority also indicated an expectation that their psychological well-being would improve. Generally, females had higher expectations than males in relation to improvement in pain, walking, ability to straighten their leg, and psychological well-being.

These expectations were corroborated in the interviews, where it was evident that participants came into to the program with goals to improve their circumstances. Interviews also shed light on additional expectations (or hopes) of the program – losing weight, curing their OA, or even as part of a "try anything to make it better" plan. Further, motivators for GLA:D participation that emerged during the interviews included a desire to remain independent, actively participating in daily life (e.g. gardening, playing golf, playing with grandchildren), and avoiding surgery.

[6] The expectation survey was adopted from the standardized survey validated in the OA population - the "Hospital for Special Surgery Knee Replacement Expectations Survey" (Mancuso et al. 2001)

GLA:D did not benefit everyone

While we did not assess if expectations of those completing the GLA:D program were met with a post-program survey, the question was addressed during the interviews. Most reported that the program met or exceeded their expectations; however, a few individuals (n=7, 23% of interviewees) felt that their expectations were not met. For some, this was related to the program itself – it was boring, or it did not present anything new. A few felt their problems (e.g. fear of going down stairs, disease was too advanced, decline in health other than OA) could not be addressed through GLA:D. For some it did not relieve the symptoms, and for some, it exacerbated their OA-symptoms. Two participants expressed disappointment as it did not cure their OA[7].

GLA:D providers also noted that not all participants benefited from GLA:D. Several observed individuals who did not progress over the 6-week period or reported little change in their symptoms. This led some providers to conclude that GLA:D is not suitable for all, specifically, those with hip OA, patello-femoral specific issues or pain, significant functional restrictions, and severe symptoms.

Adoption – *In what types of clinical settings is the program adopted?*

Based on information collected by the BJH SCN, since GLA:D was introduced to Alberta with the first training session in May/June of 2016, in Alberta there are 190 GLAD-trained rehabilitation providers, including physical therapists, chiropractors, kinesiologists and exercise therapists.

GLA:D has been adopted in a range of clinical settings across Alberta, including:

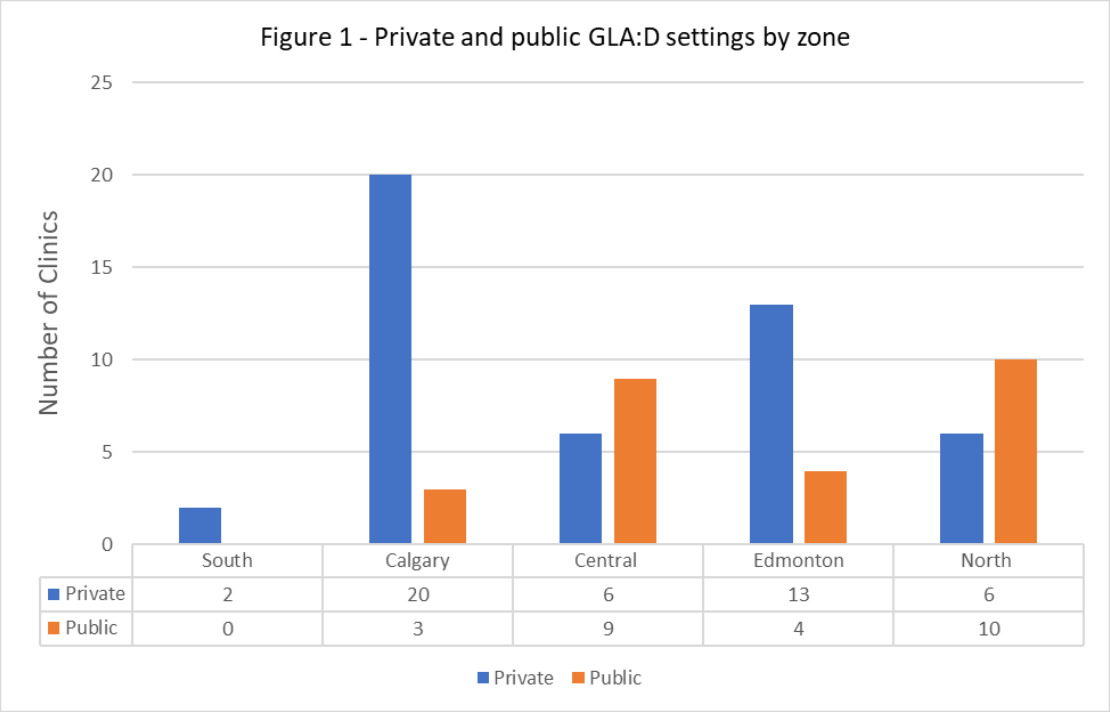
- Private rehabilitation clinics
- Publicly funded health care centers and/or programs
- Hospitals
- Primary care networks (PCNs)
- Hip and knee clinics
- Fitness centres

As of November 2020, GLA:D is offered in 73 registered Alberta locations. Of these, 47 (AHS clinics, PCNS, hospitals) offer publicly funded GLA:D programming (referenced as public sites) and in the remaining 26 clinics (private clinics, hip and knee clinics, and a gym) GLA:D is paid for privately - out of pocket or third-party private insurance. GLA:D was subsidized by program funding at some sites; however, this approach did not appear to be sustainable.

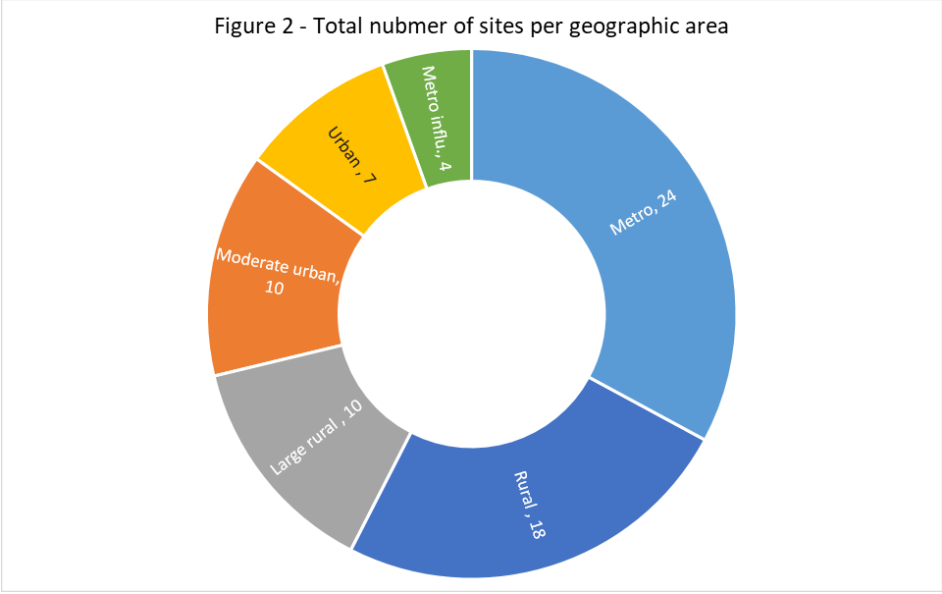
To date, 7 sites (4 private and 3 public) have opted to stop offering GLA:D.

The GLA:D program is available in the **five health zones** in both public and private settings (Figure 1), with the exception of the South zone, where it is only offered in private settings. There is also a trend where more private clinics are offering GLA:D in the Calgary and Edmonton zones whereas more publicly funded clinics are offering GLA:D in the Central and North zones.

[7] It is important to note that there is explicit information provided by GLA:D to participants that GLA:D is not a cure for osteoarthritis.



In terms of geographic location, the GLA:D program is offered at least one clinic in 73 centers, ranging from rural to metro[8]. The distribution of sites across the different geographic areas are presented in Figure 2. Please refer to Appendix 3 for a table detailing the specific towns and cities for each geographic area.



[8] Based on the AHS classification system, there are 7 geographic categories that define the "rural-urban continuum" – metro, urban, moderate metro influenced, moderate urban influenced, large rural, rural, and remote. Descriptions of each are provided in Appendix 2.

Highlights regarding current spread of GLA:D in Alberta:

- GLA:D is offered in 28 rural locations - 18 small rural locations (population less than 10,000) and 10 larger rural locations (population between 10,000 to 25,000).
- In the Calgary zone, the majority of clinics (74%) are in Calgary, whereas in the Edmonton zone, 41% of clinics are in the metro area of Edmonton.
- Comparing Alberta's 2 metro centers:
    - Calgary has more than twice the number of clinics offering GLA:D compared to Edmonton (17 vs 7, respectively).
    - GLA:D is disproportionality offered in privately funded settings. There is one publicly funded clinic offering GLA:D in Edmonton and none in Calgary.

Implementation – *At the setting level, implementation refers to the intervention agents' fidelity to the various elements of an intervention's protocol, including consistency of delivery as intended and the time and cost of the intervention. At the individual level, implementation refers to clients' use of the intervention strategies.*

GLA:D was very well received by providers and Albertans. It was perceived by providers as evidence-based and "well-packaged", which facilitated knowledge translation. It was a good fit with local OA programming or filled a gap in non-surgical service options for OA patients. Albertans who completed the program found the program simple, adaptable to their level or needs, and easy to learn, uptake and translate it into their daily routines.

Almost all providers or clinic managers interviewed had set up and delivered at least one group class. At the time of the interviews (2017-2018), approximately one in three (n=5) had offered a GLA:D class on a consistent basis since inception. For the few (n=4) who were unsuccessful in running the GLA:D program, this seemed directly related to limited space for a class-based program or significant enrollment challenges (lack of referrals, limited uptake). Uptake was also slower and/or more challenged in rural settings given the physical distance to access the program, and unique characteristics of rural communities that influence access to programs outside of their immediate community.

Implementation was generally discussed in two stages: program set up and program delivery.

Program set-up

Almost all followed the same process of a referral to the program, initial screen, assessment, and registration, with some variation based on local set up and resource access. On average, it took about 3-4 months for the first class to run after training was completed.

Enrollment at all sites was on a first come first serve basis. Rolling recruitment[9] was not used and waitlists were infrequent. Aside from the screening requirements of the program, no other factors were used to identify suitable candidates for the program.

Class sizes ranged from 2 to 12 participants: some used assistants in the exercise portion of the program. Providers' experiences suggest that a group size of 6-8 was optimal for one provider to balance

[9] Rolling recruitment is a process where a program is continuous, and participants may begin the program at any time or in a staggered manner. There is not official start or end date of the program.

progression of the group and attending to individuals' needs. Overall, the dropout rate reported appeared to be low.

The cost of the program in private settings ranged from $375 to $450, which included the assessment. Albertans who completed GLA:D in a private setting were willing to pay from $0 to $500 for the program. The dollar value seemed to be associated with perceived novelty of what the program offered and comparisons to other gym-based exercise programs.

Although broadly GLA:D funding is identified as public or private, there are more nuanced variations within each of these broad funding models. For example, public funding may be AHS contracted providers or funding through operational budgets of a clinic or network. Private funding may reflect a direct out-of-pocket expense or coverage by a private health insurer.

Based on the initial implementation efforts by Alberta's GLA:D providers and lessons learned, models of GLA:D delivery may include:

- Integrated – GLA:D is embedded into clinic programming.
- Parallel – GLA:D is offered at a clinic but as a stand-alone program, not linked to a broader clinic approach or programming.
- Separate – GLA:D was offered by a provider who may be linked to a clinic but delivered in space external to the clinic and accessible to the public (e.g. gym, recreation center).
- Separate – GLA:D may be offered within specific communities exclusively for the community members (e.g. senior's residences; first nations communities; Mennonite communities; immigrant groups that culturally do not access gyms etc.).

A number of considerations and challenges had to be dealt with prior to implementation of the program, with contextual variations. However, most providers reflected that the process was relatively smooth and without major hurdles.

Key facilitators of program set up and uptake were:

1. Access to space for the education and exercise sessions
2. Effective promotional activities
3. Administrative support
4. Leadership support (local, provincial, & national
5. Smart packaging of the program that allowed for easy translation

Key challenges with program set up:

1. Lack of referrals, particularly from doctors (family physicians, surgeons, rheumatologists)
2. Perceptions regarding 'free' access to GLA:D
3. Expenses (program start up; hidden costs – please refer to Appendix 4 for additional details)
4. Access in rural locations (e.g. travel time/distance, funding structures for rehab services)
5. Program set up not conducive for certain communities (e.g. Indigenous groups, Mennonite communities, immigrant communities where men and women do not exercise together)

Program Delivery

All providers followed the same steps in delivering the program: initial screening, assessment, two education session and 2 weekly exercise sessions over a 6-week period.

Overall, the program was delivered as intended, indicative of high fidelity. This is corroborated by the fidelity checks (n=6) completed by Kira Ellis (see Appendix 5). Modification or adaptations that were made, which were not considered to compromise program fidelity, included:

- Augmentation of education content (based on provider knowledge)
- Variations in scheduling of the education sessions (e.g. offering education sessions to multiple GLA:D groups; offering the second session after the exercises had been initiated)
- Creative solutions to the cardio component of the exercise sessions since many did not have access to stationary bikes or space for cardio activities such as walking etc.

Lessons Learned

The experiences of the first GLA:D providers in Alberta provide a unique opportunity to understand factors that facilitate successful program implementation. Several providers noted that the first foray of offering GLA:D involved a steep learning curve. Below are the "lessons learned" through this process shared by the providers.

Paying for GLA:D has its benefits – although there is a significant amount of concern about referring patients to programs that are not covered by public insurance, some providers noted that paying for the program has some benefits. For example, one provider observed that there seemed to be more consistent attendance. Another explained that paying "…*makes individuals more invested in the program and they know they have to show up and give it their all because they paid for it*" (P1).

Word of mouth promotion – Word of mouth from Albertans who completed the program was a key in promoting the program. Although not part of defined promotional strategies, it has emerged as one of the more effective promotional 'tools'.

Allow for more time than you anticipate – Almost all providers commented on the amount of time required at each of phase of the GLA:D implementation – from set up to delivery. The first set up in particular requires more time in order to identify processes/structures, apply them out, assess what worked and then adjust. When delivering the program, a common experience was that the GLA:D class often went over the 1-hour mark. In addition, providers' experience suggests that most classes required at least 2 hours of their time in order to prepare a space for the session, charting, and respond to participants' questions/comments before and after classes. These factors should be considered to capture the true costs of GLA:D from a personal resourcing side.

Progress slowly, especially when starting – Several providers noted that going too fast or too hard with the exercises, especially in the beginning, will set providers and clients up for failure (e.g. exacerbate pain) and de-incentivize continuation in the program. One provider (P18) noted:

> *"And the first day is critical. The first exercise session is critical in how the rest of the sessions go…If they come back the second day, that, you know, that really sets a tone. So you want them to be successful and so it's really important that they don't overdo it on the first day".*

Managing diverse needs – Groups were often comprised of a variety of clients varying in age, strength/fitness levels, and OA severity. Most providers spoke about the challenge of balancing time

spent with individual clients to address specific needs and progressing the group.

Screening is critical – Several providers discussed the importance of the screening process, emphasizing it as a critical pre-assessment step and that this really needs to be done by the GLA:D provider. Done properly, the screening process should identify individuals who not only meet the criteria for GLA:D but also suitability for exercise and for group programming. Once the screening process is established, it enables a much more efficient assessment process.

Maintenance – ***The extent to which a program or policy becomes institutionalized or part of the routine organizational practices and policies. This also has referents at the individual level. At the individual level, maintenance has been defined as the long-term effects of a program on outcomes after 6 or more months after the most recent intervention contact.***

At the program level, it appears that the initial foray into offering the GLA:D program was exploratory – most expressed a "…*let's see how it goes*…" attitude. There seemed to be a focus on first testing out the program before committing further time or resources for longer-term programming, including training additional staff to be able to deliver the program or investing in marketing or equipment.

However, a few providers set up the program with sustainability in mind. For example, several discussed the idea of setting up GLA:D in community spaces such as gyms to enable continuity after the program was completed. Others intentionally trained more than one provider to ensure capacity.

Sustainability also seemed to be dependent on demonstrated benefits at the local level. Although the research evidence drew providers to the program, sustainability was closely linked to in-house evaluation of the program and demonstrated benefits within the local patient population.

Sustainability at the individual level was focused on adherence to self-management. Based on the experience of both patients and providers who participated in this evaluation, GLA:D would likely have even greater impact as a continuous program. Currently, in almost all settings, GLA:D delivery is based on an episodic care approach – the program is usually offered as a one-time occurrence. However, setting up participants for success meant establishing a viable transition plan post-GLA:D. Ideas shared by interview participants – providers and Albertans – included:

- Provision of additional exercise sheets at the end of the program so that participants could continue to track their progress
- Follow up or re-fresher sessions
- Running the program in a gym to familiarize participants with the space so they were comfortable returning after the program was completed to continue exercising
- Allowing people to repeat the program

Although most expressed agreement about enabling continuity of exercise post-GLA:D, the complexity of a managed follow up process was quickly recognized – who would do it, when, who would be accountable for developing and funding such a program. It is important to note that current GLA:D training includes self-management and enabling transition so that exercise is maintained after the program ends.

Role of the BJH SCN

The providers' experience and perceptions indicated that the BJH SCN played an important role in the implementation of GLA:D in Alberta.

For many, GLA:D came to their attention because of the SCN. Whether directly or indirectly, the SCN appeared a key mechanism disseminating information across the province about GLA:D.

The SCN offered support that was perceived as valuable in the implementation journey for most providers and/or clinic managers/directors. This support came from access to a knowledgeable "go to" person they could contact directly that could provide immediate guidance on implementation related issues or questions. The GLA:D Community of Practice set up by the BJH SCN also appeared helpful in terms of generating ideas or developing some level of comfort with their plan and/or commonality in some of the challenges encountered in setting up the program, teaching, and modifications for individual patient needs.

Several providers also commented that the SCN's involvement leant credibility to the program – a provincial initiative was perceived better than a localized initiative. Marketing materials from the SCN with an AHS "stamp of approval" were perceived as trustworthy.

For some, the BJH SCN fell short of expectations. A couple of providers felt the SCN should be more involved in directing where GLA:D is offered - across the province and in the larger cities. One provider discussed that the SCN should have actively secured space in public settings where GLA:D programs could have then been organized. Lastly, a couple of providers expressed disappointment that if AHS, via the BJH SCN, is bringing GLA:D to Alberta, it should fund GLA:D. Coverage for training fees was also an expectation of a couple of the providers – and training across the board of public and private providers.

Conclusion

In conclusion, since implementation was initiated in 2016, GLA:D is becoming successfully embedded in Alberta and a non-surgical intervention for managing OA symptoms, addressing an existing gap in many locations across the province for such programming.

Upon completion of Phase 1 of the evaluation, the following outlines our response to each of the evaluation objectives:

Explore and further understand the potential benefits for Albertans

Overall, the GLA:D program was perceived as beneficial by both, the Albertans who completed the GLA:D program and the providers who delivered GLA:D. In addition to the outcomes of improved function, increased knowledge, and lower pain levels, through the interviews, it became apparent that gains were also made in terms quality of movement and adoption of healthier behaviours. The group setting appeared to offer an important element that was encouraging and motivating and likely influenced the reported outcomes.

Generate understanding of the factors that enable successful implementation of GLA:D in Alberta

Expectedly, the process of implementation varied across geographic locations; most of these variations were influenced by or resulted from the established relationships, networks and operations of clinics and/or providers where the program is being incorporated. However, consistently, the following were identified as key factors that led to successful GLA:D implementation:

- Access to a suitable and affordable space for both the education and exercise classes
- Effective referral sources to the program (both internally and externally, and particularly from physicians)
- Word of mouth promotion of the program by those who completed the program
- Local leadership support
- Support of the BJH SCN as a “central coordination hub”

Determine the feasibility of GLA:D in Alberta

Our evaluation indicates that GLA:D can be feasibly implemented in Alberta’s health care system, both within the public and private settings and across the rural to urban continuum. Further, program delivery appears to have high fidelity. Lastly, it appeared to be acceptable to Albertans who completed the program, providers and local clinic managers/directors in settings where GLA:D is offered.

It is important to highlight that this implementation was done in a nibble way by an agile team. It was not dependent on dedicated funding or a formalized implementation plan; however, it was resourced by strong partnerships and contributions within the local contexts, input at the provincial level by the BJH SCN, and nationally by BJC and the GLA:D Canada team.

Inform how further expansion of the GLA:D program in Alberta should and/or could be pursued to ensure appropriate access to the program

Important considerations regarding on-going presence and/or expansion of the GLA:D program emerged during the evaluation. Based on our findings, potential next steps for consideration are:

An area of focus may be to incent GLA:D delivery in locations lacking GLA:D and a more proportionate distribution of GLA:D within metro and large urban settings, ensuring access to GL:AD in public and private settings. In addition to location, access would be improved with more frequent program offering and more time options.

This is the first province wide program in Alberta for first line treatment of OA offering Albertans choices other than surgical options to manage their OA, with encouraging results. On-going spread will be dependent on continued and effective information dissemination about GLA:D to promote the program – both at the local and provincial levels. The key group that should be engaged and targeted are Albertans, as they appear to be a key driver for GLA:D uptake.

Maintain a coordination or liaison role within Alberta that may be a central point of contact for providers and with the national GLA:D Canada team.

Enabling continuity of GLA:D exercises is critical for longer term success for effectively self-managing OA symptoms.

It is important to consider that GLA:D may not be suitable for all Albertans living with OA; the outcomes data as well as the observations of providers and experiences of Albertans who completed GLA:D suggest that although many benefited from the program, there was a noticeable proportion that did not. Generating an understanding who responds to GLA:D is important in on-going program spread. Further, more appropriate approach to GLA:D may be that it is an option to be explored rather than *the* solution.

The BJH SCN played an important role facilitating the initial footprint of GLA:D in Alberta. As spread and scale continues, it may be well positioned to continue in a supportive role to ensure appropriate and sustained access to the program.

Inform a business case about sustainable spread and scale of GLA:D in Alberta

A business case for GLA:D will depend on information from various sources, including but not limited to:

- Outcomes of the program, short term (3-month) and long term (12 months)
- The economic analysis (work led by D. Mazzei, under the supervision of D. Marshall),
- A better understanding of responders/non-responders (informed by the current BJH SCN Targeted Seed Grant Competition; and current study comparing GLA:D to Joint Effort),
- Alignment with a larger non-surgical OA management platform, and
- Findings of this AB GLA:D Feasibility Evaluation.

Here the focus is on the evaluation findings and how they may inform a GLA:D business case, specifically in relation to demand, capacity, and access:

Based on the current prevalence of osteoarthritis and projections of an increasing rate for OA occurrence, the ***demand*** for GLA:D will likely remain, if not increase. Currently, the reach of the program is limited and can certainly be expanded. ***Capacity,*** specifically referencing trained providers available to deliver GLA:D, is dependent on several factors, including on-going training opportunities, a range of provider types offering GLA:D (high concentration of physical therapists initially), and more than one trained provider per site offering GLA:D. Optimally, ***access*** to GLA:D will continue in both public and private clinics. This enables program access that is responsive to the diverse needs and variable resources of Albertans. In addition, access should be to a continuous GLA:D program and may be more targeted to ensure appropriate access.

Appendices

Appendix 1

GLA:D Expectation Survey

Mark an X on the number that best describes your response to each question.

How important are these expectations in the treatment for your knee?	Very important	Somewhat important	A little important	I do not expect this	This does not apply to me
relieve pain	1	2	3	4	5
If you expect this, mark an X on one:	☐ relieve some pain ☐ relieve most pain ☐ relieve all pain				
improve ability to walk	1	2	3	4	5
If you expect this, mark an X on one:	☐ short distance (indoors, 1 block) ☐ medium distance (take a walk, less than 1 mile) ☐ long distance (more than 1 mile)				
remove the need for a cane, crutch or walker	1	2	3	4	5
make knee or leg straight	1	2	3	4	5
improve ability to go up stairs	1	2	3	4	5
improve ability to go down stairs	1	2	3	4	5
improve ability to kneel	1	2	3	4	5
improve ability to squat	1	2	3	4	5
improve ability to use public transportation or drive	1	2	3	4	5
be employed for monetary reimbursement	1	2	3	4	5
improve ability to participate in recreational activities (for example, dancing, pleasure travel)	1	2	3	4	5
improve ability to perform daily activities (for example, daily routine, household chores)	1	2	3	4	5
improve ability to exercise or participate in sports	1	2	3	4	5
improve ability to change position (for example, go from sitting to standing or from standing to sitting)	1	2	3	4	5
improve ability to interact with others (for example, take care of someone, play with children)	1	2	3	4	5
improve sexual activity	1	2	3	4	5
improve psychological well-being	1	2	3	4	5

Appendix 2

Rural-Urban Continuum – Geographic categories

Metro Centres – population >500,000. Calgary and Edmonton proper.

Metro Influenced Area - defined by AHS Local Geography areas immediately surrounding Calgary and Edmonton. These are deemed as commuter communities (live outside of Calgary/Edmonton but commute to Calgary/ Edmonton for work and business).

Calgary metro influenced area includes the towns of: • Cochrane • Airdrie • Okotoks • Priddis • Chestermere Lake • Springbank area

Edmonton metro influenced area includes the towns of: • St Albert • Fort Saskatchewan • Stony Plain & Spruce Grove • Sherwood Park • Leduc

Urban - 5 major urban centres with populations > 25,000 but less and 500,000 (Grand Prairie, Fort McMurray, Red Deer, Lethbridge, Medicine Hat).

Moderate Urban Influenced – Local Geographic areas surrounding the 5 urban centres. These areas are typically considered rural given that their populations are low and the Local Geographic areas do not define these areas properly (refer to note below).

Large Rural Centres and Surrounding Areas – 10,000 to less than 25,000 population (Brooks, Canmore, Wetaskiwin, Camrose, Lloydminster, Cold Lake). These areas are considered rural but are defined for the purpose of special studies. All 5 areas have unique populations and industries but belong to the rural area.

Rural Areas – populations less than 10,000 and up to 200 kilometres from a Metro or Urban centre. These include towns, villages, hamlets, and agricultural areas.

Remote – greater than 200 kilometres from a Metro or Urban centre. Industries tend to include oil & gas, forestry, hunting/trapping, tourism and sometimes pockets of agriculture.

Notes: The areas surrounding the 5 major cities (moderate urban influence), excluding Calgary and Edmonton, are too small at this time to separate from the surrounding rural areas. Hence these areas are considered rural for the purpose of analysis and planning. A redesign of moderate urban influenced areas is under redevelopment. Moderate Metro influenced areas around Edmonton are undergoing redesign to demarcate the rural areas.

Source: https://open.alberta.ca/dataset/a14b50c9-94b2-4024-8ee5-c13fb70abb4a/resource/70fd0f2c-5a7c-45a3-bdaa-e1b4f4c5d9a4/download/Official-Standard-Geographic-Area-Document.pdf

Appendix 3

Geographic location of GLA:D sites

	LOCATION	POPULATION	GEOGRAPHIC CATEGORY	NO. OF SITES
1	Bashaw	830	Rural	1
2	Coronation	940	Rural	1
3	Lamont	1,774	Rural	1
4	Black Diamond	2,700	Rural	1
5	Sundre	2,729	Rural	1
6	High Level	3,159	Rural	1
7	Westlock	5,101	Rural	1
8	St. Paul	5,827	Rural	1
9	Stettler	5,952	Rural	2
10	Bonnyville	5,975	Rural	1
11	Slave Lake	6,651	Rural	1
12	Peace River	6,842	Rural	1
13	Ponoka	7,229	Rural	1
14	Edson	8,414	Rural	2
15	Morinville	9,848	Rural	1
16	Hinton	9,882	Rural	1
17	Whitecourt	10,204	Large rural	1
18	Wetaskiwin	12,655	Large rural	2
19	Lacombe	13,057	Large rural	2
20	Strathmore	13,756	Large rural	1
21	Canmore	13,992	Large rural	1
22	Cold Lake	14,961	Large rural	1
23	Camrose	18,742	Large rural	1
24	Fort Saskatchewan	24,149	Large rural	1
25	Cochrane	25,853	YYC- metro influenced	1
26	Okotoks	28,881	YYC- metro influenced	1
27	Leduc, Beaumont, Devon	29,993	EDM – metro influenced	1
28	Lloydminster	31,410	Moderate urban	1
29	Grande Prairie	63,166	Moderate Urban	4
30	St. Albert	65,589	Moderate urban	4
31	Fort McMurray	66,573	Moderate urban	1
32	Airdrie	68,091	YYC- metro influenced	1
33	Sherwood Park	70,618	Urban	4
34	Lethbridge	92,729	Urban	2
35	Red Deer	103,588	Urban	2
36	Edmonton	981,280	Metro	7
37	Calgary	1,336,000	Metro	17

Appendix 4

Key challenge to implementation: Expenses (interview findings)

For most providers in the private sites, the business case for GLA:D was not financially compelling. Revenues were often lower than incomes, and breakeven seemed to be the best scenario. Also noted was that physical therapists were the most expensive provider to offer the program. Several providers alluded to the hidden costs which was the time required and often under-estimated or not accounted for in the actual cost of the program, including provider time to prep for each class, administrative support, charting. As stressed by P 14:

> *"…leadership's eyes light up because they see 10 people attending for an hour. And they see that as a great bang for their buck. But I think the, the, the prep time is the thing that gets – doesn't always get appreciated. How much work that actually is. So would be something I'd kind of want to stress"*

However, most providers stated that GLA:D was still worth it, even at small loss, because they felt the program was effective, it was important to contribute in this way, and it addressed a gap in the current care and/or options available to people living with OA. Additionally, one provider noted that although they ran the program at a small loss (which reduced as they became more efficient), this was made up for by the marketing of their clinic that resulted from running GLA:D – group participants became future patients and visibility in the community was greater.

> *"I think we'll probably break even. Um but I actually think – you know what? It doesn't really matter….we're not doing this to get rich. We're doing this to, I think it's a good cause. And I think the program is great. And I think the more we can get it out, the better" (P2)*

Interestingly, several participants who had initially offered the program without direct costs to the patient discussed that moving forward, they would be implementing fee structures; two sites specifically discussed options within a case rate approach. This was specifically discussed in the context of hip and knee clinics and external fitness facilities.

Appendix 5

Report: GLA:D Fidelity Checks in Alberta

Report prepared by Kira Ellis, OA Practice Lead, BJH SCN

June 2020

Quality monitoring is a component of GLA:D® Hip and Knee. One component of the quality monitoring required by, GLA:D® Canada is assessing the program fidelity. To that end, GLA:D® Canada has designed a Fidelity Checklist and collaborated with provincial partners to perform local visits to assess the GLA:D® program in action. Areas of review included the delivery of the program, including the physical space and patient interactions to ensure the program met GLA:D® standards set by Denmark. In Alberta, a member of the BJH SCN completed 6 in-person fidelity checks between June 2018 and July 2019.

GLA:D® providers undergoing a fidelity check had at minimum delivered one full program prior to the visit. At the visit, the reviewer spoke to the clinician(s) and/or the clinic manager to understand the flow of the session, discuss any challenges or questions, as well as learn more about future plans for the program. The reviewer documented whether the standards were “Not met”, “Partially met”, or “Completely met”. These reviews were shared with the clinic site as well as GLA:D® Canada.

Review of these visits showed that the physical environment and the therapist’s interactions with patients completely met the outlined standards. Environmental factors included adequate clinic space, clear sightlines for the clinicians to observe participants, adequate exercise equipment used safely, completing the program in the desired 60 minutes, using visual aids to support participants, presence of cardiac monitors (blood pressure cuff and oxygen saturation monitors). Therapist factors including delivering instructions and communication skills to facilitate a group were observed to completely meet standards in all cases.

Program factors including delivery of education and exercise had only 3 noted deficits in total. In 2 cases the therapists were not asking patients to monitor their pre and post pain ratings using a Visual Analog Scale (VAS). In one of these cases, the session observed was Exercises #11/12, and the therapist said that as they approached the completion of the program, monitoring pain became less of a priority. One clinic did not have the participants perform a cool down in the clinic. The clinician noted that the patients preferred to do a cool down by walking outside. And finally, one clinic did not have participants tracking their exercises in a journal or tracking sheet. Resources were provided to this clinic in order to meet that standard going forward.

The most common partially met standard was the rate of registration in the GLA:D® Canada database. 4/6 clinics reported that participants had difficulties with registration including the following: technical issues with passwords requiring support to login; unable to register independently and at times bringing in their laptops for support; some patients reporting that they weren’t sure if they had registered; therapists reporting frequent reminders for registration; and in one case, a clinic therapist was assigned to complete all registrations on behalf of the participants.
Participant factors including following instructions, accepting feedback, and showing engagement were completely met in all fidelity visits. In fact, participants often volunteered their appreciation and successes to the reviewer.

Overall, some variation in program delivery was noted, including the number of programs running simultaneously, the point in time when the second education session was delivered, and some clinics chose to teach the exercises over the first 2 exercise sessions to improve patient learning and reduce incidence of flare ups.