

# Implementation Trial of the PozQoL Scale

Version 2.0

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# Executive Summary

This report provides a final summary of the outputs and outcomes from the PozQoL Implementation Trial of the PozQoL Scale (1) in community and health services working with people living with HIV (PLHIV).

The trial was a partnership between:

- The Australian Research Centre in Sex, Health and Society (ARCSHS)
- The National Association of People with HIV Australia (NAPWHA)
- Living Positive Victoria
- Positive Life New South Wales
- Queensland Positive People

This report follows from a progress report provided in October 2018.

The aims and outcomes of the project are summarised below.

<b>Project Aim</b>	<b>Data</b>	<b>Outcome</b>
Assess the usability, acceptability and usefulness of the PozQoL scale in the day-to-day work of different health and community services	Quantitative survey (n=19) and qualitative interviews were conducted with practitioners (n=9) from 7 organisations.	There was strong overall support for PozQoL and its usefulness, usability and acceptability in community-based services, and some degree of support in clinical services. Suggestions were identified for enhancing the usability and incorporation of PozQoL.
Assess how sensitive the PozQoL scale is in measuring changes in health-related quality of life as a result of interventions or services	Baseline and 3-month follow-up data was collected from 95 clients from 6 organisations	Analysis found that the PozQoL scale was sensitive enough to measure changes in quality of life within a two- to three-month period.

# Summary of results

## Usability Trial

PozQoL rated highly for usability and usefulness among staff at participating organisations. The most commonly reported strengths of the PozQoL scale included:

- easy to use,
- supported understanding of the client group accessing the program/service,
- enhanced communication or topics discussed with the clients, and
- supported discussions with clients about elements of quality of life.

There were a range of logistical barriers that some services faced in incorporating PozQoL, particularly if the service did not already have systems in place to collect patient-reported outcomes. Some of affected services were able to develop solutions to these logistical barriers. Of the three clinical services involved in the trial, only one was able to incorporate PozQoL into standard practice during the implementation period. The two major barriers for clinics were logistical in terms of collecting the data as well as having limited appointment time to discuss the results with clients. These are described in detail in the full report below (Section 2.0).

During the implementation trial, only the English version of PozQoL was available, which provided a barrier for some clients of the services. PozQoL has since been translated into 15 languages, which is a first step to overcoming this barrier.

While most staff found the implementation kit useful, staff from those services who had

been least involved in the development of PozQoL were the most likely to report difficulties. Services who had been involved in the development of PozQoL had already developed systems to incorporate a patient-reported quality of life scale.

## Sensitivity Trial

PozQoL was found to be sensitive enough to identify statistically significant improvements in the total and domain scores for clients living with HIV accessing different types of services (peer workshops, retreats, and individualised welfare services). Multivariate analysis indicates that age, gender and years since diagnosis had very limited influence on the increases in PozQoL scores. However, the numbers involved in the analysis are small and so multivariate analysis should be treated with caution.

PozQoL was incorporated into the MyLife+ app developed by ViiV Healthcare and the National Association of People with HIV Australia (NAPWHA). The number of MyLife+ users who elected to share their deidentified results was not enough to be subjected to statistical analysis during the time of the implementation trial. See full report for details (Section 3.2).

## Summary of developments in use of PozQoL during the implementation trial

During the implementation trial, PozQoL has been:

- incorporated within most PLHIV peer programs across Australia and an increasing number of community support programs;
- incorporated into one clinical service (logistical barriers for implementing patient reported outcome measures still to be worked through for other clinical services);
- incorporated into Australian national PLHIV studies, and some implementation science studies;
- selected as the PLHIV QoL indicator for the Australian National HIV Strategy;
- translated into 15 languages (to date) including Amharic, Dutch, Flemish, French (Canada), French (France), German, Haitian Creole, Italian, Japanese, Korean, Portuguese (Brazil), Portuguese (Portugal), Spanish (Latin America), Spanish (Spain), and Traditional Chinese; and
- used in social and implementation research in North America and planned to be used in studies in Europe.

## Summary of recommendations and next steps

- The Implementation kit and resources will be refined, including incorporation of examples of solutions developed by services and a simple spreadsheet to calculate scores.
- A PozQoL Website is to be developed to host the PozQoL resources, literature, implementation kit, spreadsheet, and translated versions of the scale.
- Follow-up interviews are planned in six months with clinics (as part of the ongoing implementation trial of a peer navigator program) and with community organisations (as part of other ongoing studies).
- The potential to analyse PozQoL data from international studies and from national Australian studies is being investigated.

# 1.0 Overview

## 1.1 PozQoL Scale Background

The PozQoL Scale (1) was developed through a partnership of PLHIV peer organisations (National Association of People Living with HIV Australia, Living Positive Victoria, Positive Life NSW, Queensland Positive People), research (Australian Research Centre in Sex, Health and Society) and industry (ViiV Healthcare).

The aim was to develop, test and validate a scale that measured the health-related quality of life of PLHIV as a means for services to evaluate the impact of their programs (Table 1).

The PozQoL scale measures elements of quality of life across four domains and 13 items.

The four domains are:

- Psychological
- Social
- Health concerns
- Functional

The development of PozQoL is fully described in the following paper:

[Brown, Graham, Gosia Mikołajczak, Anthony Lyons, Jennifer Power, Fraser Drummond, Aaron Cogle, Brent Allan, Craig Cooper, and Simon O'Connor. "Development and validation of PozQoL: a scale to assess quality of life of PLHIV." \*BMC Public Health\* 18, no. 1 \(2018\): 527. <https://doi.org/10.1186/s12889-018-5433-6>.](#)

The PozQoL Implementation Trial aimed to assess the sensitivity, usability, acceptability, and usefulness of the PozQoL scale in practice, as outlined in Table 1.

**Table 1 Aims of the PozQoL Implementation Trial**

Implementation Trial	Aim
Usability	Assess the usability, acceptability and usefulness of the PozQoL scale in the day-to-day work of different health and community services
Sensitivity	Assess how sensitive the PozQoL scale is in measuring changes in health-related quality of life as a result of interventions or services

## 1.2 Methods

Consistent with the development of the PozQoL scale, the implementation trial was a partnership of ARCSHS, ViiV Healthcare, NAPWHA, and community and health service collaborators (Table 2).

**Table 2 PozQoL Collaborating Organisations by Service Type**

Service Type	Agency/Service	Usability (feedback from services/staff on usefulness of PozQoL to their practice)		Sensitivity (services provide ARCSHS with client pre-/post-data from services for analysis of sensitivity to change)	
		Participated	Online Usability Survey (n=staff participants)	Participated	Client Data provided (n=client participants)
Peer-led PLHIV workshops (newly diagnosed workshops and PLHIV retreat)	<ul style="list-style-type: none"> <li>• Living Positive Victoria</li> <li>• ACON</li> <li>• Positive Life NSW</li> <li>• Queensland Positive People</li> </ul>	✓	16	✓	40
Case management, counselling and welfare support	<ul style="list-style-type: none"> <li>• WA AIDS Council</li> <li>• Thorne Harbour Health (Positive Living Centre / Community Support)</li> <li>• Bobby Goldsmith Foundation</li> </ul>	✓		✓	55
Hospital clinic	<ul style="list-style-type: none"> <li>• Alfred Hospital</li> </ul>	✓	2	✗	n/a
High-caseload general practice	<ul style="list-style-type: none"> <li>• Prahran Market Clinic – Melbourne*</li> <li>• Thorne Harbour Health – Centre Clinic*</li> </ul>	✓		✗	n/a
Online Tool	<ul style="list-style-type: none"> <li>• ViiV Healthcare</li> <li>• NAPWHA / MyLife+</li> </ul>	✓	1	✓	2 <sup>^</sup>
Total		10 organisations	19 participants in online questionnaire (9 participants in interviews)	8 organisations	95 clients

\*Prahran Market Clinic and Centre Clinic were unable to incorporate the scale into their practice during the trial due to logistical challenges. The clinics provided feedback regarding the challenges through the interviews.

<sup>^</sup> The number of MyLife+ app users who provided pre and post data were too small for analysis

Prior to beginning data collection, ARCSHS worked closely with collaborating organisations to develop a PozQoL scale implementation kit, which outlined the protocols and processes for data collection with the aim of supporting organisations to implement the PozQoL scale in their practice. In most cases, the PozQoL scale was implemented by embedding the scale within existing internal data collection tools, such as client intake and exit forms or client health and wellbeing surveys.

## Usability

Staff in collaborating organisations who were familiar with the PozQoL scale were asked to complete an online questionnaire assessing the usability, acceptability and usefulness of the scale. The questionnaire drew on selected elements of the Proctor et al. (2) taxonomy, and adapted measures of acceptability, appropriateness and feasibility developed by Weiner et al. (3). Other relevant items to assess the usability of the PozQoL scale and the implementation kit were added.

Staff who were invited to complete the questionnaire included staff that oversaw the implementation of PozQoL in their organisation, staff that implemented the scale with clients, and staff that were familiar with PozQoL but did not to implement it either within their organisation or with clients. The survey contained both quantitative and short-response qualitative questions and a total of 19 responses were received. Results were analysed with descriptive statistics, assessing frequencies and mean averages (section 2.1).

The survey was complemented with targeted semi-structured interviews. The aim of these interviews was to explore in more detail the experience of implementing PozQoL and factors that facilitated or created barriers to

implementation. Interviews ran for approximately 30 minutes each and included four one-on-one interviews, one group interview, and one written response. Nine practitioners participated in the interviews. Interviews were audio recorded to support note taking but not transcribed verbatim. Where relevant, interviewees were followed up to clarify any items. Detailed notes were generated by the interviewer for each interview and summarised eliciting key enablers, barriers and perspectives (section 2.2).

## Sensitivity

Collaborating organisations collected baseline and follow-up data between July 2018 and March 2019. Ninety-five (95) completed baseline and follow-up data sets were received from five organisations.

The PozQoL scale was incorporated into the standard evaluation survey of each of the collaborating organisation. Clients were informed about the aim of the study with a short statement incorporated into the organisation's evaluation survey, and then provided with the Participant Information Statement (PIS) on a separate sheet (for pen and paper surveys) or in a separate link (for online surveys).

The organisations collected the data and for those clients who consented to their data being included in the PozQoL trial, the organisations extracted the relevant de-identified data and provided this securely to the PozQoL trial. Data was then collated and formatted for analysis by the PozQoL Trial staff. To ensure there were large enough sample sizes for analysis, but different service types could be analysed separately, client data was grouped into three service categories: newly diagnosed PLHIV

workshops (n=23), PLHIV retreat (n=17), and welfare/community support (n=55).

Comparison of pre and post PozQoL total and domain scores for each service grouping were analysed using paired t-tests (section 3.2). Further multivariate analysis was conducted on the entire sample (n=95) to analyse the changes in total PozQoL scores on the basis of intervention type, age, gender and time since diagnosis while controlling for the other variables (section 3.3).

## **Human Research Ethics Approval**

La Trobe University Science, Health & Engineering College Human Ethics Sub-Committee granted approval for the study on 23 March 2018 (Approval No.: HEC 18026)

## 2.0 Usability Trial

*Assessing the usability, acceptability, and usefulness of the PozQoL scale in the day-to-day work of different health and community services*

### 2.1 Usability Trial – Quantitative Survey

A total of 19 respondents completed the online usability survey, with the majority (n=17) coming from non-clinical community services. Within this, 13 respondents used PozQoL directly with clients and six oversaw its implementation across their organisation.

Of those who responded, the majority of respondents were satisfied with PozQoL (16 of 18, 90%), and intended to continue to use the scale (17 of 18, 94%). Additionally, 82% of respondents (n=14) reported already incorporating PozQoL into their ongoing evaluation practice. Full aggregate results are available on request, with highlights summarised in Table 3.

On questions relating to the outcomes of using the PozQoL scale, most respondents agreed that the PozQoL scale influenced the range of topics staff discussed with clients (80%), provided valuable information about clients (75%), and was useful for their work (67%). Approximately half of the respondents

(53%) agreed that PozQoL was easy to incorporate into their work.

Open-ended questions in the online survey provide some insight into the challenges or barriers to implementation. Some respondents reported challenges using the implementation kit, with one respondent suggesting it was too “vague” and others requiring additional information on how to collate, analyse and interpret the data that was collected. A small number of respondents also reported challenges integrating PozQoL into their existing data collection and case management systems. Improving the clarity of some of the scale questions was also raised and some respondents reported client challenges in completing PozQoL. This included clients from both non-English-speaking backgrounds and clients with English as a first language. Yet many reported positive experiences implementing PozQoL, with some stating PozQoL was easier than other scales their organisations had previously used.

These themes were explored in more detail in the semi-structured interviews, discussed below.

**Table 3 Selected questions from PozQoL Usability Questionnaire**

Scale: 1 (strongly disagree) to 5 (strongly agree)

Item	Mean Ave	Min Score	Max Score	Std Dev	n
How would you rate PozQoL in general?	<b>4.50</b>	3.00	5.00	0.60	18
I am satisfied with PozQoL	<b>4.44</b>	2.00	5.00	0.83	18
I will (continue to) use PozQoL in the future	<b>4.61</b>	3.00	5.00	0.59	18
I think PozQoL is an effective measure of quality of life of people with HIV	<b>4.44</b>	3.00	5.00	0.68	18
PozQoL is easy to use	<b>4.06</b>	2.00	5.00	1.03	18
I have incorporated PozQoL into ongoing practice/service/program evaluation	<b>4.29</b>	2.00	5.00	0.89	17
PozQoL instructions are easy to understand	<b>4.44</b>	3.00	5.00	0.60	18
The content of PozQoL domains is easy to understand	<b>4.50</b>	3.00	5.00	0.60	18
All PozQoL items are clear to me	<b>4.71</b>	4.00	5.00	0.46	17
Most of my clients find PozQoL easy to use and understand	<b>3.81</b>	2.00	5.00	1.01	16
I have been using PozQoL with the majority of my clients	<b>3.53</b>	2.00	5.00	1.09	17
PozQoL influences communication or topics discussed with clients	<b>3.80†</b>	3.00	4.00	0.40	10*
PozQoL supports discussions with clients about elements of quality of life	<b>3.67†</b>	3.00	4.00	0.47	9*
PozQoL supports discussions with clients about potential referrals	<b>3.40†</b>	2.00	4.00	0.66	10*
PozQoL significantly increases the time required for program, evaluation or consultation	<b>3.26</b>	1.00	5.00	1.45	19
PozQoL significantly increases the workload required for program, evaluation or consultation	<b>3.21</b>	2.00	5.00	1.28	19
The increase in time needed to implement PozQoL is worthwhile	<b>4.16</b>	3.00	5.00	0.87	19
The implementation kit supports incorporating the scale and interpreting the results	<b>3.92</b>	2.00	5.00	0.92	13**

\*These questions were only answered by those participants with direct client contact

†Questions for those who had direct client contact included a 4-point scale instead of 5-point scale.

\*\* This question was only answered by those participants directly involved in setting up the use of PozQoL within their systems

## 2.2 Usability Trial – Semi-Structured Interviews

A total of nine practitioners participated in six interviews. Four of these interviews were conducted as one-on-one interviews over the phone. One interview was conducted as a group interview over the phone and another practitioner provided a written response to questions. Most participants self-identified as either case managers or program facilitators in community-based organisations, two participants identified as clinicians in clinical settings, and one participant was responsible for overseeing the implementation of PozQoL in their organisation. Further interviews on the use of PozQoL are planned with clinicians in coming months as part of other studies.

### Benefits in using PozQoL

Interviews confirmed the usefulness of the PozQoL scales in both community and clinical settings. In community settings, PozQoL enabled organisations to evaluate both their case management and group programs by tracking changes in participant quality of life across points in time. In the context of case management, administering PozQoL to clients helped illicit conversations that both clients and practitioners had sometimes not previously explored, which enabled care plans to be adapted and for clients to have greater say in determining what issues were important for them. One practitioner reported that broadening conversations to include discussion about the social implications of living with HIV was well received by their clients as it made clients feel as though case managers were interested in their whole wellbeing rather than strictly medical issues.

For clinicians, administering PozQoL did sometimes reveal surprising information

about clients but, in the main, it quantified information that the clinician already knew about their patient and enabled this to be tracked over time. One clinician also reported that clinics are having an increasing focus on quality of life issues for patients alongside quality of care, and PozQoL was helping clinics work towards these new quality indicators.

### Barriers to overcome

Interviews revealed three key factors affecting the usability of PozQoL: time, organisation record management systems and client profiles. These issues largely reflect findings from the online questionnaire; however, interviews provided additional context and detail.

### Time – clinical services

The time needed to administer, analyse and respond to PozQoL was a barrier for clinicians. Each of these issues had their own challenges and are consistent with the broader literature on implementing QoL measures in clinical practice.

One clinician felt that PozQoL was a very useful tool but had limited usability in a clinical setting as time is already stretched in their consultations. The second clinician was not able to generalise about this within their clinic as they were unsure about how many of their colleagues had used PozQoL, but they did not report any time pressures in their personal experience. This clinician asked patients to complete PozQoL while in the waiting room, limiting the need to make time for PozQoL in their consultation.

It should be noted that with only two clinician participants, the small sample makes drawing firm conclusions difficult. This will require further investigation. As noted above, further interviews on the use of PozQoL are planned

with clinicians in coming months as part of other studies.

### **Time – community sector services**

Most community organisations reported no significant issues in regard to time – the scale was perceived as short and simple enough to easily incorporate into current practice and systems. However, the issue of time investment to achieve client participation in follow-up surveys after interventions proved to be an ongoing issue.

### **Organisation record management systems**

The second factor affecting usability was the ability to integrate PozQoL into broader client record management systems. This impacted on staff capacity to collect and quickly analyse the data. This issue primarily, but not exclusively, impacted on the clinical services. Two participants reported challenges with this, with one participant’s organisation undergoing a transition from paper to fully online client records during the trial, which affected their ability to widely use PozQoL. Both organisations were able to overcome this with various work-arounds during the PozQoL trial period, primarily using a paper-based self-complete version as an interim solution. Other participants suggested the development of a digital spreadsheet that could calculate the PozQoL total and domain scores, and that was linked or entered into client records. Although this is not an issue inherent with the PozQoL scale, it highlights broader challenges for some organisations when adapting current practice to incorporate additional data collection.

### **Client profiles**

The third factor affecting usability of PozQoL was the profile and life experiences of clients. The majority of participants reported very positive experiences using PozQoL, but some recognised that it was not suitable for all their clients. As was noted in the online survey, people whose first language was not English experienced some challenges completing PozQoL. Since the implementation trial, PozQoL has been translated into 15 languages, which should go some way to supporting more of the diversity among clients.

Practitioners from two different organisations also reported challenges using PozQoL with clients with cognitive difficulties, mainly due to the additional time and support required to complete the survey.

### **Suggestions to enhance implementation**

Participants also provided feedback on ways to facilitate wider use of the PozQoL scale. Suggestions included a spreadsheet-type tool to automatically calculate PozQoL scores, a video walk-through explaining PozQoL in detail, and case studies exploring the way that organisations have implemented PozQoL.

The majority of participants confirmed ongoing use of PozQoL in their organisation, with only one participant signalling that they were not able to keep using the scale because of time pressures in clinical consultations.

# 3.0 Sensitivity Trial

*Assessing the sensitivity of the PozQoL scale to measure changes in health-related quality of life as a result of interventions or services*

## 3.1 Overview

The services that participated in the sensitivity trial were grouped into three categories: newly diagnosed PLHIV workshops, PLHIV retreat, and welfare/community support.

All the programs measured increases in the PozQoL total scores and in all or most PozQoL domain scores. This indicates PozQoL is sensitive enough to measure changes over a two- to three- month period in quality of life (as measured by PozQoL) of PLHIV accessing different types of services. Table 4 summarises the results.

## 3.2 Detailed service type analysis

### Newly Diagnosed Workshop

Three organisations that conducted workshops for newly diagnosed PLHIV participated in the sensitivity trial. The average PozQoL total score at baseline (when beginning workshop) was 2.821, the lowest of the different service groups. The mean average increase in PozQoL total score after two months was 0.520, the largest of the service groups, and a significant increase (95% CI: 0.297, 0.744;  $p = 0.000$ ). The average increases in the domains of Health Concerns, Social, and Functional were all significant.

Recommendation for using PozQoL – The newly diagnosed workshops are an intensive 1.5- to 2-day peer workshop conducted at an important time in the life of a person coming

to terms with their HIV diagnosis. Assuming a similar client profile and baseline PozQoL score, it is reasonable for these programs to expect an average increase in PozQoL Total score of approximately 0.5 in a two-month period.

### Retreat for PLHIV

The PLHIV retreat provides peer support and social engagement with other PLHIV of mixed gender, sexuality, and time living with HIV. The PLHIV Retreat only had a sample of 17 participants who completed pre and post PozQoL questionnaires. This limited sample size impacts on the required effect size to show a significant change.

The largest and only significant change measured was an increase of 0.590 in the social domain (95% CI: 0.209, 0.972;  $p = 0.000$ ). Social connection and stigma resilience were the focus of the PLHIV Retreat.

Recommendation for using PozQoL: A larger sample may identify significant changes in other domains. However, the PLHIV Retreat is a good example of where PozQoL has measured a change in the domain to which the service is most focused.

### Welfare/Community Support

There were three welfare/community support services that participated in the study. As a combined group, the services show an increase in PozQoL total score of 0.212 over the two- to three-month period between baseline and follow up (95% CI: 0.057, 0.368;  $p = 0.008$ ). The largest changes

were in the domains of Psychological and Social.

It should be noted, PozQoL was implemented with clients who were generally part of an ongoing relationship with the services, and so a large increase in quality of life during the study period was not expected.

Recommendation for using PozQoL: For ongoing welfare or community support services, it is recommended that PozQoL be implemented on an annual or semi-annual basis to track changes in quality of life. Two to three months may be too short for such services and client groups.

### **MyLife+**

PozQoL was incorporated into the MyLife+ app, developed by ViiV Healthcare and

NAPWHA. MyLife+ app users were invited to answer PozQoL scale items as part of their own self-monitoring of their progress in managing HIV. The app users were not shown PozQoL scores, but their results were used to direct them to relevant articles and suggestions within the MyLife+ app. App users who completed PozQoL were asked for their voluntary permission to have their non-identifiable scores provided to ARCSHS for analysis as part of the PozQoL trial. Unfortunately, of the 20 app users who gave consent, only two completed the scale more than once during the trial period, and so their scores were unable to be subjected to statistical analysis.

**Table 4 Changes in PozQoL total and domain scores by service type**

Intervention	Scale	Average Score at Pre	Post – Pre (change)	95% CI	p value	n
Newly Diagnosed PLHIV workshop	PozQoL Total Score	2.821	0.520	0.297, 0.744	0.000*	23
	PozQoL Health Concerns	2.341	0.732	0.332, 1.132	0.001*	23
	PozQoL Psychological	3.185	0.293	-0.043, 0.630	0.084	23
	PozQoL Social	2.710	0.526	0.269, 0.782	0.000*	23
	PozQoL Functional	2.928	0.488	0.105, 0.872	0.015*	23
PLHIV Retreat	PozQoL Total Score	3.267	0.236	-0.035, 0.507	0.084	17
	PozQoL Health Concerns	3.196	0.196	-0.082, 0.474	0.154	17
	PozQoL Psychological	3.515	0.132	-0.294, 0.559	0.520	17
	PozQoL Social	2.765	0.590	0.209, 0.972	0.005*	17
	PozQoL Functional	3.529	0.052	-0.394, 0.498	0.807	17
Welfare/Community Services Combined	PozQoL Total Score	3.163	0.212	0.057, 0.368	0.008*	55
	PozQoL Health Concerns	2.964	0.127	-0.180, 0.434	0.410	55
	PozQoL Psychological	3.185	0.306	0.051, 0.561	0.020*	55
	PozQoL Social	3.085	0.226	-0.004, 0.457	0.054	55
	PozQoL Functional	3.321	0.071	-0.178, 0.319	0.572	55
All services combined	PozQoL Total Score	3.089	0.291	0.178, 0.404	0.000*	95
	PozQoL Health Concerns	2.854	0.286	0.080, 0.492	0.006*	95
	PozQoL Psychological	3.244	0.272	0.096, 0.448	0.002*	95
	PozQoL Social	2.937	0.364	0.206, 0.522	0.000*	95
	PozQoL Functional	3.263	0.168	-0.014, 0.351	0.070	95

### 3.3 Analysis of client profiles

Further multivariate analysis was conducted to analyse the changes in total PozQoL scores while controlling for service type, age, gender and time since diagnosis. The numbers involved in the analysis are small and so results should be treated with caution,

Based on this analysis (summarised in Table 5):

- The average pre-survey (baseline) PozQoL total score for all services combined was 3.120. This mean average increased by 0.293 "(95% CI: 0.171, 0.416;  $p < 0.0005$ ).
- Clients of the newly diagnosed workshops had the largest increase in PozQoL scores, though the average baseline PozQoL score was lower than other service participants. This increase in PozQoL score was independent of age, gender and time-since-diagnosis factors (taking into account that most participants of newly diagnosed workshops were diagnosed within the past 24 months).
- While all age groups increased in their average PozQoL total score, there was little difference in changes in average PozQoL total score on the basis of age of clients. PLHIV over 55 had the least increase (0.122). All other groups had larger increases (between 0.2 and 0.3 more) but only the 25-34 age group had an increase that was significantly higher than the over 55 group.
- There was no significant difference on the basis of gender (however, the number of participants with non-binary gender was small and so results should be treated with caution).
- Year of diagnosis was categorised into 1984-99 (prior to widespread impact of new-era HIV treatments), 2000-14 (widespread access to treatments), and 2015-18 (recent commencement of treatment). There was no statistically significant difference between these categories.

**Table 5 Multivariate analysis with all variables included (Pre/Post total PozQoL scores, Service type, Age, Gender, Year of Diagnosis)**

Comparison	mean diff	95% CI	p value	N
<b>PozQoL Score</b>				
Reference Category: Pre score (baseline)				83
Post score	0.293	0.171, 0.416	0.000*	
<b>Service Category</b>				
Reference Category: Welfare/Community Service				
<b>Newly Diagnosed</b>				
PLHIV Workshop	0.441	0.055, 0.828	0.025*	
PLHIV Retreat	-0.049	-0.375, 0.277	0.768	
<b>Age Category</b>				
Reference Category: >= 55				
<= 24	0.207	-0.876, 1.289	0.708	
25-34	0.567	0.029, 1.105	0.039*	
35-44	0.269	-0.101, 0.639	0.154	
45-54	0.181	-0.127, 0.489	0.249	
<b>Gender Category</b>				
Reference Category: Male				
Female	-0.091	-0.393, 0.211	0.555	
Non-binary   Different gender identity	-0.671	-1.485, 0.142	0.106	
<b>Year of diagnosis Category</b>				
Reference Category: 1984-99				
2000-14	-0.050	-0.359, 0.260	0.753	
2015-18	-0.241	-0.597, 0.115	0.185	

\*Significantly higher change in average PozQoL total score compared to reference category/group

## 4.0 Summary of recommendations and next steps

- The Implementation kit and resources will be refined, and examples of solutions developed by services and a simple excel spreadsheet to calculate scores should be incorporated.
- A PozQoL Website is to be developed to host the PozQoL resources, literature, implementation kit, spreadsheet, and translated versions of the scale.
- Follow-up interviews are planned in six months with clinics (as part of ongoing Implementation trial of Peer Navigator Program) and with community organisations (as part of other ongoing studies).
- The potential to analyse PozQoL data from international studies and from national Australian studies is being investigated.

## 5.0 References

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[www.pozqol.org](http://www.pozqol.org).

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