Center for Social Impact

Chinese American Service League

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CASLservice.org/Impact

Living Life, Living Well

Measuring Quality of Life in Our Community

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Lead Author:
David Li, MSW
Social Impact and Policy Officer

Contributors:
Pingjing Zou, MPA
Director of CASL's Center for Social Impact

Daniel Craig, BS
Senior Data Analyst

Michael Zhao, BS
Data Analyst

Matt Polari, BS
Data Analyst

Joanna Lu, BS
Research Intern

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SUMMARY

***W**hat does living well mean?* In 2020, the Chinese American Service League, known as CASL, sought to answer this question by implementing the World Health Organization Quality of Life-Brief (WHOQOL-BREF). As CASL's Center for Social Impact (CSI) continues to map trends and note key themes from multiple data collection rounds, our goal is to better understand how physical, psychological, sociological, and environmental factors affect quality of life. From baseline, we observed responses that were correlated to certain sample characteristics such as age, illness, or education level. To find out more about the instrument and why we measure quality of life, check out our first report.

Our aim in using this tool is to capture not only life satisfaction, but growth and opportunity. There are many ways to apply the data we collect, but until we have more information on the *why* behind these trends, drawing conclusions would be premature. This report contains infographics highlighting overall and domain-specific takeaways across all collection rounds. With new developments, like an online response option, we are constantly looking for ways to increase participation and improve distribution procedures.

Having collected 1,369 responses so far, we are primarily concerned with cumulative findings instead of only looking at the most recent data. Although further research is warranted when making assumptions about the individuals and communities we serve, the data we have already contains potential for predictive statistical modeling. Despite the fact that quality of life scores is subject to change, strategizing appropriate interventions requires a commitment to understanding who our efforts are for. Data is more than just numbers; it tells a story that deserves to be told.

ACKNOWLEDGEMENTS

In 2020, the Center for Social Impact (CSI) was established with the generous support of CASL's leadership and board. We thank CEO Paul Luu and COO Jered Pruitt for expressing their vision for data-driven solutions. Specific thanks go to the World Health Organization Quality of Life (WHOQOL) Working Group, for permitting us to use their assessment.

Thanks to CASL's dedicated board of directors—with their decades of industry expertise, projects like these were made possible. Special recognition goes to Dr. Lee Washington, a CASL program committee member and health evaluation expert, who offered feedback on this report. We are grateful for support from Dr. Karen Washington, also a CASL program committee member, and professor of interdisciplinary studies and education. We recognize Joseph Harrington, a change management leader in fields like education and healthcare, for his insightful recommendations for this report. We also thank individual CASL staff members who contributed by thoughtfully commenting and proofreading this report.

Thank you to the Julian Grace Foundation for their generous support in sponsoring this endeavor. To learn more about the Julian Grace Foundation, please refer to this link. Finally, this project would not be possible without our dedicated CASL staff, who distributed surveys while accompanying clients every day. This report is for you.

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OVERVIEW

The World Health Organization (WHO) defines quality of life (QoL) as "*how individuals perceive their position in life in relation to the cultural contexts where they reside*." Using this definition, CASL chose to incorporate the World Health Organization Quality of Life questionnaire (WHOQOL) into regular workflow processes to bridge the gap between needs and fulfillment. The abridged version of the questionnaire (WHOQOL-BREF) we use asks participants to rate their quality of life in four overarching domains: physical, psychological, environment, and social relationships. While these domains cover "life" broadly, it cannot account for all conditions. These conditions—where we live, work, play and age—are known as Social Determinants of Health (SDoH/SDH). We also capture these conditions because together with quality of life, we can observe how someone's perception of life intersects with their reality (check out our SDoH/SDH initiative here).

Tracking quality of life helps us comprehend, address, and accompany our clients navigating not only services we offer, but life itself. The Center for Social Impact is committed to expanding access to high-quality services by empowering individuals and communities to participate and lead the change they want to see. This report contains updates, trends, and lessons learned throughout the three times we administered the questionnaire. To learn more about the selection process and its context, we encourage you to check out our previous reports.

METHODS

The 26-item questionnaire[1] was administered on paper translated in Chinese and English from October 11, 2021, to November 19, 2021. The survey takes approximately five minutes to complete. Staff was instructed to collect[2] finished surveys and drop them off securely. Having administered the WHOQOL-BREF twice up until this point, workflow processes were well established and facilitating distribution and collection required significantly less time and attention. Responses are scored based on WHOQOL-BREF scoring guidelines shown here.

New for this round was the ability to record responses online (see image below). Clients could now complete the survey by clicking a link for English or Chinese (Simplified). Based on their name, contact information, and date of birth, completed responses were automatically synced with our cloud-based customer relations management system (Salesforce). For clients without an existing record, a new profile was made. This greatly reduced the need to transfer responses from paper to our internal database, but it remains to be seen whether or not we were able to eliminate incomplete or invalid data.

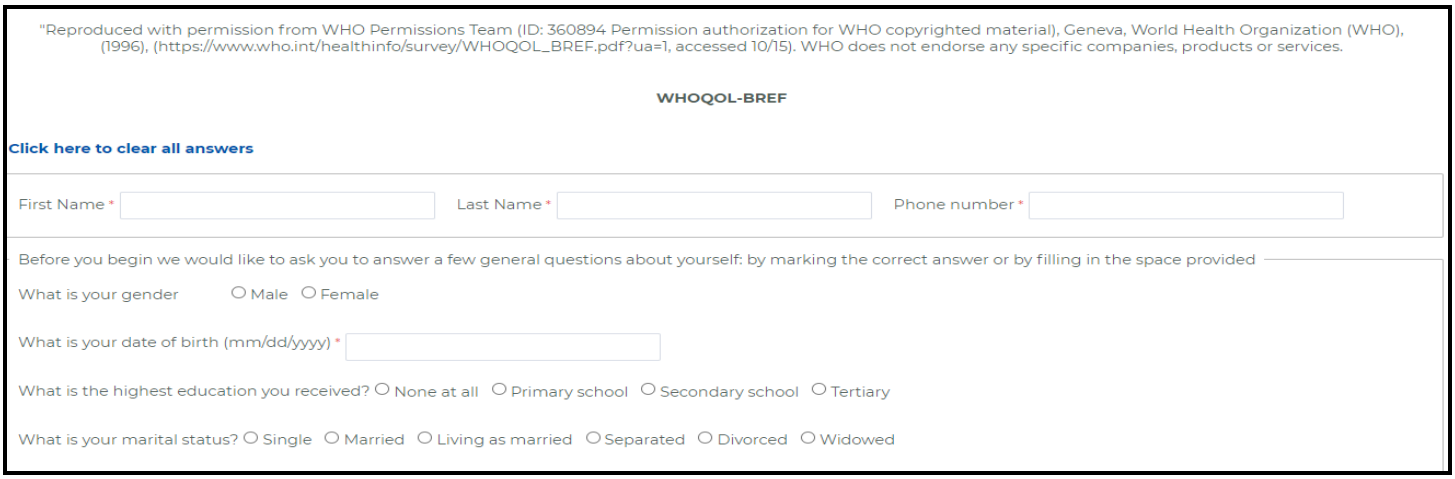

FIGURE 1: SCREENSHOT OF ONLINE SURVEY FORMAT

[1] "Questionnaire," "survey," "assessment," "instrument," and "tool" are used interchangeably throughout this report. Please note that these terms can signify different things for different disciplines and/or fields of study

[2] When the instrument was first introduced, staff was required to manually record responses in our Salesforce-based CRM platform. This requirement was eliminated with the support of designated CSI staff. By reducing the administrative burden on staff, we had greater control over distribution and quality control.

CSI staff provided weekly communication to all staff on target response acquisition and had higher response rates over last year. Descriptions of messaging can be found in the supplementary materials.

SAMPLE CHARACTERISTICS

During the most recent collection period, we collected 605 responses with 574 designated as valid, meaning the minimum completion threshold was met. Five hundred eight assessments were completed on paper and the rest were solely collected online.

With a 98 percent average response rate (number of valid completions), this was the highest participation we witnessed in any given collection round. Our participants for this round range in age from twenty-two years old to ninety-eight years old and identify as mostly female (67.4 percent). This is consistent across all three collection rounds observed thus far.

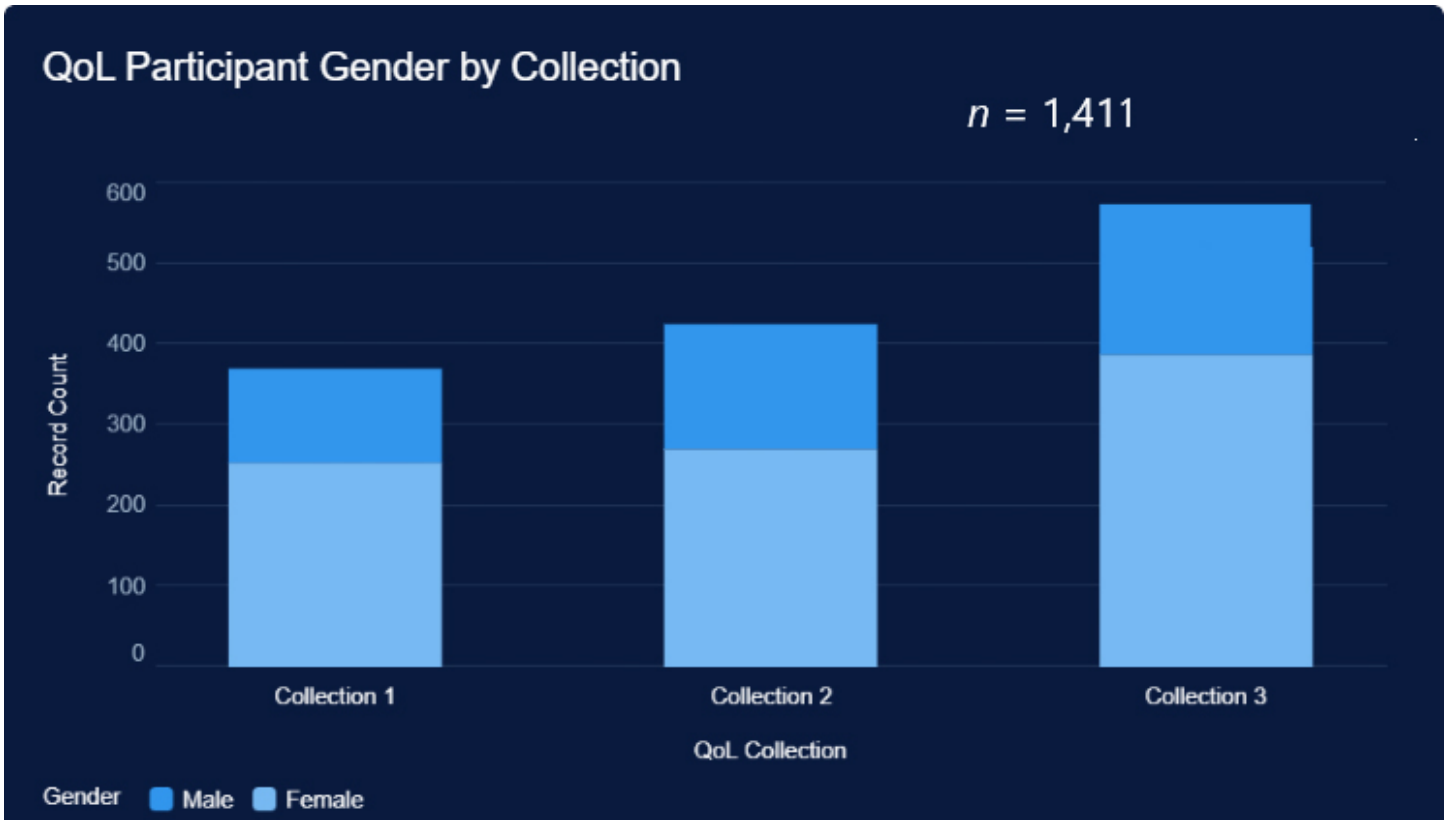

FIGURE 2: GENDER DISTRIBUTION BY COLLECTION ROUND

Variation in education levels and overall age distributions for all three collection rounds were similarly consistent. For reference, the number of responses collected per round was determined by targets deemed feasible with staff capacity. Collection targets were set for each department, mirroring estimates for samples large enough to be considered representable. However, careful consideration is needed when drawing conclusions that all collected responses are accurately representative of program enrollments.

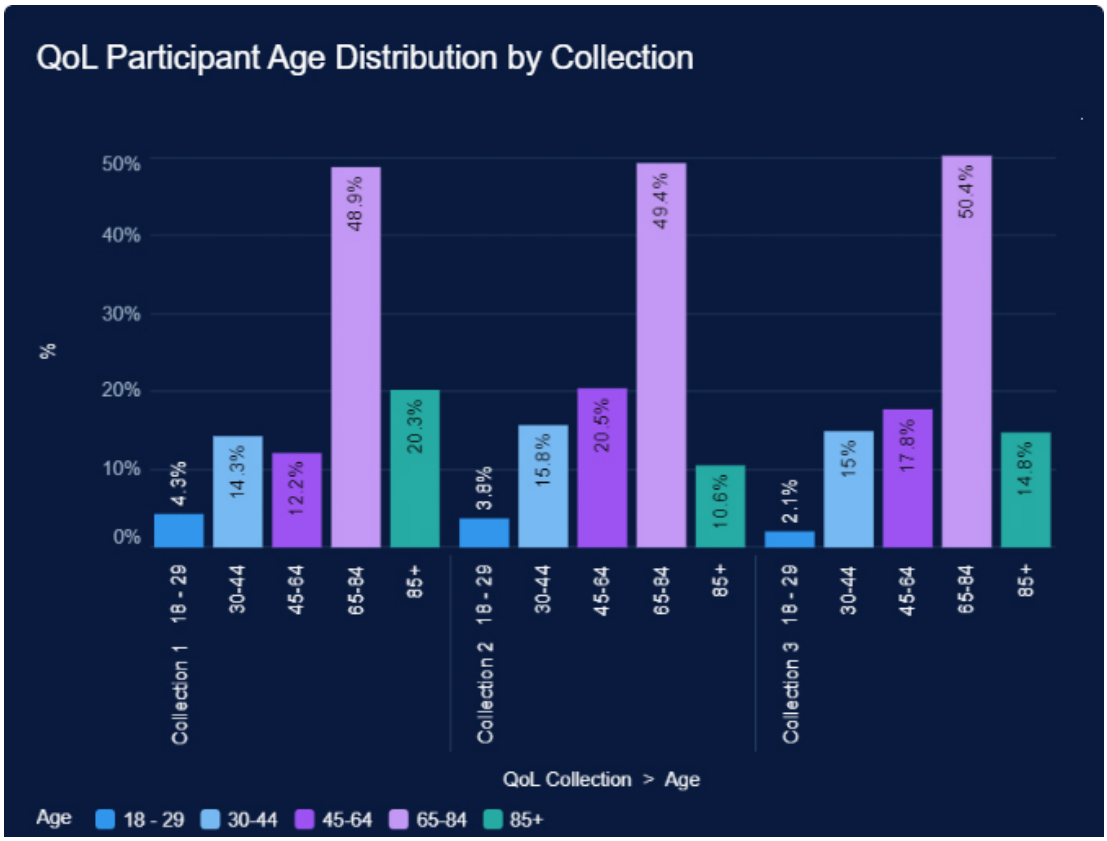

FIGURE 3: AGE DISTRIBUTION BY COLLECTION ROUND

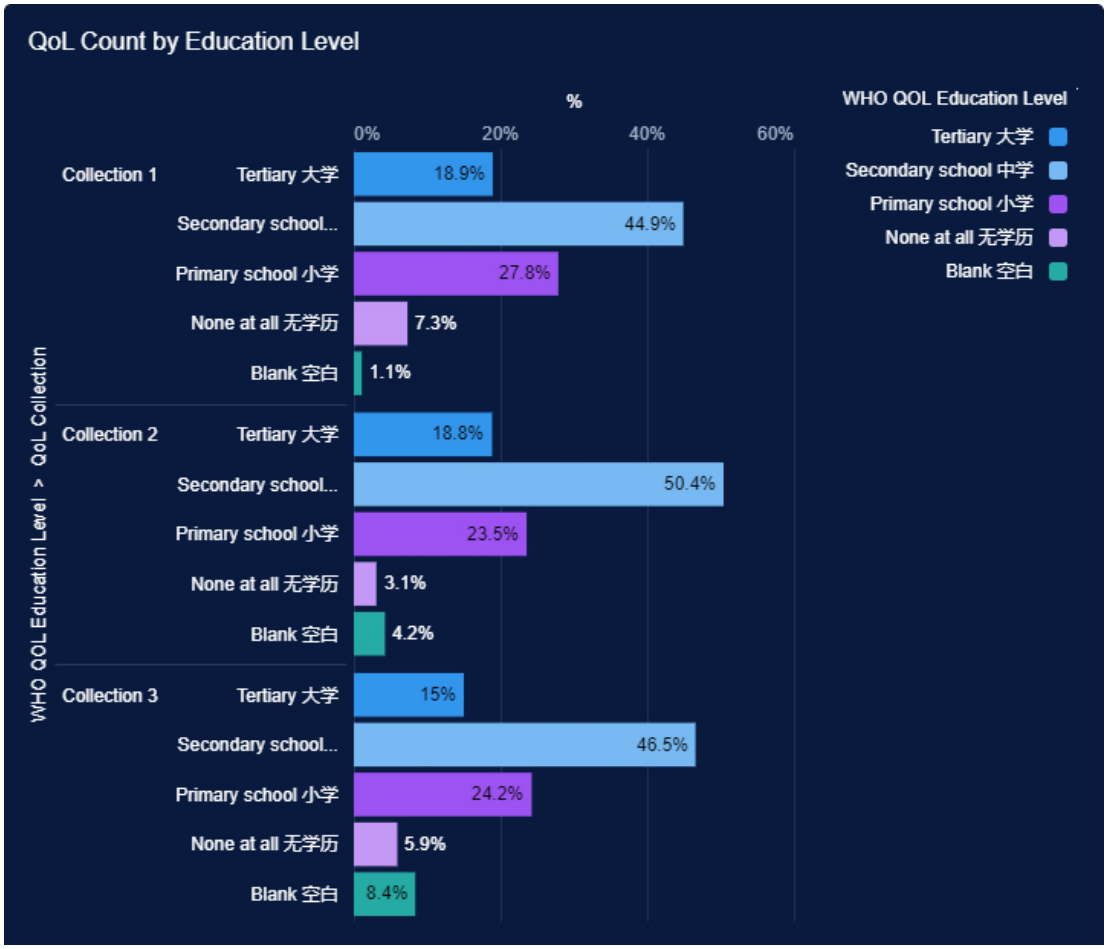

FIGURE 4: EDUCATIONAL ATTAINMENT BY COLLECTION ROUND

ANALYSIS

With three data points established, we now had the ability to chart beyond simple pre- and post-test responses. Using a combination of descriptive and predictive statistics, we observed several changes previously unavailable due to insufficient sample sizes. We compared the first collection responses with second collection responses in our last report, found here.

This time, we attempted to map all the responses together, comparing collection one and three (current) responses, and collection two and three responses, in a concerted effort to keep response bias to a minimum. Where predictive variables were concerned, what this meant was whether a relationship between two variables like age or education level had any impact on responses. However, it was important to keep in mind that calculating the degree to which two or more variables were correlated required accurate representation of the particular sample we were looking at. In other words, a weight was applied where deemed necessary to eliminate the possibility of false indications of correspondence, thereby limiting the chance that two or more variables are correlated at random. To learn more about our analytical methods, please refer to the supplemental materials.

RESULTS

Since the first response collection round, our analysis has been guided by the fact that our sample is still comparatively small. Therefore, caution is warranted when interpreting the following summaries[3]. Now that there are three cross-sectional[4] samples, we know that some of the participants are taking the assessment for a second or even third time, but most respondents during each collection round are participating for the first time. This means that out of all the participants we have had so far, most only have one response recorded.

As noted in prior reports from earlier collection rounds, there is no "standard" quality of life score because the emphasis remains on the change per individual. While aggregate scores, (overall, or by domain) allow us to calculate averages and help us identify predictive variables[5], we would need a much greater sample to arrive with a definitive cutoff value. Taking into consideration these limitations, the following tables provide a snapshot of how the most current participant sample responded per domain.

In total, we had 1,102 unique participants respond to the assessment, the average age being sixty-six. At a glance, the gender gap grew wider[6] between the two most recent collection rounds, although we cannot say why this is the case. When looking at individual domains, male respondents from the current collection round as well as the first collection round reported lower social relationship scores. Since the number of folks who participated in all three collection rounds is relatively small, we are solely focusing on comparisons between collections one and three and two and three, since the previous report already contains a comparison between collections one and two.

[3] All coincidences between our sample and other samples are purely speculative—our responses cannot be generalized in external contexts.
[4] At a single point in time.
[5] A predictive and/or predictor variable is "used to estimate, forecast, or project future events or circumstances." Using regression analysis for our context, we investigate the strength and direction of association between for instance, education and physical domain scores. Since we are looking at more than one variable, we also consider the relative weights of each association to avoid under- or over-estimating the relationship observed.
[6] The percentage of female participants was higher for collection one versus collection three (current round).

TRENDS

Over the last three response collection rounds, we observed that:

- Age has a negative correlation with all four domain scores
- Higher education levels are positively correlated with most domain scores (physical, psychological, environment)

The following table indicates what sample characteristics were correlated per domain. Predictive variables are shown in the middle column and the direction of the relationship is depicted by a (+) or (-) following the specific characteristic. These correlations cover the cumulative total responses and have been weighted accordingly. Please note that as our sample pool grows, these relationships may change.

Domain	Sample Characteristic	Correlation
Physical	**Education Level** (when compared with no education)	Tertiary[7] (+) Secondary (+)
	Marital Status (when compared with being single)	Widowed (-) Separated (-)
	Currently Ill (when answering "yes")	Ill (-)
Psychological	**Education Level** (when compared with no education)	Tertiary (+)
	Marital Status (when compared with being single)	Married (+) Separated (-) Living as Married (-)
	Currently Ill (when answering "yes")	Ill (-)
Social Relationships	**Education Level** (when compared with no education)	N/A
	Marital Status (when compared with being single)	Married(+) Divorced (-)
	Currently Ill (when answering "yes")	Ill (-)
Environmental	**Education Level** (when compared with no education)	Tertiary (+)
	Marital Status (when compared with being single)	Divorced (-)
	Currently Ill (when answering "yes")	Ill (-)

TABLE 1: SAMPLE CHARACTERISTICS CORRELATED WITH DOMAIN SCORES

[7] Tertiary education, otherwise known in the U.S. as 'postsecondary' and/or 'higher education,' is considered an internationally-recognized definition according to the National Center for Education Statistics.

THEN & NOW

Looking at what the data has shown us thus far, we know that some trends are starting to become visible—trends such as the sensitivity of scores and age, for instance. As participants age, we noticed that older participants reported lower scores on average, than their younger counterparts. We ran various statistical models to find out what trends were significant by looking at the overall sample, participants with more than one entry, and by gender. Holding constant all demographic characteristics, average[8] scores[9] between the first collection round and the most recent collection round dropped by 1.57 points.

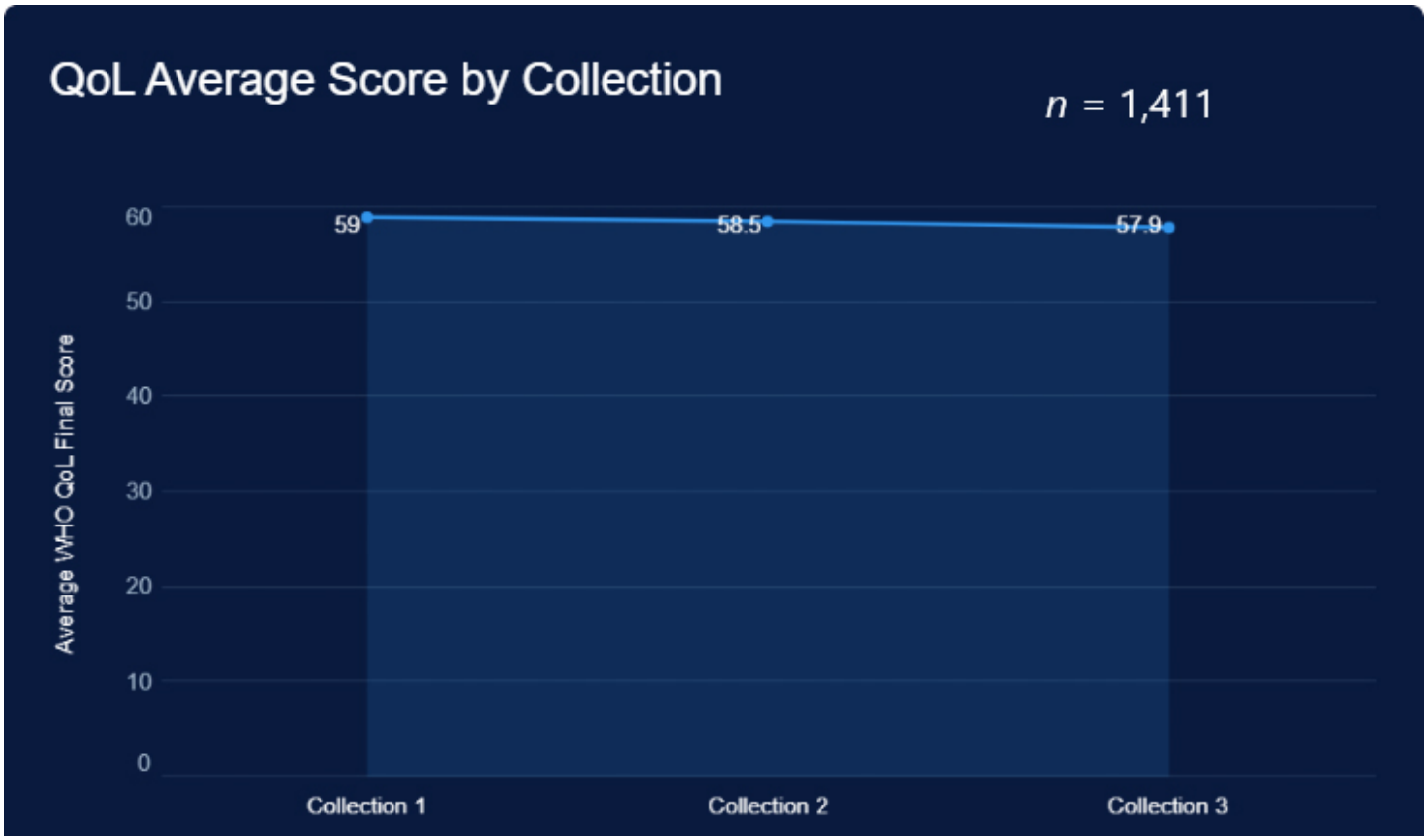

FIGURE 5: AVERAGE SCORES (ALL DOMAINS) ACROSS ALL COLLECTION ROUNDS

The next section takes a deeper dive into the predictions alluded to in the previous section. The following tables provide a snapshot of how cumulative participant sample (*n*=1,411) responded to each domain. Please note that the timeline for each collection round was held during a different part of the year. Collection one was held in 2020, Collection two was held earlier during the summer of 2021—all collection durations, however, were kept the same (one month or four weeks). A summary of key takeaways are denoted by a(n) asterisk(s) (*). The ▲ and ▼ icons represent the direction corresponding with a demographic variable followed by the degree (confidence interval—higher percentage indicates strong correlation) to which we can be certain the finding isn't random.

[8] When referring to "average" scores, we are essentially adding all domain scores and dividing by four so we obtain a value between zero and one hundred. While each domain is scored based off an unequal number of questions, all transformed scores are within the same range.

[9] According to the WHOQOL Working Group, most domains can still be scored even if two questions are missing (except for Social Relationships domain since it only consists of three questions to begin with—a score can still be calculated with one out of three missing for this domain)

Physical

Domain description: *Activities of daily living; dependence on medicinal substances and medical aids; energy and fatigue; mobility; pain and discomfort; sleep and rest; work capacity*

Survey question items included in this domain:

3. *To what extent do you feel that physical pain prevents you from doing what you need to do?*
4. *How much do you need any medical treatment to function in your daily life?*
10. *Do you have enough energy for everyday life?*
15. *How well are you able to get around?*
16. *How satisfied are you with your sleep?*
17. *How satisfied are you with your ability to perform your daily living activities?*
18. *How satisfied are you with your capacity for work?*

Domain score average out of 100 (*higher score is better*)	Domain score by age		Domain score by education (no school, primary school, secondary school, tertiary school)		Domain score by marital status		Domain score by current illness (reported "feeling ill" at time of assessment)	
58	**Age*: Score**							
	18-29:	76	None:	46	Single:	61	Feeling ill*:	44
	30-44:	73	Primary:	51	Married:	61	Not feeling ill:	61
	45-64:	62	Secondary*:	60	Living as married:	54		
	65-84:	53	Tertiary*:	64	Separated*:	51		
	85+:	47			Divorced:	59		
					Widowed:	48		

* **Age ▼** 0.34 points per year at 99.9% confidence interval[10]
* **Tertiary education ▲** 7.8 points vs. **no education**[11] at 99.9% confidence interval
* **Secondary education ▲** 3.38 points vs. **no education** at 93.4% confidence interval
* **Separated ▼** 5.4 points vs. **single** at 93.4% confidence interval
* **Feeling ill ▼** 11.96 points vs. **not feeling ill** at 99.9% confidence interval
* **Ill status (blank) ▼** 5.21 points vs. **not feeling ill** at 99.9% confidence interval

TABLE 2: PHYSICAL DOMAIN SCORES AND PREDICTIVE VARIABLES ACROSS ALL COLLECTION ROUNDS

[10] Confidence intervals indicate the degree to which we can be sure that there is a correlation between two or more variables. Higher percentage means higher certainty that if left to chance, the relationship isn't random

[11] Participants with tertiary education had scores 13.24 points higher than participants who indicated no education

Psychological

Domain description: *Bodily image and appearance; negative feelings; positive feelings; self-esteem; spirituality / religion / personal beliefs; thinking, learning, memory and concentration*

Survey question items included in this domain:

5. *How much do you enjoy life?*
6. *To what extent do you feel your life to be meaningful?*
7. *How well are you able to concentrate?*
11. *Are you able to accept your bodily appearance?*
19. *How satisfied are you with yourself?*
26. *How often do you have negative feelings such as blue mood, despair, anxiety, depression?*

Domain score average out of 100 (*higher score is better*)	Domain score by age		Domain score by education (no school, primary school, secondary school, tertiary school)		Domain score by marital status		Domain score by current illness (reported "feeling ill" at time of assessment)	
60	**Age*: Score**							
	18-29:	70	None:	55	Single:	61	Feeling ill*:	49
	30-44:	70	Primary:	56	Married*:	63	Not feeling ill:	62
	45-64:	62	Secondary:	61	Living as married:	52		
	65-84:	58	Tertiary*:	66	Separated*:	52		
	85+:	55			Divorced:	58		
					Widowed:	55		

* **Age ▼** 0.17 points per year at 99.9% confidence interval

* **Tertiary education ▲** 5.58 points vs. **None at all** at 99.1% confidence interval

* **Married ▲** 3.21 points vs. **single** at 98% confidence interval

* **Separated ▼** 5.59 points vs. **single** at 92.5% confidence interval

* **Feeling ill ▼** 10.71 points vs. **not feeling ill** at 99.9% confidence interval

TABLE 3 : PSYCHOLOGICAL DOMAIN SCORES AND PREDICTIVE VARIABLES ACROSS ALL COLLECTION ROUNDS

Social Relationships

Domain description: *Personal relationships; social support; sexual activity*

Survey question items included in this domain:

20. *How satisfied are you with your personal relationships?*
21. *How satisfied are you with your sex life?*
22. *How satisfied are you with the support you get from your friends?*

Domain score average out of 100 (*higher score is better*)	Domain score by age		Domain score by education (no school, primary school, secondary school, tertiary school)		Domain score by marital status		Domain score by current illness (reported "feeling ill" at time of assessment)	
56	**Age*: Score**							
	18-29:	73	None:	49	Single:	57	Feeling ill*:	45
	30-44:	69	Primary:	52	Married*:	60	Not feeling ill:	59
	45-64:	62	Secondary:	58	Living as married:	51		
	65-84:	52	Tertiary:	60	Separated:	49		
	85+:	46			Divorced*:	52		
					Widowed:	46		

* **Age ▼** 0.34 points per year at 99.9% confidence interval
* **Married ▲** 4.8 points vs. **single** at 99.7% confidence interval
* **Divorced ▼** 4.9 points vs. **single** at 92.8% confidence interval
* **Feeling ill ▼** 8.78 points vs. **not feeling ill** at 99.9% confidence interval

TABLE 4 : SOCIAL RELATIONSHIP DOMAIN SCORES AND PREDICTIVE VARIABLES ACROSS ALL COLLECTION ROUNDS

Environment

Domain description: *Financial resources; freedom, physical safety and security; health and social care: accessibility and quality; home environment; opportunities for acquiring new information and skills; participation in and opportunities for recreation / leisure activities; physical environment (pollution / noise / traffic / climate); transport*

Survey question items included in this domain:

8. *How safe do you feel in your daily life?*
9. *How healthy is your physical environment?*
12. *Have you enough money to meet your needs?*
13. *How available to you is the information that you need in your day-to-day life?*
14. *To what extent do you have the opportunity for leisure activities?*
23. *How satisfied are you with the conditions of your living place?*
24. *How satisfied are you with your access to health services?*
25. *How satisfied are you with your transport?*

Domain score average out of 100 (*higher score is better*)	Domain score by age		Domain score by education (no school, primary school, secondary school, tertiary school)		Domain score by marital status		Domain score by current illness (reported "feeling ill" at time of assessment)	
60	**Age*: Score**							
	18-29:	74	None:	56	Single:	61	Feeling ill*:	52
	30-44:	66	Primary:	57	Married:	61	Not feeling ill:	61
	45-64:	59	Secondary:	60	Living as married:	58		
	65-84:	58	Tertiary*:	65	Separated:	55		
	85+:	57			Divorced*:	53		
					Widowed:	57		

* **Age ▼** 0.14 points per year at 99.9% confidence interval

* **Tertiary education ▲** 6.07 points vs. **None at all** at 99.3% confidence interval

* **Divorced ▼** 7.54 points vs. **single** at 98.8% confidence interval

* **Feeling ill ▼** 7.02 points vs. **not feeling ill** at 99.9% confidence interval

TABLE 5 : ENVIRONMENT DOMAIN SCORES AND PREDICTIVE VARIABLES ACROSS ALL COLLECTION ROUNDS

DISCUSSION

PARTICIPANTS WITH MULTIPLE RESPONSES

We had fifty-three individuals with three responses recorded—meaning this group took the assessment three times, once per collection period. We had 115 individuals who only participated in the first and third (current) collection round. There were 108 individuals who only participated in the second and third collection rounds. As for why people would elect *not* to participate in more than round, we anticipate this has more to do with the variations in service delivery by program (e.g. in home care requires greater frequency than applying for a housing loan).

There were seventy-four males who participated in collection two and three, out of 108 overall (male & female). Male social relationship domain score decreased by 9.62 points from collection two to collection three.

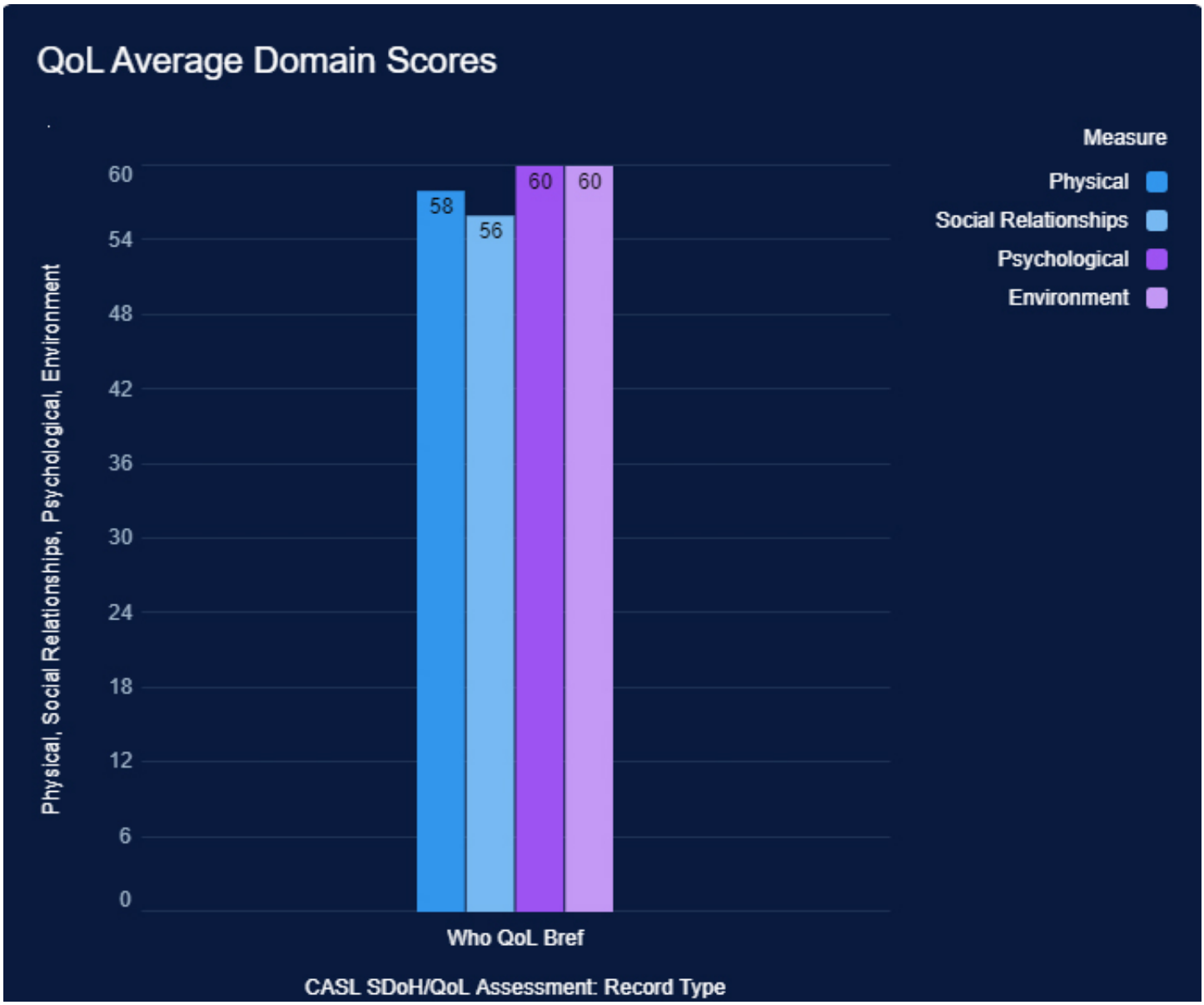

FIGURE 6: AVERAGE DOMAIN SCORES BY COLLECTION ROUND FOR MALES

Now that we know there are repeat participants, we can start asking the questions like why having more than one response matters or how collection schedules may have some role to play in final response counts.

Furthermore, it is important to keep in mind that "better" or "worse" is relative and that we ought to focus on how many of the 'same' people took the survey. Given the fact that the same participants had different scores at different times, comparing two or more people at two or more different times would be similarly inconclusive. Quality of life is personal; it is fluid and varies person-to-person and time-to-time.

Context Cues

As we mentioned in earlier reports, the fact that we have little control over environmental variables influences what the data might show us. However, while caution is warranted when making assumptions between our data and publicly available data, this data represents a sliver of the stories our clients hold. Drawing generalizations between our sample and say for instance, the broader Chicagoland community, would be grossly inaccurate, not to mention harmful, especially for individuals and groups not captured in our data. If we think about data as a medium for storytelling, each point represents a glimpse into participants' lives we might have otherwise missed.

Limitations

Using lessons from our previous collection round, we paid close attention in mitigating confusion surrounding response order or formatting (when administered on paper). With the aid of our online form, the number of invalid responses (missing data) was greatly reduced. During this collection period, we observed an outstanding 98 percent completion rate, which attests to the validity of the instrument. We had 508 assessments that were completed on paper during the collection period with the remainder filling it out online. We acknowledge that some of the questions in the WHOQOL-BRIEF may pose discomfort. More information can be found in our previous report.

Using The Data

How does a quality-of-life score of seventy-four compare to sixty-three? Neither figure by itself signifies any value, but if those two figures were taken months apart from the same participant, we would want to know what might have happened to cause such a dramatic shift. With three collection rounds complete, workflow processes have become more streamlined, cleaning and analyzing data has become easier, and dashboard assembly has been automated. By observing variables like age and education, we can compare response scores in each domain, which allows us to determine how to become better stewards of program resources and ultimately, better advocate for the people we serve.

The responses we have so far still only represent a small portion of our entire client population. Because most of the responses we gathered were not from the same people, making any sort of policy recommendation would be premature. Furthermore, data tells us *what* clients think about their quality of life, but not *why* they think that way. To isolate a single variable as cause for a particular outcome would be problematic and unjustified, which is why we are considering additional ways of asking why quality of life matters—such as conducting individual interviews, hosting focus groups, and leveraging observational studies.

Quality of life is multidimensional. While the WHOQOL-BREF contains physical, psychological, relational, and environmental domains, it cannot account for the conditions falling outside of those parameters. These conditions, social determinants of health, help us better understand how environment and perception intersect. Both quality of life and social determinants of health have the potential to identify how we can better support our clients. Where gaps exist in service delivery and access, measuring quality of life helps clients consider *all* their options when pursuing quality care and support.

CONCLUSION

Part of living well is knowing how to be healthy, which drives home the idea that being able to get quality healthcare is reflected in satisfaction with having access to it. Having 'good' quality of life and illness are not mutually exclusive, much less one's perception on life and health outcomes. There are several visible and invisible factors that contribute to what we think of as living "well," effectively disavowing any notion that there is a standard quality of life score that applies to everyone.

Addressing quality of life is complex, but having tools like the WHOQOL-BREF gives us a snapshot of how our community sees themselves and an opportunity to empower individuals to live well.