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# ABOUT THIS REPORT

## RECOMMENDED CITATION

Domínguez, D. & Pickrell, A., C. (2023). Nuestra Comunidad Sana.

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## COLLECTIVE

The Collective consists of the Healthcare Foundation of Northern Sonoma County, On The Margins, Nuestra Comunidad, La Familia Sana and Alexander Valley Healthcare.

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## CONTRIBUTORS

**Alison DeGraff Ollivierre** is a cartographer and certified GIS Professional (GISP) with a strong focus on participatory mapping. She has received cartography awards from the Cartography and Geographic Information Society (CaGIS), the American Association for Geographers (AAG), and the National Geographic Society. Alison currently works as a cartographer at National Geographic Maps and conducts freelance work at Tomolo Maps and Design. Alison created the map of Cloverdale included in this report.

**Lucero Vargas** is an artist born in Mexico City. She migrated to Los Angeles, CA at the age of 11. She moved to Santa Rosa, California six years ago and works as a Professional Tattoo Artist. Inspired by Mexican and Native American Culture, she employs a native folk art style to explore identity, post-colonialism, gender, and race in American society. Art transformed her life and has helped her heal from trauma. She hopes to use the same process to help young people and empower all marginalized groups, to capture their beauty and strength and share it with the world. Vargas strongly believes art is one of the best activities for anyone to heal the spirit, mind, and body. Lucero created the graphic representation of participants' desired vision of a Community Wellness Center.

**Blanca Molina** is a graphic designer and illustrator based in Santa Rosa, California. She runs her own creative business and has worked with local breweries, wineries, small businesses, and organizations. Her style can be described as Latino "Maximalism". She enjoys depicting art inspired by Mexican celebrations and iconography, along with influences from her upbringing in America. The intention behind the art is to inspire happiness, nostalgia, and creativity. Blanca found it necessary to put art out that would lift spirits and remind the world that we have to be good to one another. Blanca created the Nuestra Comunidad Sana | Our Healthy Community logo.



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# INTRODUCTION

In 2022, the Healthcare Foundation of Northern Sonoma County commissioned On the Margins to conduct **Nuestra Comunidad Sana | Our Healthy Community**. Nuestra Comunidad Sana is a community-based project organized by four non-profit organizations: the Healthcare Foundation of Northern Sonoma County, Nuestra Comunidad, La Familia Sana, and Alexander Valley Healthcare.

These four organizations, hereinafter referred to as “The Collective,” sought to answer the following question—Where and when do intergenerational families gather to experience joy and a sense of belonging in Cloverdale? On the Margins was asked to collaborate with The Collective given its experience using asset-based community development (ABCD), community-based participatory research (CBPR), participatory mapping, and freedom dreaming as a practice. These approaches were used by On the Margins to find answers to The Collective's question.

The objective of Nuestra Comunidad Sana is to use a grassroots approach led by Cloverdale community members, with particular attention to historically underserved and marginalized communities, to envision a safe, vibrant, green, community space of belonging for all residents of Cloverdale. Nuestra Comunidad Sana encourages engagement and full participation of community partners in every aspect of the research process, from question identification to analysis and findings dissemination. To accomplish its objective, The Collective explored the assets, support systems, coping strategies, and hopes and dreams of 181 Cloverdale community members.

This report describes participants' desired vision of a safe, vibrant, and green community space of belonging in Cloverdale. Future directions for The Collective include project activation, construction, advocacy, fundraising, and implementation of community input and feedback. Nuestra Comunidad Sana is important because a community space of belonging, designed by and for the people, can improve physical and mental health outcomes, life expectancy and nurture an inclusive, safe community of belonging for all Cloverdadians. Next, we discuss the demographic composition in Cloverdale to highlight the existing inequities and disparities that exist in the region.

## 1.1 Cloverdale Population

Located in Northern Sonoma County, the City of Cloverdale has a population of 8,996 residents (U.S. Census 2020). Spanning over 3 miles, Cloverdale has a population density of 2,910 people per square mile. The largest Cloverdale racial/ethnic groups are White (61.9%) followed by Hispanic/Latinx (32.1%) [see Table 1]. In addition, 19.5% of Cloverdale residents are foreign-born. The median age in Cloverdale is 43 years; 42.1 years for “males”, and 46.2 years for “females” (please note that the Census defines sex and gender in binary ways). In 2021, the median household income of Cloverdale households was \$89,630. Moreover, 9.2% of Cloverdale residents “live in poverty” (terminology used by Census data). Cloverdale has a large farm working population, most of whom are Latinx-identified.

Although there is a large Latinx population in Cloverdale, there is a dearth of research identifying the needs, desires, aspirations, and well-being of Cloverdale's Black, Indigenous, and other Communities of Color. Thus, Nuestra Comunidad Sana is a project led by BIPOC Cloverdale communities who are invested in advocating for local, joyous, and healthy spaces of belonging.

<sup>1</sup> Sources: United States Census Bureau. 2021 American Community Survey 5-Year Estimates. U.S. Census Bureau, American Community Survey Office. Web. 8 December 2022.

United States Census Bureau. Annual Estimates of the Resident Population: April 1, 2020 to July 1, 2021. U.S. Census Bureau, Population Division. Web. May 2022. <http://www.census.gov/>.

United States Census Bureau. Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2019. U.S. Census Bureau, Population Division. Web. May 2021. <http://www.census.gov/>.

United States Census Bureau. “P2 Hispanic or Latino, and Not Hispanic or Latino by Race.” 2020 Census State Redistricting Data (Public Law 94-171) Summary File. U.S. Census Bureau, 2020 Census. Web. 12 August 2021. <https://www.census.gov/>.

<sup>2</sup> Black, Brown, Indigenous, and Other Community of Color

**Table 1. Ethnoracial Background, Age, Foreign-Born Status, and Housing in Cloverdale**

White alone, percent	74.3%
Black or African American alone, percent	0.3%
American Indian and Alaska Native alone, percent	1.3%
Asian alone, percent	1.6%
Native Hawaiian and Other Pacific Islander alone, percent	0.1%
Two or More Races, percent	10.5%
Hispanic or Latino, percent	32.1%
White alone, not Hispanic or Latino, percent	61.9%
Persons under 5 years, percent	3.2%
Persons under 18 years, percent	20.4%
Persons 65 years and over, percent	19.7%
Foreign born persons, percent, 2017-2021	19.5%
Owner-occupied housing unit rate, 2017-2021	67.6%
Median value of owner-occupied housing units, 2017-2021	\$524,000.00
Median selected monthly owner costs - with a mortgage, 2017-2021	\$2,499.00
Median selected monthly owner costs - without a mortgage, 2017-2021	\$588.00
Median gross rent, 2017-2021	\$1,250.00

## 1.2 The Local Population's Wellbeing

The Portrait of Sonoma Update 2021 presents a picture of Cloverdale residents' wellbeing. The American Human Development Index (HDI), an index on a scale from 0 to 10, is a composite measure of wellbeing. The Human Development Index recognizes that while many factors influence health and access to opportunities, there are three particular elements that are critical to well-being: a long and healthy life (i.e., life expectancy), access to formal education, and a decent standard of living (i.e., income).

Sonoma County's HDI score is 6.19 out of a possible total score of 10. This score is higher than the U.S.'s HDI of 5.33 and California's HDI of 5.85. Cloverdale's two census tracts have lower HDI scores than Sonoma County and California. East Cloverdale has an HDI score of 4.37 and West Cloverdale has an HDI score of 5.93. These numbers indicate that individuals in West Cloverdale live longer, and have higher education, and income than residents in East Cloverdale. While 91.2% of residents in West Cloverdale graduate from high school, 74.2% in East Cloverdale do. In addition, residents in West Cloverdale earn a median income of \$39,026 while residents in East Cloverdale earn \$35,286. According to American Community Survey data (ACS, 2021, 5-year estimates), 47% of the population in East Cloverdale is Hispanic/Latinx, 26.9% is foreign-born, and 40% of the overall population has a household income of less than \$50,000.

On the other hand, 20% of the population in West Cloverdale is Hispanic/Latinx, 13.3% is foreign-born, and 22% of the region's household income is less than \$50,000. This means that East Cloverdale has a larger Hispanic/Latinx, immigrant, and lower-income population than West Cloverdale.

It is important to note that 56.7% of students in the Cloverdale Unified School District qualify for free or reduced-price school lunches, a key measurement of income measurement in the area (ACS,2021) Given the objective of this project, this research project focused its community-based data collection on the East Cloverdale census tract with particular attention to historically underserved and marginalized communities. Tables 2-5 summarize the health, education, and income index scores for each of the two census tracts.

Cloverdale has one primary form of public transportation: the Sonoma County Transit Line 60, which primarily serves the western side of Cloverdale (Sonoma County Transit). Those without cars or other personal vehicles are unable to easily enter greater metropolitan areas such as Santa Rosa or Ukiah. The nearest full hospitals to Cloverdale are in Santa Rosa, Lake County, or Healdsburg, which are hard-to-reach via public transit during an emergency. Additionally, housing costs in Cloverdale and in Sonoma County overall have become increasingly unaffordable, as the prices of studio housing, and one-through-four bedroom homes have close to doubled in Sonoma County from 2012 to 2022, according to HUD Fair Market Rates. Some of these rent increases occurred at the same time that major wildfires hit Sonoma County in 2017, 2018 and 2019. For a family of four earning an amount equal to 100% of the Federal Poverty Level (\$27,750 in 2022), a two-bedroom housing costs approximately 97.4% of their income. One bedroom would cost this same family 74% of their income. For families earning an amount equal to twice the federal poverty level (\$55,500), this cost is 48.7% (two-bedroom) and 37% (one-bedroom) of their income respectively.

While federal and county data can account for the varying health and wellness metrics on the broader scale of the Cloverdale community, current data and research is minimal on the "assets" or current community strengths within Cloverdale. Understanding assets and strengths is critical towards understanding how community resilience is formed and how it can be utilized to further support community development.

**Table 2. HDI Index and Life Expectancy by Census Tract**

Name	Portrait of Sonoma Tract Name	HDI Index	Life Expectancy at Birth (years)
Census tract 1542.01	East Cloverdale	4.37	75.9
Census Tract 1542.02	West Cloverdale	5.93	81.4

**Table 3. Health, Education, and Income Index by Census Tract**

Portrait of Sonoma Tract Name	Health Index	Education Sex	Income Tax
East Cloverdale	4.13	3.97	5.00
West Cloverdale	6.42	5.66	5.70

**Table 4. Additional Details for Education Index by Census Tract**

Portrait of Sonoma Tract Name	Less Than High School (% of adults+)	At Less High School Diploma (% of adults 25+)	At Less High School Degree (% of adults 25+)	Graduate Degree (% of adults 25+)	School Enrollment (% ages 3 to 24)
East Cloverdale	25.8	74.2	23.6	7.9	75.8
West Cloverdale	8.8	91.2	29.6	8.5	82.4

**Table 5. Median Earning by Census Tract**

Portrait of Sonoma Tract Name	Median Earning
East Cloverdale	\$35,286
West Cloverdale	\$39,026



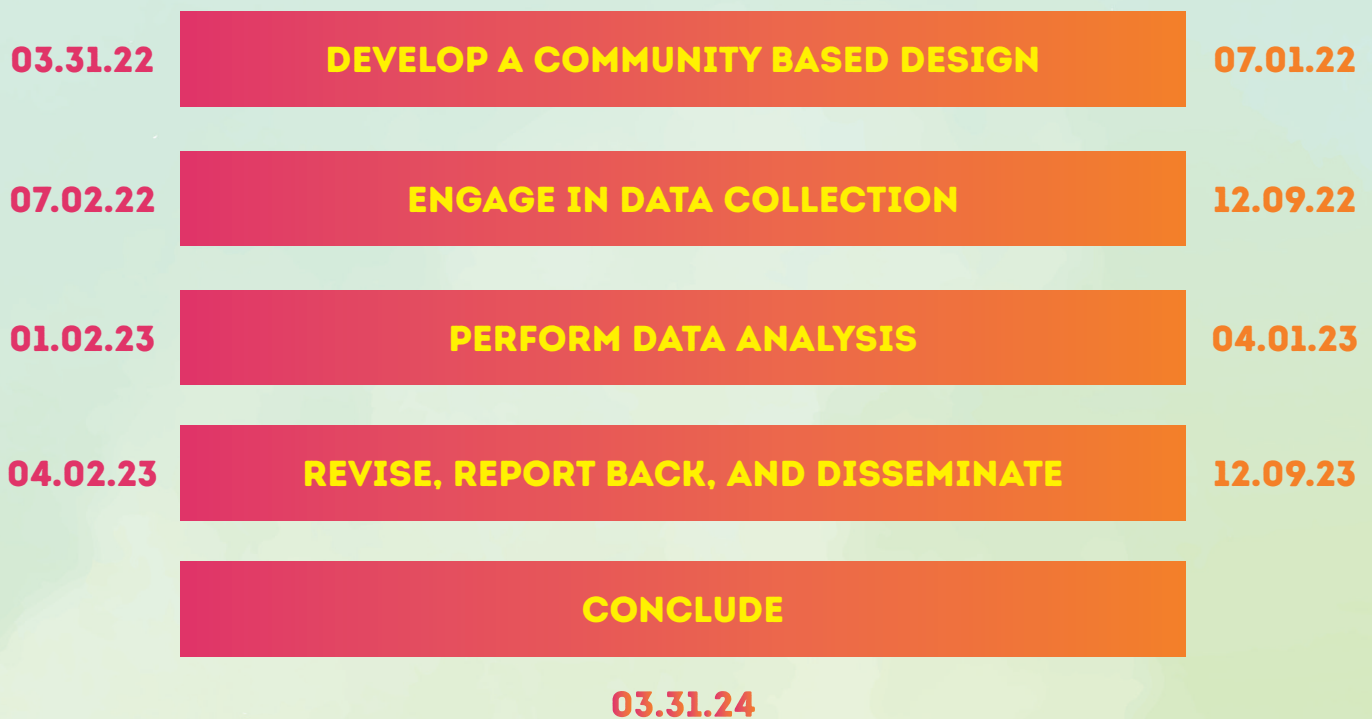
# METHODOLOGY

## 2.1 Developing the Community-Based Design

From March 31, 2022 to July 1, 2022 staff members from the Healthcare Foundation of Northern Sonoma County, La Familia Sana, Nuestra Comunidad, Alexander Valley Healthcare, and On the Margins met to develop the community-based design and accountability networks for the project—**Nuestra Comunidad Sana | Our Healthy Community**. The Collective determined the favorable conditions for participation based on the objective of the project (i.e., the provision of childcare, participation incentives, and bilingual/bicultural facilitation). The Collective's multiple perspectives in the community-based design phase were essential to ensure that engagements were adapted to local needs and circumstances. This phase resulted in the creation of a research question, a year-long calendar/schedule of project activities, and the design of materials such as survey cards and focus group protocol questionnaires. The research question identified by the "Collective" is:

# WHAT DOES A SAFE, VIBRANT, GREEN, COMMUNITY SPACE OF BELONGING LOOK LIKE IN CLOVERDALE?

Figure 1. Execution Summary Agreed Upon by The Collective



## 2.2 Establishing the Method

# COMMUNITY BASED PARTICIPATORY RESEARCH (CBPR)

This project adopted a Community-Based Participatory Approach (CBPR). CBPR was selected because its approach aims to amplify “community participation, community involvement, community consultation, and collaborative partnerships” (Achen et al., 2022, p. 6). It begins with understanding participants' concerns, needs, hopes, and aspirations rather than the interests of the primary investigators and or funders (Abma et al., 2017). In other words, CBPR engages in research “with” people and “not over” people (Domínguez et al., 2020; Wallerstein & Duran, 2003). CBPR can practice a “needs-driven model” to identify concerns within the community, or an asset-based model to identify the support systems, cultural wealth, and resources that already exist in it (Domínguez et al., 2020). Nuestra Comunidad Sana used an asset-based model grounded in participants' hopes, dreams, and desires. Previous research on CBPR points to the “positive long-term impacts of participatory community-based approaches to health” (Avery et al., 2021; Laverack, 2006; Salimi et al., 2012; Wallerstein, 2006; Ward et al., 2018; Wiggins, 2012). The Collective agreed that CBPR would be the appropriate method for Nuestra Comunidad Sana.

## CARTOGRAPHY

Once CBPR was selected, The Collective mapped the territorial boundaries and other important socio-spatial features such as social service agencies, health centers, community-based organizations, and communal spaces that Cloverdale community residents often visit. The Collective harnessed the power of cartography to better represent the areas in which data collection would take place based on our priority populations (i.e., BIPOC communities, elders, and other communities on the margins). Alison DeGraff Ollivierre from Tomolo Maps and Design applied her cartographic and geographic information systems (GIS) expertise to create a map that would delineate the focus area in which data collection would take place. Once these socio-spatial features were identified, engagements and interviews were scheduled with participants. Most community events and engagements were planned near North Cloverdale Road and South Cloverdale Road given its unique position as an access point to important gathering locations. Engagements were conducted at La Familia Sana, Nuestra Comunidad, St. Peter Catholic Church, the Cloverdale Performing Arts Center, the Citrus Fairgrounds, the Cloverdale Downtown Plaza, and Kings Valley Senior Apartments.



Figure 2. Research Procedure

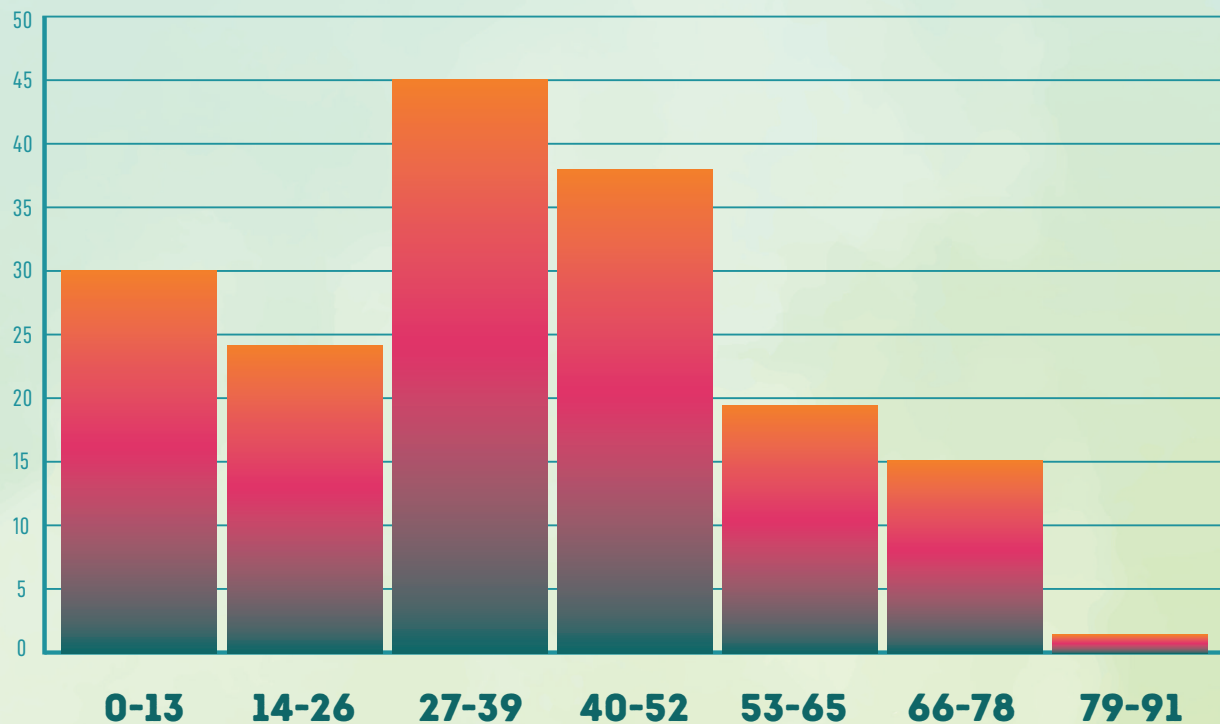
## 2.3 Participants and Data Collection

The inclusion criteria for participation in this community-based project included full-time employees or community residents of Cloverdale. Participants for the focus groups were recruited using purposeful and snowball sampling (Marshall, 1996; Patton, 2002). Snowball sampling is often used with hard-to-reach or marginal populations through the use of referrals from insiders within the population to be studied (de Jong & Ommeren, 2002, p. 427). During meetings with The Collective, it was revealed that several of its members had connections with desired communities, and thus could significantly support the recruitment process. Participants learned of the data collection activities through other Cloverdale residents and/or through announcements (e.g., spreading information through face-to-face interactions, messages and flyers, announcements during Zumba/Folklorico class, etc.). Flyers with information about this research project were disseminated at a local coffee shop, church, and local organizations. Daycare, light snacks, and \$50 gift cards were provided to incentivize participation.

The data collection phase included data collector training, measure preparation and formatting, protocol preparation, and database construction. From July 2, 2022 to December 9, 2022, data collection took place in the map identified in the results section. Data was collected through survey cards and focus groups. Survey cards were selected as a data collection tool because they have the capacity to engage participants in research without the need for significant time commitment.

A total of 181 residents participated in this community-based project. Among participants, 115 identified as “female,” 54 respondents (30%) identified as “male”, and 12 respondents (7%) did not answer. The majority of participants were within the 26 - 52 age range. Graph 1 demonstrates that data is positively skewed, which means most participants were youth and adults, rather than elders. In terms of ethnoracial background, 138 respondents identified as either Hispanic/Latinx, 19 as white, 3 as “Native American”, 1 as “African-American”, and 1 as “Asian”. Zip code frequency showed the vast majority of participants live in the 95425 area (150/181, 82.87%), with a minority of the population living elsewhere: the 95448 area (4/181), the 95407 area (3/181), or in unknown/not specified locations (10/181).

## AGE DISTRIBUTION



Graph 1. Excel Generated Age Distribution



# SURVEY PROCEDURE

All 181 respondents participated in brief surveys. Despite their simplicity, in-person surveying continues to be an important source of information in community-based research. Survey cards asked participants to answer the following question: **“What are the three most important things you would want to see in a community wellness center in Cloverdale?”** Demographic inputs, including age, zip code, race/ethnicity, and gender were collected. The pocket-sized survey card was designed to take fewer than five minutes to complete (the survey card can be seen in Figure 3).

Researchers from On the Margins and community partners from The Collective were responsible for the distribution of these survey cards. Informed consent was obtained from participants and assent was given by guardians when children were surveyed. Participants were given the following two options: fill out the card and return it to a box nearby, or have the researcher complete the card for you. It is important to note that 47 of the survey cards were completed by focus group participants (see the next section to learn more about the focus groups that were conducted).

Figure 3. Survey Cards

<h3>CENTRO DE BIENESTAR COMUNITARIO EN CLOVERDALE</h3> <p>¿Cuáles son las tres cosas principales que le gustaría ver en un centro de bienestar comunitario en Cloverdale (por ejemplo, clases de zumba, mesas de picnic, área de juegos para niños, etc.)? <b>Favor de escribir abajo:</b></p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p> <p>Edad: _____ Código Postal _____ Es Latino/a/x? Si <input type="checkbox"/> No <input type="checkbox"/></p> <p>Género: <input type="checkbox"/> Hombre <input type="checkbox"/> Mujer <input type="checkbox"/> Trans <input type="checkbox"/> Otro: _____</p>	<h3>COMMUNITY WELLNESS CENTER IN CLOVERDALE</h3> <p>What are the three most important things you would want to see in a community wellness center in Cloverdale (e.g. zumba classes, picnic tables, playground, etc)? <b>Please write them below:</b></p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p> <p>Age: _____ Zip Code _____ Race/Ethnicity: _____</p> <p>Gender: <input type="checkbox"/> Man <input type="checkbox"/> Woman <input type="checkbox"/> Trans <input type="checkbox"/> Other: _____</p>
--	--

## FOCUS GROUPS

In addition to the brief survey above, the researchers conducted 6 semi-structured focus groups with 47 participants. The focus group interviews were conducted in-person between July 2022 and December 2022 and each lasted 2 hours. Nuestra Comunidad hosted 5 focus groups and one focus group took place at a local senior apartment complex. One focus group was in English, 5 were in Spanish, and each focus group included 5–10 participants.

Facilitators led the groups using a semi-structured discussion guide with questions and suggested probes to encourage elaboration (see Appendix for protocol questions). Participants from the focus groups also completed survey cards at the completion of the focus group. This means that 134 of the survey cards were completed while canvassing and 47 at the conclusion of focus groups. The protocol questions are included below.

# PROTOCOL QUESTIONS

**WHAT IS IT LIKE TO LIVE AND/OR WORK IN CLOVERDALE?**

**A. WHAT DO YOU ENJOY MOST ABOUT LIVING IN CLOVERDALE?**

**B. WHAT IS MOST CHALLENGING ABOUT LIVING IN CLOVERDALE?**

**WHERE DO YOU FEEL SAFE AND WHERE DO YOU FEEL LIKE YOU BELONG IN CLOVERDALE?**

**A. WHAT ARE SOME NETWORKS OF SUPPORT/SUPPORT SYSTEMS THAT YOU RELY ON DURING TIMES OF ADVERSITY AND CHALLENGES?**

**WHAT ACTIVITIES DO YOU PRACTICE THAT BRING YOU HEALTH AND WELLBEING?**

**WHEN YOU VISUALIZE OR IMAGINE A DESIRED COMMUNITY WELLNESS CENTER IN CLOVERDALE, WHAT DOES IT LOOK LIKE?**

**IN THAT DESIRED VISION, WHAT IS AVAILABLE FOR YOU AND/YOUR FAMILY THAT STRENGTHENS YOUR WELLBEING?**

**WHAT WOULD HAVE TO BE AVAILABLE AT THIS COMMUNITY WELLNESS CENTER TO HELP YOU FEEL SAFER, WELCOMED, AND SUPPORTED?**

**CAN YOU PLEASE DRAW YOUR DESIRED VISION OF A COMMUNITY WELLNESS CENTER?**

**IDEALLY WHERE WOULD YOU WANT THIS COMMUNITY WELLNESS CENTER TO BE LOCATED? CAN YOU LOCATE IT ON THE MAP PROVIDED?**

**CAN YOU PLEASE COMPLETE THE SURVEY CARD IN FRONT OF YOU?**

Figure 4. Protocol Questions

## 2.4 Data Analysis

From January 2nd, 2023 to April 1st, 2023, data analysis took place. Two On the Margins researchers tagged, labeled, and clustered the data collected, and a visual artist, Lucero Vargas, created graphic images based on the data analyzed (see author and contributor biographies for more information). Data analysis was performed with KH Coder, an open-source qualitative data analysis (QDA) software released in 2015. KH Coder was developed by Koichi Higuchi, a professor of Sociology at Ritsumeikan University in Kyoto, Japan.

The data collected by On the Margins was entered into a spreadsheet and sorted by Gender, Age, Zip Code, Race/Ethnicity, and the following question: "What are the three most important things you would like to see in a Community Wellness Center?" The data was processed using three-steps: (1) initial cleaning, (2) translation from Spanish to English, and (3) final cleaning. The initial cleaning process removed English prepositions when applicable, hyphenated select phrases to signify association, consolidated gendered ethnicities and races (i.e. "Latino/Latina" to "Latinx" as a universal signifier), and unnecessary spaces or "/" marks were removed for clarity. Initial cleaning was used to identify key nouns, adjectives or phrases that emphasized community needs and desires associated with a community wellness center or space of belonging. In the second step of data processing, Spanish responses did not go through the cleaning process to maintain the highest level of accuracy. Spanish phrases were then translated into English text for analysis. Subsequently, the translated data went through a last round of cleaning.

# WORD CLUSTERING

The data subsequently went through a process of clustering. KH Coder's Term Extract algorithm was used to detect compound nouns and to identify how "clustered" nouns are within a scoring method (Mori & Nakagawa, 2002). The following equation determines the exact score of a complex noun (CN) with individual words  $N_1, N_2$ :

$$GM(CN, 1) = \left( \prod_{i=1}^{L=2} \left( \sum_{j=1}^{LDN(N_i)} (\#N_i) + 1 \right) \left( \sum_{j=1}^{RDN(N_i)} (\#N_i) + 1 \right) \right)^{1/2L=1/4} * F_{CN}^4$$

A "Coding Rule" sheet for grouping key terms and phrases in qualitative data analysis was used. This rule creates categories of words to analyze, and is done in a manner similar to the following code excerpt:

```
*Group1
word1 | word2 | compound+word ...
```

For a brief description of the notation, categories are prefaced with a star (\*), and for formatting | capitalized. For functionality, all category titles were single words or two words combined. The words below each section, spaced with a bar (|) between each, are the keywords that correspond to that category. For example, "crafts" was a key term affiliated with the art category because of its purpose as a recreational activity. Additionally, combined phrases in the category are joined with a (+) symbol. Note that these categories are determined based on identified keywords, and as such will result in varying results depending on the terms and groupings used. This "Coding Rule" sheet highlights association between clusters, so it is best advised to look for and utilize frequently-used terms, such as those found in the word cloud or word frequency by Part-Of-Speech, for stronger results. Typically, individual words are used for frequency analysis, but for the brevity of the analysis and the findings of the data, groups of words with similar themes were used to highlight connections between varying needs, wants, and desires in the community.

The following table describes the cluster categories used and the keywords describing them:

CATEGORY	CATEGORY DESCRIBING WORDS
Recreation (REC)	Activities, sports, games, swimming, recreational, dance, read, make, grow, cook, pool, workshop, picnic
Counseling/Mental Health (COS)	Therapy, counseling, psychology, mental, mental health, support
Children/Youth (CHI)	Child-care, kids, child, children
Education (EDU)	Classes, class, english, nutrition, support, tutor, tutoring, learning, learn, information, courses, library
Arts and Music (ART)	Sewing, art, music, dance, crafts, arts
Accessibility/Inclusivity (ACC)	Low-income, low-cost, multipurpose, multi-functional, free, bilingual, diversity, all-ages, family services
Spaces/Areas (SPA)	Center, area, park, field
Health and Wellness (HEA)	Health, cardiac, dental, mental, clinic, wellness
Core Necessities/Needs (NED)	Food, shelter, cooling, aid, resources

Table 6. Cluster Categories



# JACCARD INDEX, SIMILARITY MATRICES, AND CO-OCCURRENCE NETWORKS

To detect a correlation between two groups of items, Jaccard coefficients were used (Jaccard, 1912). They are a simple but effective method of finding the degree of association between two groups, most notably the clustered groups of text developed in the coding rule section above. The Jaccard index is given based on the frequency of all common related phrases between two groups divided by the total number of phrases as a whole. The Jaccard index of any two groups must be between or either 0 and 1. The researchers created a similarity matrix that describes the index between one group and another. This matrix can be interpreted as a graph known as a co-occurrence network, where the vertices are the categories themselves, and the lines between them are weighted based on the Jaccard index between them.

# DRAWINGS

During the five focus groups, Cloverdale community members drew out visual accompaniments prior to completing their survey cards. Their drawings helped to display information discussed during the focus groups. These helped to further emphasize the needs of the community and to give a visual representation of how a wellness center could be realized.

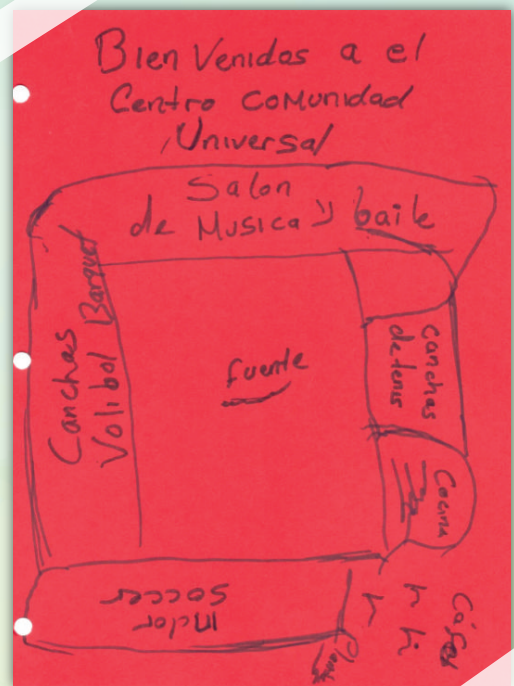
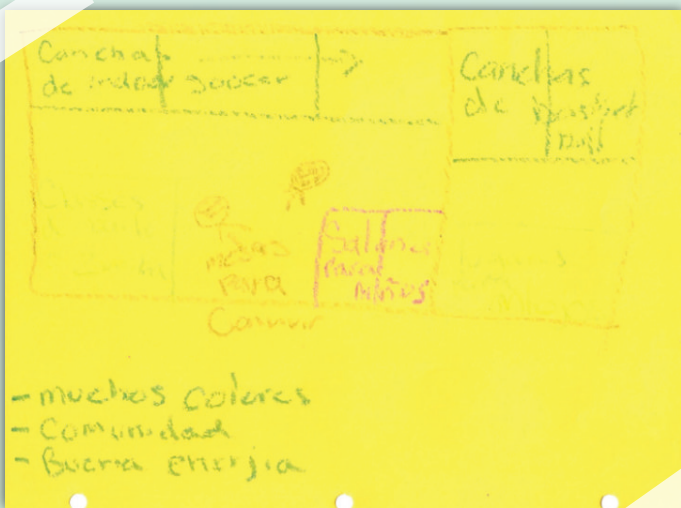


Figure 5. Examples of Drawings



# FINDINGS

*A colorful mural, agave, and native plants welcome you to “Nuestra Comunidad Sana | Our Healthy Community.” You walk into this brand-new wellness center. Bilingual/bicultural volunteers greet you and invite you on a tour of the facility.*

*Immediately, you're presented with a wide variety of local art from talented creatives from different backgrounds, ages, and abilities, highlighting the vibrant life and cultural heritage of Cloverdale's diverse communities. The art on the walls celebrates past, present, and future generations.*

*You see multigenerational families interacting with crafts, enjoying music, and eating together. You hear families talking to each other about the intramural sports they signed up for. The volunteer asks you if you can hear the loud and bustling sound in the background—she said, “today's class is Zumba, tomorrow's class is Folklorico.”*

*On one corner is an education center and community library, where free English and Spanish classes, culinary lessons, computer skills, and more are available at no-cost or on a sliding scale. You see a banner that invites you to the free wellness clinic facilitated by community health workers, culture workers, healers, and behavioral health practitioners. There is a small market where guests can purchase meals and drinks.*

*On the opposite corner is a daycare and teen center, where children can learn, receive tutoring, lead, and enjoy the center's resources. In the final sector of the tour, you notice one swimming pool where elders, adults, and children are relaxing and experiencing pure joy.*

*This is the accessible and inclusive space of belonging you have been waiting for.*





In terms of adjectives, “bilingual”, “cultural”, “different”, “psychological”, “recreational”, and “young” came up as significant terms. These adjectives highlight the need to center: (a) linguistic justice; (b) the celebration of diverse cultural identities, traditions, and values; and (c) community well-being through a wide variety of events, activities, support services, and resources. Lastly, verbs like “tutor”, “walk”, “read”, “babysit”, “dance”, and “learn” emphasize participants’ desire for education, childcare, recreation, and movement, with a strong focus on child and family development and activities.

Table 7. Common Words by Part-of-Speech (POS) Tags

<b>NOUNS</b>	<b>N. FREQ.</b>	<b>ADJECTIVES</b>	<b>ADJ.FREQ.</b>	<b>VERBS</b>	<b>VERB FREQ.</b>
<b>CLASS</b>	<b>90</b>	<b>BILINGUAL</b>	<b>4</b>	<b>TUTOR</b>	<b>6</b>
<b>CENTER</b>	<b>22</b>	<b>CULTURAL</b>	<b>2</b>	<b>WALK</b>	<b>3</b>
<b>PARK</b>	<b>22</b>	<b>DIFFERENT</b>	<b>2</b>	<b>READ</b>	<b>3</b>
<b>ACTIVITY</b>	<b>20</b>	<b>PSYCHOLOGICAL</b>	<b>2</b>	<b>BABYSIT</b>	<b>3</b>
<b>ENGLISH</b>	<b>19</b>	<b>RECREATIONAL</b>	<b>2</b>	<b>DANCE</b>	<b>2</b>
<b>ART</b>	<b>18</b>	<b>YOUNG</b>	<b>2</b>	<b>LEARN</b>	<b>2</b>
<b>KID</b>	<b>18</b>	<b>ALIVE</b>	<b>1</b>	<b>CHEER</b>	<b>1</b>
<b>SWIMMING</b>	<b>18</b>	<b>BRIGHT</b>	<b>1</b>	<b>COOL</b>	<b>1</b>
<b>GAMES</b>	<b>17</b>	<b>CARDIAC</b>	<b>1</b>	<b>CUT</b>	<b>1</b>
<b>SUPPORT</b>	<b>16</b>	<b>DENTAL</b>	<b>1</b>	<b>EAT</b>	<b>1</b>
<b>CHILDREN</b>	<b>15</b>	<b>EARLY</b>	<b>1</b>	<b>FILL</b>	<b>1</b>
<b>KIDS</b>	<b>15</b>	<b>ENGLISH</b>	<b>1</b>	<b>FUNDRAISE</b>	<b>1</b>
<b>MUSIC</b>	<b>15</b>	<b>FEMALE</b>	<b>1</b>	<b>GET</b>	<b>1</b>
<b>POOL</b>	<b>15</b>	<b>FREE</b>	<b>1</b>	<b>GIVE</b>	<b>1</b>
<b>HEALTH</b>	<b>14</b>	<b>FRENCH</b>	<b>1</b>	<b>GROW</b>	<b>1</b>
<b>CHILD</b>	<b>13</b>	<b>HAIR-STYLING</b>	<b>1</b>	<b>HAIR-CUT</b>	<b>1</b>
<b>SPORTS</b>	<b>13</b>	<b>HOMELESS</b>	<b>1</b>	<b>HELP</b>	<b>1</b>
<b>ACTIVITIES</b>	<b>11</b>	<b>INDOOR</b>	<b>1</b>	<b>KICKBOX</b>	<b>1</b>
<b>ADULT</b>	<b>10</b>	<b>LOCAL</b>	<b>1</b>	<b>MAKE</b>	<b>1</b>
<b>MENTAL</b>	<b>10</b>	<b>LOW-COST</b>	<b>1</b>	<b>PARENT</b>	<b>1</b>
<b>SOCCER</b>	<b>10</b>	<b>LOW-INCOME</b>	<b>1</b>	<b>PEER</b>	<b>1</b>
<b>AREA</b>	<b>9</b>	<b>MANY</b>	<b>1</b>	<b>PILATES</b>	<b>1</b>
<b>COOKING</b>	<b>9</b>	<b>MULTI-FUNCTIONAL</b>	<b>1</b>	<b>RAISE</b>	<b>1</b>
<b>ZUMBA</b>	<b>9</b>	<b>MULTIPURPOSE</b>	<b>1</b>	<b>TAP</b>	<b>1</b>

Some of the top scores highlight common themes found within our data. Participants described wanting classes and education (English, cooking, art, music, Zumba, dance, computer, nutrition, etc.), swimming activities, and activities for children/childcare. Some scores are higher than the number of entries in our survey due to the frequency multiplier used by the TermExtract algorithm, intended to emphasize connectedness and common themes while amplifying the distinction between frequencies of various word combinations (especially in smaller data sets) for easy visualization. The art included in the section after the references, was created by artist Lucero Vargas based on the findings.

Table 8. Commonly Clustered Words (TermExtract Algorithm)

<b>CLUSTER</b>	<b>SCORE</b>
<b>ENGLISH CLASSES</b>	<b>248.834</b>
<b>COOKING CLASSES</b>	<b>50.951</b>
<b>SWIMMING POOL</b>	<b>49.626</b>
<b>ART CLASSES</b>	<b>46.656</b>
<b>MUSIC CLASSES</b>	<b>45.017</b>
<b>ZUMBA CLASSES</b>	<b>42.676</b>
<b>SKATE PARK</b>	<b>35.566</b>
<b>DANCE CLASSES</b>	<b>31.201</b>
<b>GAMES AREA</b>	<b>30.430</b>
<b>COMPUTER CLASSES</b>	<b>21.618</b>
<b>NUTRITION CLASSES</b>	<b>20.801</b>
<b>ACTIVITIES KIDS</b>	<b>20.506</b>
<b>DOG PARK</b>	<b>19.859</b>
<b>ART ACTIVITIES</b>	<b>18.795</b>
<b>SEWING CLASSES</b>	<b>18.795</b>
<b>CHILD CARE</b>	<b>17.707</b>
<b>SPORTS CENTER</b>	<b>16.851</b>

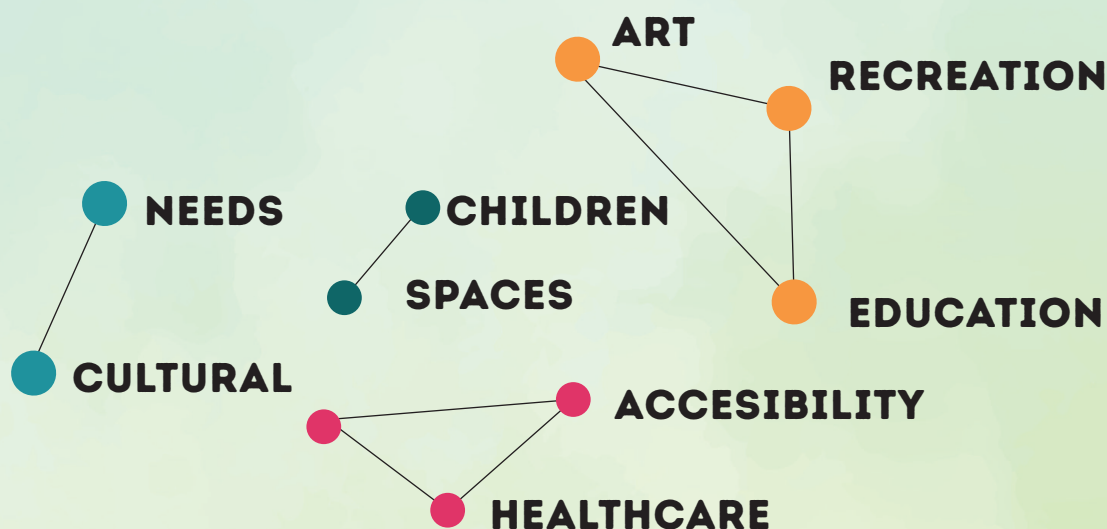


Table 9. Similarity Matrix and Co-Occurrence Network

	REC	COS	CUL	CHI	EDU	ART	ACC	SPA	HEA	NED
REC	1.000	0.000	0.000	0.107	0.096	0.108	0.033	0.131	0.008	0.009
COS	0.000	1.000	0.019	0.048	0.104	0.000	0.063	0.019	0.192	0.019
CUL	0.000	0.019	1.000	0.000	0.008	0.000	0.000	0.038	0.000	0.036
CHI	0.107	0.048	0.000	1.000	0.037	0.032	0.040	0.093	0.000	0.000
EDU	0.096	0.104	0.008	0.037	1.000	0.151	0.028	0.027	0.051	0.007
ART	0.108	0.000	0.000	0.032	0.151	1.000	0.013	0.027	0.000	0.016
ACC	0.033	0.063	0.000	0.040	0.028	0.013	1.000	0.021	0.130	0.000
SPA	0.131	0.019	0.038	0.093	0.027	0.027	0.021	1.000	0.011	0.037
HEA	0.008	0.192	0.000	0.000	0.051	0.000	0.130	0.11	1.000	0.056
NED	0.009	0.019	0.036	0.000	0.007	0.016	0.000	0.037	0.056	1.000

Note that non-standard values at or above 0.05 (5% or higher similarity) are highlighted in blue in Table 9. Given these select values, we can see an association between (Children - Recreation), (Education - Recreation), (Education - Counseling), (Art - Recreation), (Spaces - Recreation), (Accessibility - Counseling), (Health - Counseling), (Spaces - Children), (Health - Education), (Art - Education), (Health - Accessibility), and (Necessities - Health), and some association between (Culture - Basic Necessities). Another visualization can be created by a weighted graph known as a co-occurrence network, using the Jaccard index as the strength of (or lack of) connection between two groups (represented as graph vertices):

Graph 2. Graph Vertices



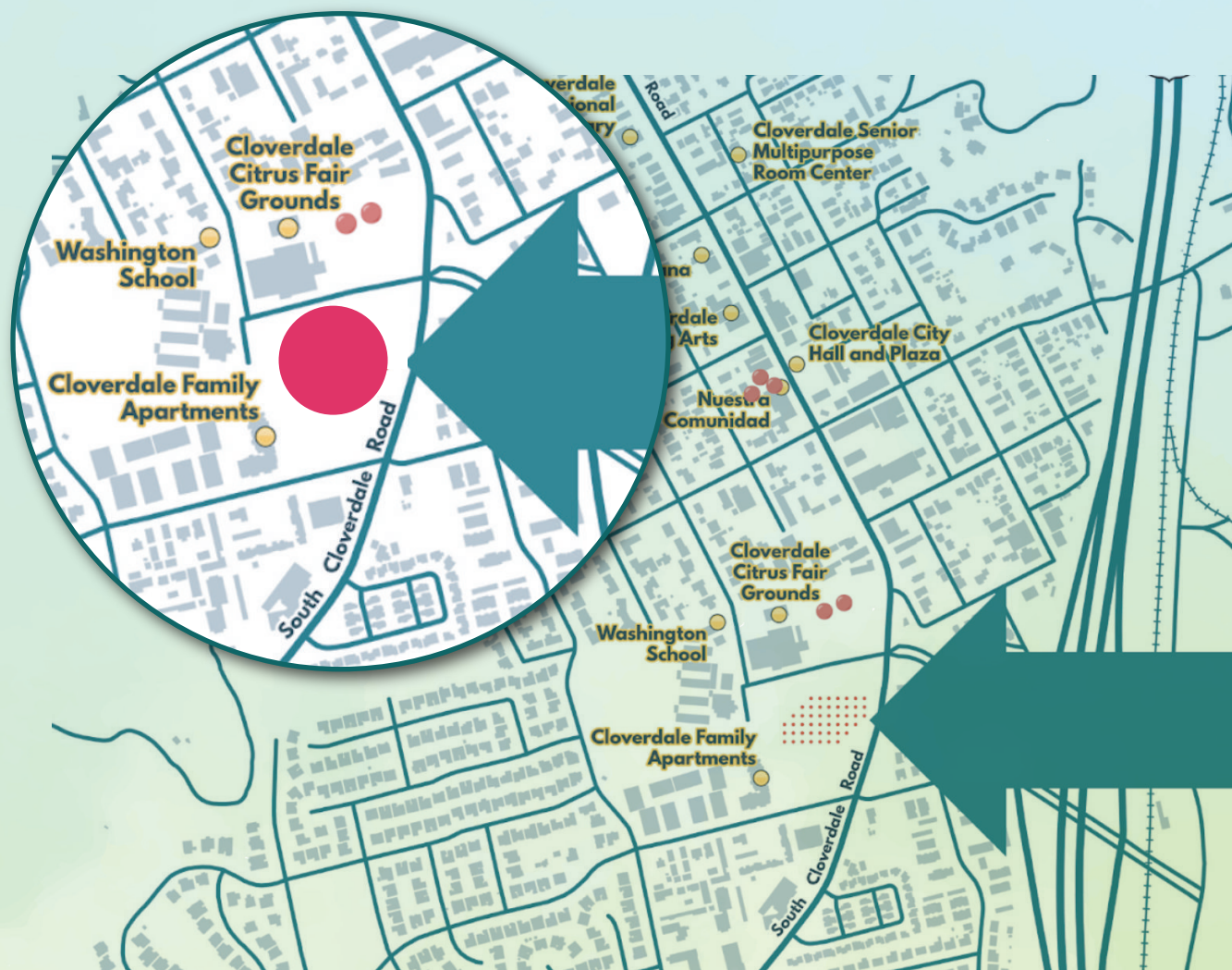
This graph further confirms the associations found with the Similarity Matrix.

## PARTICIPANT DRAWINGS

Common themes within participant drawings included significant nature scenery in connection to the space, such as trees, plants, or other wildlife. Drawings depicted a vast space that allowed for various activities, events, and recreational programs to happen simultaneously. Highlighting the connection between Spaces and Children (SPA/CHI), there was a significant desire for activities for youth, including playgrounds, sports areas (e.g., soccer, basketball), and education for all ages (e.g., English classes, cooking classes, music classes). Additionally, the arts (e.g., murals, arts programs, music programs) were emphasized as significant for the community space. The arts were featured either as desired programming for the community center (e.g., arts classes) and a medium necessary to build the community center (e.g., murals/designs).

## THE IDENTIFICATION OF THE IDEAL LOCATION

Focus group participants identified the open land next to the Cloverdale Family Apartments as the ideal location where the Community Wellness Center could be constructed.





## FINDING IMPLICATIONS

As a result of our data collection and analysis, our initial findings conclude that the desires of the Cloverdale population, ranging from art, recreation, and cultural well-being, to counseling, healthcare, and basic survival needs, are vastly diverse, and all centered around community well-being. There's a deep connection between educational programs, recreational programs, and art, highlighting desires to explore, learn, and gain further knowledge, as well as to express oneself through art and creativity. Additionally, counseling, healthcare, and accessibility are deeply intertwined, which highlights the need for programs that directly address public health concerns. One final connection is between children's needs and developmentally and culturally responsive spaces, highlighting the need for rooms, areas, and places for children to develop, learn, and grow. Between all of these connections, a cultural emphasis, a universal accessibility lens, and addressing the basic needs of the community are three main supporting factors to these connections— (a) to develop a stronger community, (b) to celebrate the traditions, cultures, and values that make us unique, (c) to allow everyone to access spaces for all, (d) and to provide resources and aid to those that need it most.

In regards to the impact and implementation of CBPR practices throughout **Nuestra Comunidad Sana | Our Healthy Community**, there are several key guidelines for reflection and impact upon the community, including but not limited to the following guiding questions (Minkler et al., 2003):

- 1. Did the impetus for the research come from the community? Is attention given to barriers to participation, with consideration of those who have been underrepresented in the past?*
- 2. Can the research facilitate collaboration between community participants and resources external to the community?*
- 3. Do community participants benefit from the research outcomes?*
- 4. Is there attention to or an explicit agreement between researchers and community participants with respect to ownership and dissemination of the research findings?*

Through frequent and ongoing participation with the community, including the development of our key research question, the researchers sought to continuously implement the desires of The Collective and reflect community voices, including uplifting those who have been underrepresented by emphasizing equity and accessibility for all. Additionally, focus groups and participatory surveys provided an outlet for our research team to establish trust and to gain the support of the community in our research efforts, with snowball sampling allowing us to distribute our efforts further. The researchers hope to see these reports and analyses come into use to positively benefit Cloverdale communities in the future.

Finally, the dissemination of the research findings is key and has been thoroughly considered throughout this project. The findings are being made accessible to show participants and community members how the study was conducted. After the data was collected and analyzed, the researchers presented the findings in five forums. In addition, they presented in front of Cloverdale's mayor, vice mayor, and City Council members. The researchers are cognizant of the potential impact of these results on the future of Cloverdale's wellness. Through frequent revision, peer review, and community feedback, the researchers are taking great care to recognize and acknowledge participants' voices.



# CONCLUSION

## FEATURES/FACILITIES/PRIORITY AREAS

The overall space of the community center, as determined by data analysis and collection by our team, must be multi-purpose, multi-functional, and accessible for all (e.g., cross-cultural and multigenerational). In terms of multi-purposes, the center should seek to support the health and well-being of the community in various ways, including access to recreational programs and activities for different ages and abilities. Programs and services must be free or low-cost, bilingual, and bicultural. This space must center itself at the intersection of public and community health and well-being, cultural and identity affirmation, and radical joy and belonging. This may include making accommodations for members of the community, including monolingual speakers, individuals with disabilities, and individuals who need transportation to and from the community center.

In the process of continued development and creation of the community wellness center, participatory methods and event sampling should continue to be used to gain active input from the community toward the planning and establishment of new facilities. This will help to build trust within Cloverdale communities and establish active support of community wellness events and participation. Additionally, hiring artists and community members to facilitate the creation of art and creative mediums such as murals, is key to making the community space a part of the community.

Another priority, sports and games, would provide a significant outlet for exercise, build strong community bonds, and strengthen physical and psychological well-being. In connection with community input and support, sports facilities, fields, and recreation areas should be established in the community wellness center. Participants suggested a swimming pool, a soccer field, a volleyball court, and a dance classroom.

One important desire includes the need for educational programs, including English classes, computer classes, sewing classes, tutoring for children, mental health classes, and programs that discuss self-advocacy and community organizing. All of the survey responses regarding education, much like other responses, address a need in the community that participants believe is not currently being addressed.

Participants also advocated for the need for counseling, group therapy, and peer support groups for all ages and groups at the center. These programs are critical because when mental health concerns are addressed in the community, the community is in a better position to heal from intergenerational traumas, promote self and community care, overall well-being, and celebrate culture.

While these are the major results of our findings, with active participation from the community, they are subject to change, as our main goal is to gather the most accurate portrayal of the desires of the community. It is important to note that samples of any kind are limited and thus need to be revised continually to be relatively accurate.

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