



Tool

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Exploring the Feasibility of Building a Housing Stock Tool to Address Homelessness in Los Angeles

Annex

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About This Annex

Despite the dramatic scope of homelessness in Los Angeles County, there is not a credible, comprehensive source on the housing stock that is available for addressing this issue. In this project, we aimed to bring together an unparalleled amount of data on the current supply of housing in Los Angeles County to address homelessness. We take a broad view of *housing* that incorporates not only such resources as interim or shelter settings and permanent supportive housing but also deed-restricted affordable housing developments, as well as residential settings that address physical, mental, and substance use treatment needs. In this annex, we describe how we combined data from city, county, state, and federal agencies to develop an interactive, map-based tool. All the data in the tool are available for download. We also discuss the broader context of this work from interviews conducted with various stakeholders who help place people experiencing homelessness into housing. The purpose of this project is to provide a comprehensive set of information about current housing resources to facilitate planning, policymaking, and research related to the supply of housing resources to address homelessness in the Los Angeles region. We welcome contributions and corrections from users, who might have more accurate knowledge than we could glean from public records at the time of this work.

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grateful to many people and organizations across Los Angeles County, including those working in county and city government and for nonprofit services, who participated in interviews and shared their experiences in housing service provision in the region. In particular, we thank Elias Salgado of Genesis LA, who shared with us the results from surveys with residential board and care facilities about the clients that Genesis LA serves. We also thank Heather McCracken and Lee Floyd for their assistance with the digital production of the tool and Alyson Youngblood and Chara Williams for their usability testing.

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Tool Description

In this appendix, we describe the tool, the background, the data sources used to construct the tool, and how to use the tool.

Background and Motivation

Despite the dramatic scope of homelessness in Los Angeles County, there is not a credible, comprehensive source of data on the housing stock that is available for addressing this issue. Creating a single source that measures the existing levels of housing can critically inform efforts to assess what mix of housing would best meet the needs of people experiencing homelessness (PEH).

In 2020, we undertook an effort to bring an unprecedented amount of publicly available data on the current supply and future pipeline of permanent supportive housing (PSH) aimed at addressing homelessness in Los Angeles County. We created a tool that combined information from the Housing Inventory Count (HIC) managed by the Los Angeles Homeless Services Authority (LAHSA), from the state committees that allocate low-income housing tax credits (LIHTCs), and from other data sources. The data tool used both existing and in-progress projects. For each project, the tool contained address, size, developers and service providers, targeted populations, funding sources, multiple regulatory jurisdictions, and opening date. The tool allowed users to filter information by multiple criteria and to download complete or partial datasets. During our work on this tool, we quickly discovered that much of the information provided in public data resources was incomplete or inaccurate. Therefore, we developed the capacity to validate and complete datasets through web searches and direct outreach to relevant organizations that provide housing.

This technical appendix is part of a project to determine the feasibility of expanding on this initial 2020 effort by developing a tool that uses a much broader definition of the existing housing stock and can help address the needs of PEH. This expansion of the initial tool includes temporary forms of housing, such as emergency shelters and interim housing. It also includes residential care facilities that are designed for people who need a higher level of care for acute or more-chronic health conditions. This new data tool supersedes our initial product; it contains all the information in the original PSH database and the additional resources just outlined.

We relied on input from a wide variety of possible users of the data tool, including government and nonprofit service providers involved with contracting for, operating, or managing placement into housing and residential care programs (see Appendix B for more information).

Project Overview

We aimed to bring together an unparalleled amount of data on the current and potential future supply of housing to address homelessness in Los Angeles County. We note that, for this project, our mandate was to use a broad definition of *housing* that included not only such resources as PSH and interim housing facilities for PEH but also more “traditional” deed-restricted affordable housing developments. Additionally, we considered a variety of resources that do not clearly fit into a standard idea of housing but have the capacity to take people off the streets while addressing mental and physical health care needs, substance use disorders (SUDs), and other challenges. These types of housing, as we define the term here, include residential mental health (MH) and substance use treatment facilities, board and care homes, and other types of inpatient or recuperative care facilities.

To assess the feasibility of creating such a database, an admittedly challenging task, we gathered publicly available datasets maintained at the federal, state, county, city, and local agency levels that would help characterize places where PEH or people at risk for homelessness because of income level or health condition might reside. For this data collection effort, we relied on our team’s knowledge of data sources and input from outreach we conducted with representatives from government and homeless service providers in Los Angeles County. Once we gathered the raw data from dozens of distinct sources, we conducted extensive data cleaning, aggregation, and deduplication. In this project documentation, we describe the data and these processes in some detail and, more broadly, outline challenges that we experienced in developing this resource to help potential future efforts in creating similar resources or expanding this pilot effort. In the spirit of this effort, we welcome contributions and corrections from users, particularly from those users who have deeper substantive understanding of how these disparate housing types fit together and how PEH access the services they provide.

Data Sources

In this section, we discuss the data sources used in the tool and data sources that could be included in future iterations. We split these sources into two sections because the approaches to accessing the data were distinctly different between the traditional housing project types (multifamily affordable housing, permanent supportive housing, and temporary housing and shelter) and the facilities that provide a higher level of care (board and care facilities and MH and substance use treatment facilities). Table A.1 breaks down these data sources, which are described in detail in the sections that follow.

Table A.1. Housing Data Sources

Housing Sector	Data Description	Data Source	Time Period Covered by Source Data
Multifamily affordable housing (AH)	Database of Los Angeles City multifamily AH projects	Los Angeles City Housing Element Appendix 2.8	Affordability covenants at risk of expiring between 2021 and 2031
Multifamily AH	Extract of Los Angeles County AH projects from California Housing Partnership’s “Affordable Housing Map”	California Housing Partnership	Projects with affordable units placed in service between 1963 and 2022
Multifamily AH	Database of AH covenants	Los Angeles Housing Department	Affordability covenants granted by the city between 2010 and 2021
PSH	Database of PSH in Los Angeles County reported to LAHSA	LAHSA HIC	2021–2022
PSH and AH	Database of LIHTC-funded projects in Los Angeles County	CTCAC	1999–2022
Single-site temporary housing or shelter	Database of temporary housing and shelter in Los Angeles County reported to LAHSA	LAHSA HIC	2021–2022

Multifamily Affordable Housing

Our database covering the stock of deed-restricted affordable multifamily housing developments was developed from three primary sources. The first was data from Appendix 2.8 of the 2021 Housing Element for the City of Los Angeles (Los Angeles City Planning, 2022). Appendix 2.8 provides locations and basic data on all multifamily affordable housing units in the city expiring between October 1, 2021, and September 30, 2031. The second source is data shared with us by the California Housing Partnership. These data are for deed-restricted affordable housing units in Los Angeles County that were extracted from the California Housing Partnership’s Affordable Housing Map data tool (California Housing Partnership, 2021). The third primary source was data we obtained through the campaign office of Los Angeles City Controller Kenneth Mejia. These data, obtained through a Public Records Act request to the city, cover affordability covenants issued by the city between 1985 and 2022; they have since been added to the website of the city controller (Los Angeles City Controller, undated). We combined these data sources and performed several checks to try to eliminate duplicates and to harmonize variables to the extent possible. Although these data are extensive, covering 3,210 unique developments and totaling more than 110,000 units of affordable housing in the county, they are likely not exhaustive because multiple sources were based on cutoffs related to the timing of restrictive covenants.

For the remaining “traditional” housing project categories described in the following sections, definitions are borrowed directly from Los Angeles County (LAHSA, 2017). These data are directly sourced from the LAHSA’s HIC, administrative data from the California Tax Credit Allocation Committee (CTCAC), or both (LAHSA, 2021; LAHSA, 2022; Office of the State Treasurer of California, undated). Data sourced

exclusively from the HIC (single-site temporary shelter projects) do not contain reliable information about the number of units or beds at a project, so a count of projects is provided in the tool.

Single-Site Permanent Supportive Housing

Single-site PSH projects combine long-term rental subsidies with on-site supportive care for residents with disabilities. Case managers assist residents in navigating complex social services to get appropriate medical care and to ensure that they stay housed. Information on PSH projects was primarily sourced from the HIC in 2021 and 2022 and the CTCAC.¹ Together, these sources contain information on the size and location of PSH projects across Los Angeles County; specific demographics served (if any); information on project construction, management, and service provision; and sources of financing. After compiling and cleaning these data (i.e., removing duplicates and combining data from the HIC with data from the CTCAC), our tool contains information on 597 PSH projects that have a combined total of more than 20,000 individual units.

Single-Site Temporary Housing and Shelter

This category consists of sites that are defined in the HIC as single-site emergency, transitional, and safe haven shelter facilities in 2021 and 2022. The HIC includes pregenerated flags that indicate housing type definitions. In addition, some observations contain another dimension of information through their project name, although this information was not explicitly captured in our project type variable. For instance, some projects indicate that they offer recuperative care as well as the standardized shelter services described through the *projectname* variable. Two years of HIC data were used to assist with data completeness. More than 300 sites were included in this category.

Emergency Shelters

An *emergency shelter* is defined by LAHSA as any project that provides temporary housing for PEH with little to no service provision. In some cases, facilities are reserved for specific demographic groups (e.g., women, families, veterans, unaccompanied minors). These projects are primarily for short-term homelessness episodes (less than 14 days). However, a subcategory of emergency shelters known as *bridge housing* allows for longer stays and provides support for finding permanent housing.

Transitional Housing

Transitional housing is defined by LAHSA as housing that provides individuals or families with medium-term shelter as they work to secure permanent housing. Unlike emergency shelters, transitional housing projects provide funding for social services along with direct assistance in finding sustainable long-term housing on the private market. Stays in transitional housing might last up to two years, but it is the responsibility of the resident to obtain a lease or sublease when occupying the transitional housing. Because

¹ Although both the HIC and the CTCAC contain information on all projects that receive the LIHTC, we filtered variables in the data sources to ensure that this category contains only information on projects that couple rental subsidies with supportive services, which is our working definition of PSH.

of this arrangement, these projects might be in a property that consists entirely of transitional housing units or in select units of a private market development.

Safe Haven

Safe haven housing is defined by LAHSA as housing for hard-to-reach individuals who might have refused shelter and care before. According to LAHSA, residents who have severe MH needs and are unwilling or unable to abide by the more rigid participation requirements associated with other housing types are referred to this housing type. Projects in this category offer 24-hour shelter and supportive social services for an unspecified time. Because of the high-need nature of their residents, these projects limit capacity to 25 people at a time.

Board and Care, Mental Health, and Residential Substance Use Disorder Treatment Facilities

We included types of facilities that house people who might be unable to live independently because they need help with activities of daily living or because they have MH or SUD treatment needs. To help identify facility types for inclusion, we used the following reports produced by two Los Angeles County agencies:

- **LAHSA.** We reviewed a LAHSA report (LAHSA, 2020) that provided an overview of facility types that may be needed to house people with physical health, MH, and SUD treatment needs.
- **Los Angeles County Department of Mental Health (DMH).** We reviewed a DMH report (Sherin, 2019) and a complementary report produced by Mercer Health & Benefits LLC (2019) under contract with DMH that inventories facilities and assesses the level of need in Los Angeles County's MH and SUD system of care. The reports provide a detailed description of facility types that might be needed to house people with MH and SUD treatment needs.

Of the facility types described in the reports, we included in our data tool the facility types for which we could find publicly available data. We expanded our list to include facility types not referenced in the reports when we found data sources for them.

The facility types we used can be grouped into three overarching categories: board and care facilities, MH treatment facilities, and residential SUD treatment facilities. We provide a brief description of the facility types and the data sources we used to inventory each facility type. Table A.2 lists the facility types and data sources. The "Facility Type" column lists the types of facilities described in the narrative. The "Data File" column describes the specific electronic data file from which information about facilities was extracted. The table has 13 rows but only 11 files because some files were used to extract information for more than one kind of facility. Specifically, information on adult residential facilities (ARFs) and social rehabilitation facilities came from the same file, and information on special treatment programs and social rehabilitation programs came from the same file.

Table A.2. Data Types and Sources for Board and Care, Mental Health, and Residential Substance Use Disorder Treatment Facilities

Overarching Category	Facility Type	Data File	Data File Source	As of Date Listed in Data File
Board and care	ARF	List of licensed ARFs	California Department of Social Services (CDSS)	March 15, 2022
Board and care	Residential care facility for the elderly (RCFE)	List of licensed RCFEs	CDSS	August 25, 2022
Board and care	ARF and RCFE	List of ARFs and RCFEs participating in Assisted Living Waiver (ALW) program	California Department of Health Care Services (DHCS)	September 9, 2022
Board and care	ARF and RCFE	Responses to in-progress Genesis LA survey	Genesis LA	Unknown ^a
MH	Acute psychiatric hospital, psychiatric health facility	List of licensed health care facilities	California Department of Health Care Access and Information	September 1, 2022
MH	Special treatment program	List of certified and approved MH programs	DHCS	August 23, 2022
MH	Enriched residential services	List of MH facilities in Los Angeles County network	Mercer Health & Benefits LLC	Unknown ^b
MH	Social rehabilitation facility	List of licensed ARFs	CDSS	March 15, 2022
MH	Social rehabilitation program	List of certified and approved MH programs	DHCS	August 23, 2022
MH	MH rehabilitation center	List of MH rehabilitation centers and psychiatric health facilities	DHCS	September 1, 2022
MH	MH facility within correctional setting	List of LPS facilities	DHCS	June 2022
Substance use	Residential SUD treatment program	List of SUD treatment facilities	DHCS	September 9, 2022
Substance use	Residential SUD treatment program	List of SUD residential facilities in Los Angeles County network	Mercer Health & Benefits LLC	Unknown ^b

^a Survey results were received June 29, 2022, but survey administration data are unknown.

^b Report is dated August 5, 2019, but the date of data pull is unknown.

Board and Care Facilities

We included two facility types that are often referred to as *board and care*: ARFs and RCFEs. California law defines an *ARF* as a facility that provides 24-hour nonmedical care to people age 18 and older (California

Code of Regulations, Title 22, Division 6, Chapter 1, Article 1). An ARF can admit people age 60 and older if they require the same level of care as other residents and if the ARF meets certain requirements for their care (California Code of Regulations, Title 22, Division 6, Chapter 6, Article 6). California law defines an ARF as an RCFE if 75 percent of its residents are age 60 and older (California Code of Regulations, Title 22, Division 6, Chapter 8, Article 1).

ARFs and RCFEs provide room, board, and meals; assistance with activities of daily living, such as bathing, dressing, and toileting; and other services, such as assistance with scheduling health care appointments, help with social skills, and medication oversight. ARFs and RCFEs might be appropriate for people who have been discharged from acute hospitals, state hospitals, skilled nursing facilities, and institutions for mental disease (IMDs) who might otherwise exit into homelessness. ARFs and RCFEs “can provide temporary housing for people to regain strength and skills required to move to independent living environments or they can provide a permanent housing opportunity for individuals who require long-term care and supervision” (LAHSA, 2020, p. 19). Thus, LAHSA describes ARFs and RCFEs as “essential to the permanent housing continuum for homeless individuals who are unable to live independently and who require licensed care and supervision” (LAHSA, 2020, p. 19).

The CDSS licenses ARFs and RCFEs (California Department of Social Services, undated). Generally, California’s health coverage program for low-income people, Medi-Cal, does not cover ARF or RCFE care. However, the DHCS ALW program pays a portion of the cost to live in an RCFE for eligible people who have been assessed as needing a nursing facility level of care (California Advocates for Nursing Home Reform, 2022b). The ALW pays for care and services, including care coordination and nursing facility transition services, and residents pay for room and board from their Supplemental Security Income (California Advocates for Nursing Home Reform, 2022a).

We identified ARFs and RCFEs from lists of licensed facilities produced by CDSS and published on the California Health and Human Services Open Data Portal (California Health and Human Services, 2022a; California Health and Human Services, 2022b). The CDSS lists did not identify facilities that house low-income clients or accept public benefits. We flagged ARFs and RCFEs in the ALW program as a proxy indicator for these characteristics using a list provided by DHCS and published on the California Health and Human Services Open Data Portal (California Health and Human Services, 2023c). In addition, we flagged ARFs and RCFEs that housed DMH or DHCS clients and accepted Supplemental Security Income or State Supplementary Payment using results from an in-progress survey of board and care facilities being conducted by Genesis LA, a coalition of organizations that studies the condition of board and care homes in California (Future Organization, 2023). The survey data we received included responses from 87 self-identified ARFs and 111 self-identified RCFEs.

Mental Health Facilities

We included multiple facility types for people with MH needs. In some cases, the data sources we used contained information on different types of facilities, including non-MH or nonresidential facilities. We filtered the data to include only residential MH treatment facilities using variables that were available in each data source.

Acute Psychiatric Hospital

Acute psychiatric hospitals might be private hospitals, which provide acute inpatient services to Medi-Cal, Medicare, and private-pay patients; county-operated hospitals, which provide medical monitoring and psychiatric inpatient hospital services to county residents; or Short-Doyle facilities, which have inpatient hospital beds purchased by the county for people enrolled in the Short-Doyle County Mental Health Services Program, who are uninsured and ineligible for Medi-Cal (Mercer Health & Benefits LLC, 2019). We identified these facilities from a list of licensed health care facilities produced by the California Department of Health Care Access and Information and published on the California Health and Human Services Open Data Portal (California Health and Human Services, 2023d). In this data source, acute psychiatric hospitals also include state hospitals, which serve people placed by court order who typically have significant mental and functional impairments (Mercer Health & Benefits LLC, 2019).

Psychiatric Health Facility

Psychiatric health facilities provide psychiatric inpatient treatment at a similar level of care to acute psychiatric hospitals but have more-flexible facility and staffing requirements than do acute inpatient hospitals (Mercer Health & Benefits LLC, 2019). We identified these facilities from a list of licensed health care facilities produced by the California Department of Health Care Access and Information and published on the California Health and Human Services Open Data Portal (California Health and Human Services, 2023d).

Special Treatment Programs

Special treatment programs are skilled nursing facilities with a MH treatment program that has been approved by DHCS (California Department of Health Care Services, 2023c). They provide residential care that includes weekly rehabilitation groups, and they are designed for community reintegration rather than long-term care. They provide a lower level of care than do acute psychiatric hospitals and psychiatric health facilities (Mercer Health & Benefits LLC, 2019). We identified these facilities from a list of residential MH programs compiled by DHCS and published on the California Health and Human Services Open Data Portal (California Health and Human Services, 2023a).

Enriched Residential Services

Enriched residential services facilities provide residential services for six or more months and 24-hour MH clinical support. They provide a lower level of care than do special treatment programs (Mercer Health & Benefits LLC, 2019). We identified these facilities from a list of MH facilities in the Mercer Health & Benefits LLC report (2019). Although DMH indicates that board and care facilities can serve as enriched residential facilities, we found no overlap between the enriched residential services and board and care lists we used (Los Angeles County DMH, undated-b).

Social Rehabilitation Facility

Social rehabilitation facilities provide 24-hour nonmedical care to adults who are recovering from a mental illness (California Department of Social Services, undated). They are licensed by CDSS and have an

MH program certified by DHCS. They provide alternatives to acute psychiatric hospitalization and institutional care using principles of community-based treatment (California Department of Health Care Services, 2023c). Social rehabilitation facilities were included in the same list that we used to identify ARFs (California Health and Human Services, 2022a).

Social Rehabilitation Programs

Social rehabilitation programs are the MH program component of social rehabilitation facilities. They provide alternatives to higher-level care settings using principles of community-based treatment, which include care provided in a home-like setting, counseling and psychiatric services, community participation, and links to community services. We identified these facilities from a list of residential MH programs compiled by DHCS and published on the California Health and Human Services Open Data Portal (California Health and Human Services, 2023a). Because there was overlap between the social rehabilitation facility and social rehabilitation program lists that we used and some facilities on the former list were not on the latter list, we included facilities from both lists as separate facilities in the mapping tool. We examined the facility addresses of these facilities as reported on the state lists we used. Of the ten social rehabilitation programs in our data, six did not share a facility address with one of the 38 social rehabilitation facilities in our data, which could indicate that some social rehabilitation programs were not colocated with social rehabilitation facilities or indicate data-collection and reporting discrepancies between the data sources that were from two different state agencies.

Mental Health Rehabilitation Centers

MH rehabilitation centers provide intensive support and rehabilitation to help people who would otherwise be placed in a state hospital or other MH facility to develop self-sufficiency skills and increasing levels of independence (California Department of Health Care Services, 2023a). We identified these facilities from a list of MH rehabilitation centers and psychiatric health facilities provided by DHCS and published on the California Health and Human Services Open Data Portal (California Health and Human Services, 2023b). We did not use the same list for psychiatric health facilities.

Correctional Facilities

We included MH facilities within correctional settings from a list of Lanterman-Petris-Short (LPS) facilities published by DHCS (California Department of Health Care Services, 2023b). A description of LPS facilities is provided in the next section.

Mental Health Facility Categories

We flagged MH facilities that belong to the following specific categories:

- **IMD.** As defined in federal regulations, IMDs are facilities with 16 or more beds where people reside for treatment of mental illness and medical and nursing care (California Department of Developmental Services, 2022). In California, IMDs can be acute psychiatric hospitals, psychiatric health facilities, special treatment programs, and residential treatment facilities (Sherin, 2019).

- **LPS.** LPS facilities are MH facilities that have been designated by Los Angeles County to provide evaluation and treatment for patients who represent a danger to themselves or others because of mental illness and who might be involuntarily committed to an MH facility under California’s LPS Act (California Department of Health Care Services, 2023b; Disability Rights California, 2018).
- **Los Angeles County network.** These facilities were listed in the 2019 Mercer Health & Benefits LLC report produced under contract with DMH. From our key informant interviews, we learned that facilities listed in the report had at least one bed contracted for use by the Los Angeles County DMH or Department of Public Health or were otherwise considered part of Los Angeles County’s MH and SUD care provider network.² We included this flag as a proxy indicator for MH facilities within Los Angeles County’s provider network.
- **Substance Abuse and Mental Health Services Administration (SAMHSA) categories.** We included flags from a SAMHSA Behavioral Treatment Locator dataset that indicates the populations that MH treatment facilities serve (SAMHSA, undated). We also included a flag about whether the site accepts Medicaid. For the sites that are matched with the SAMHSA dataset, when the data are downloaded, the user can access additional characteristics about each site, such as services offered and medications available.

Residential Substance Use Disorder Treatment Facilities

We included residential SUD treatment facilities from a list of licensed facilities produced by DHCS and published on the California Health and Human Services Open Data Portal (California Health and Human Services, 2023e), as well as facilities listed in the Mercer Health & Benefits LLC report (Mercer Health & Benefits LLC, 2019). As with MH facilities, SUD residential treatment facilities listed in the Mercer report had at least one bed contracted for use by Los Angeles County or were otherwise considered part of Los Angeles County’s SUD care provider network. We included this flag as a proxy indicator for SUD facilities within Los Angeles County’s provider network. As with the MH facilities, we included flags from the SAMHSA Behavioral Treatment Locator dataset that indicate the populations that the SUD treatment facilities serve. For those sites that are matched with the SAMHSA dataset, when the data are downloaded, the user can access additional information about each site, such as services offered and medications available.

Summary of Key Data Aggregation Steps

Stata statistical software was used for assembling and cleaning the data. The interactive, web-based visualization tool that this annex accompanies was developed in RShiny.

In the sections that follow, we describe how the data sources used to construct our tool were combined. Steps are presented in the order that we performed them. During each of the following steps, basic variable synchronization and fact-checking was conducted. These steps are not explicitly mentioned in the write-up at each stage, but they consisted of comparing individual observations to external organizations’ publicly

² John Franklin Sierra, principal analyst, Los Angeles County Chief Executive Office, email communication with the authors, October 4, 2022.

available data and, in some cases, calling service providers or property developers to confirm project characteristics.

Step 1: Merging Housing Inventory Count and Low-Income Housing Tax Credit Data

Two foundational sources of our tool are the 2021 and 2022 LAHSA HIC databases and the December 2021 version of housing developments funded by the LIHTCs maintained by the CTCAC. Together, these sources contain information on multifamily affordable housing, single-site PSH (including properties acquired through California’s Project Homekey), single-site rapid rehousing, interim housing (including recovery and bridge housing), and single-site shelters.

Data aggregation began by merging two years of the HIC data together. Two years were used because, in some cases, valid projects might appear in only one year of data, usually because of nonreporting. Projects that appear in multiple years of the HIC were merged using the Homeless Management Information System Project Identification (ID) variable—a unique identifier for a given property across years. Doing so resulted in a single observation of each project ID whether it was matched across years or appeared in only one year of data.

After observations across years were matched, the resulting output was merged with CTCAC data using the probabilistic matching Stata command *dtalink*. In this process, project addresses in both datasets were broken into distinct components—building number, street name, street type, etc.—then, together with the *projectname* and *zip* variable, observations were matched using the above variables by the *dtalink* algorithm. These matches were then scored on the likelihood that the observations in both data sources were matched using user-provided weights for each variable to place the relative importance of each matching component in the process. Each variable received two weights, one that awards a match between observations on that variable and another that penalizes a nonmatch. These weights are summed, and, if the value is greater than a predetermined cutoff, the observations are considered a match. For our purposes, we placed higher importance on the street number and project name. This process allowed us to match projects for which crucial information was provided in a slightly different manner between the HIC and CTCAC sources (e.g., if the *projectname* variable was in a different case or appeared with slightly different spelling between the two datasets). Through manual inspection, we then chose a score threshold above which all observation pairs were considered matches. The resulting database was then searched for duplicates in terms of address components. Any surplus matches were fact-checked and removed if necessary.

Step 2: Multifamily Affordable Housing Data

The next step in the data aggregation process was to merge information on available multifamily affordable housing units that might not be found in either the HIC or CTCAC data sources. These affordable housing data were compiled from the following three sources:

- **City of Los Angeles Housing Element Appendix 2.8.** This resource lists affordable housing projects with covenants at risk of expiring between October 2021 and September 2031 (Los Angeles City Planning, 2022).

- **The California Housing Partnership.** This resource provides a custom data extract on Los Angeles County affordable housing from the partnership’s Affordable Housing Map data tool (California Housing Partnership, 2021).
- **City of Los Angeles Housing Department data on affordable housing covenants granted from 2010 to 2021.** These data were generated pursuant to a Public Records Act request to the Los Angeles Housing Department from the campaign of candidate for city controller Kenneth Mejia (Los Angeles City Controller, undated).

When combined, cleaned, and deduplicated, these data represent 3,273 projects that contain more than 150,000 affordable units. Although it is unlikely that these data represent an actual census of deed-restricted affordable housing units in the county, we believe that they comprise a substantial majority of this stock.

Step 3: Board and Care, Mental Health, and Residential Substance Use Disorder Treatment Facility Data

In this section, we summarize the procedures for cleaning and combining the data sources we used for board and care, MH, and residential SUD treatment facilities.

All Data Sources

For each data source, we restricted the data to Los Angeles County and to facilities that were relevant for the project using variables available in the data. For example, we attempted to remove facilities that were nonresidential and facilities that served primarily youth because this project focuses on residential facilities for adults. We extracted key variables needed for the project—such as facility name, facility type, and physical address—and we dropped unneeded variables. Importantly, none of the data sources that we used included a formal data dictionary or codebook describing the variables. Thus, we needed to infer variable meanings from names and contextual information. Also, there was no common unique ID for facilities across all data sources, although some data sources for board and care facilities appeared to contain a common unique ID.

Most data sources were machine-readable files (e.g., comma-separated value files) available for download from public-facing websites. However, some data sources were PDF files formatted for a human reader. We converted these files to Excel files using Excel’s “Get Data” feature and wrote Stata code to clean the files (i.e., to remove extra text or header rows) before taking the data restriction steps described previously.

Subsequent steps for combining data sources included merging and deduplicating facilities that were present in different data sources. To facilitate these steps, we cleaned facility names by capitalizing all letters and removing punctuation and uninformative character strings (e.g., “inc,” “LLC,” “DBA”). We cleaned facility addresses using a similar process, removing street types and directions (e.g., “Avenue,” “Drive,” “E,” “W”). These steps were intended to improve probabilistic matching on names and addresses using Stata’s *relink* command.

Board and Care Facilities

We merged data on licensed ARFs and RCFEs from CDSS and survey responses from Genesis LA using the facility ID variable from each data source. The ID variables had the same format and appeared to

be from a common ID system used by CDSS. We then merged those data with the ALW data from DHCS using probabilistic matching on cleaned facility name and address because the ALW list did not have the same ID variable as the other lists. We checked for duplicates of facility names and addresses and removed them as needed. For a handful of cases, some facilities with the same name and address appeared to be separately licensed facilities at a single address rather than duplicates and were maintained to avoid missingness.

Mental Health Facilities

Several data sources that we used to identify MH facilities contained more than one type of facility. For example, the list of licensed health care facilities from the Department of Health Care Access and Information contained acute psychiatric hospitals, psychiatric health centers, and skilled nursing facilities, as well as other facility types that are not relevant for this project because they do not provide housing. We combined the MH data sources and extracted temporary files containing one type of facility in each file (e.g., one file containing acute psychiatric hospitals and another file containing social rehabilitation facilities). We then manually harmonized facility names using visual inspection of facility name and address. We were able to do so manually because there were a relatively small number of MH facilities. We then merged in IMD and LPS flags for all observations with the same harmonized facility name and dropped all but one with the same facility name and address combination, thereby deduplicating the files. We combined the files following deduplication.

Substance Use Disorder Residential Treatment Facilities

We merged the list of licensed facilities from DHCS with the list of facilities in Los Angeles County's network from the Mercer Health & Benefits LLC report using fuzzy matching on cleaned facility names and addresses. We merged the DHCS and Mercer lists again using probabilistic matching on cleaned facility legal names (i.e., corporate names) and addresses because some facilities in the Mercer list had legal names used as their facility names. We then removed any duplicates that were artifacts of the merging process.

Final Steps

We combined the board and care, MH, and SUD treatment facility lists. We added addresses for facilities from the Mercer list, which did not include physical addresses. We checked for duplicates of facility names and addresses and removed them as needed. Finally, we merged in MH and SUD treatment facility variables from the SAMHSA treatment locator dataset, which provided information about services offered and populations served.

Feasibility Challenges

At its core, this project was a feasibility study to assess the possibility of building an interactive map-based tool of housing resources for PEH in Los Angeles County. Throughout the construction of our database, we compiled a list of challenges we encountered that could impede the ongoing maintenance, expansion, and usability of this tool. In the following sections, we describe the identified challenges, which are

organized into minor, moderate, and major challenges by our capacity to address them in terms of time and resources.

Minor Challenges

We encountered the following minor challenges:

- HIC data files are not standardized year-to-year, which requires users to manually drop unnecessary columns for each year of HIC data before merging them together and beginning the data cleaning process. Although the most important data fields (project name, location, demographics served) were included in both years of HIC data used, future data releases could include different fields. This possibility implies that further iterations of the HIC could not simply “replace” older versions, which impedes attempts to automate the updating of this database. Changes could necessitate manually checking files and pose a small challenge to automation.
- As described previously, we used 11 data files to identify board and care, MH, and residential SUD treatment facilities. In addition, we used two data files from DHCS to flag IMD and LPS facilities. Seven of the 13 datasets we used were available as comma-separated value files from the California Health and Human Services Open Data Portal, to which state agencies can post data files for public use. These files were machine readable, and their formats appeared to vary little over time, suggesting that the process of reading in and cleaning the files could be easily automated. However, some variables names changed slightly with updates to some files. As noted in the first minor challenge, slight changes with updates would necessitate manually checking files and pose a small challenge to automation.
- Five of 13 datasets of MH facilities were available as PDF files. They consist of the list of correctional facilities published by DHCS, the files used to flag IMD and LPS facilities, and two appendixes from the 2019 Mercer report. To incorporate these datasets, we extracted tables from the PDF files using Microsoft Excel, read the Excel files into Stata, and removed some unneeded features (e.g., spacer rows) from the tables. Changes to the visual style and format of any future PDF files would necessitate manually checking files and, again, pose a small challenge to automation.
- Data from the Mercer report were challenging to extract and incorporate. Address information was not reported in the MH facility appendix. Address information in the SUD facility appendix was reported in a single column, requiring us to parse the information into street, room or building number, city, and zip code. In addition, an organization or corporate name was reported in place of a facility name for some SUD facilities. These factors necessitated additional steps to match facilities from the Mercer dataset with other datasets and would pose small challenges to automation.

Moderate Challenges

We encountered the following moderate challenges:

- Merging projects across disparate datasets requires breaking project addresses into their components and then probabilistically matching these components by observations from different sources. Unfortunately, property addresses are not uniformly formatted, even within the same dataset. These

discrepancies mean that, even after cleaning data and probabilistically matching observations, extensive fact-checking and manual revisions to data fields are necessary to ensure that the final product is free of duplicates.

- A portion (approximately 1,600 observations) of multifamily affordable housing and single-site PSH data contain longitudinal and latitudinal coordinates for a given property's location. Unfortunately, we found that these coordinates were wildly inaccurate—at least more than one mile from the project's actual location—for 500 of these observations. This data quality issue was only uncovered once we began mapping properties, a step that occurs well after other data validation steps. To the extent that future property location data are unreliable, this will require either more data cleaning or a larger workload for the geographic information system portion of the project. Both alternatives require a nonmarginal amount of time and resources.
- Two datasets of higher-level-of-care facilities were the result of one-time projects. These datasets are the list of board and care facilities from Genesis LA and the lists of MH and SUD treatment facilities in Los Angeles County's network from the 2019 Mercer report. These datasets are useful because they provide information about facilities that accept low-income clients or participate in public programs, and this kind of information was unavailable from other datasets. At the time of writing, we are unaware of any plans to repeat the projects, which means that this kind of information might not be updated in future versions of the database.
- Update frequency varied across board and care, MH, and residential SUD treatment datasets and was unclear for some datasets. More specifically, among datasets available from the California Health and Human Services Open Data Portal, some were identified as being updated on a quarterly or monthly basis, and some had an update frequency listed as "other." The update frequency for IMD, LPS, and correctional facilities was not shown in the PDF files. The inability to determine the recency of the data undermines the potential usefulness of the source.

Major Challenges

We encountered the following major challenges:

- Information on occupancy or bed availability rates was not readily available for any housing type.³ In other words, data sources for this project included total units or beds but not the number of units or beds currently occupied. As we learned from interviews conducted for this project, maintaining up-to-date information on housing or bed availability requires collaboration, time, and effort from each housing operator to provide this information on a regular basis.
- Generally, data were unavailable on whether board and care, MH, and residential SUD treatment facilities serve clients with lower financial resources. Only one data source used in this project—an in-progress survey of board and care facilities being conducted by Genesis LA—included information on whether facilities accepted clients with public benefits, such as Supplemental Security Income. The data source covered only a small share of board and care facilities, and we do not know whether the survey will be repeated in the future. We used facilities in Los Angeles

³ As noted, there are other databases that provide this capability, but they are limited to specific housing types and do not incorporate the full variety of housing that is included in this tool.

County's network of care from the Mercer report as a proxy for whether these facilities serve clients with low financial resources. This report used a special data pull from Los Angeles County records and was published in 2019, which means that the information is somewhat dated and could be challenging to ascertain in the future.

- Structural limitations of the HIC are a serious barrier to automating this work. Of primary concern is that the HIC does not differentiate between sites that offer housing and locations that administer housing aid; both are included, and they are not differentiated. Although additional variables in the HIC (e.g., project type, housing type) might allow the opportunity to capture this distinction, we did not find that these values were accurate. Given that our database is presented as an interactive map, failing to remove observations that do not provide on-site housing would lead to inaccurate representations of reality. Without any variable that easily distinguishes between these different types of observations provided in the HIC, this process *cannot* be automated; it is up to the analyst to fact-check suspicious observations. Often, this means a team member must contact the entity listed to inquire about whether housing is offered on-site.

Dataset Codebook

The Los Angeles County Housing Stock database includes residential forms of permanent and interim or transitional housing, temporary shelters, and residential care settings for individuals who need physical, MH, or substance use treatment supports. For each entry, the database contains a unique ID number, project or facility name, and address. Political geographic jurisdictions have also been assigned to each entry. Other variables are included that are tailored to housing type. Please see the associated codebook, which is available for download on the Housing Stock webpage, for details on these variables.

Geospatial Database

Each site was geocoded according to its address. Some sites' source information came with a latitude and longitude. For all other sites, the addresses were geocoded using the U.S. address locator in ArcGIS Pro, StreetMap Premium 2022. After generating the latitude and longitude information from addresses (or from the source information), we classified each development into various jurisdictions by merging their locations with the relevant shapefile of a given jurisdiction. Using spatial joins in ArcGIS, each site was joined to the jurisdiction in which it was located. The jurisdictions of interest included Los Angeles City boundary, Los Angeles City Community Planning Areas, Los Angeles City Council districts, Los Angeles County municipalities, Los Angeles County supervisorial districts, Los Angeles County Service Planning Areas, California state assembly districts, California state senate districts, California federal congressional districts, and U.S. census tracts (2022). Table A.3 details the sources for the spatial data for this iteration of the tool.

Table A.3. Spatial File Sources, by Jurisdiction

Jurisdiction	Source
Los Angeles City boundary	City of Los Angeles, 2020
Los Angeles City Community Planning Areas	City of Los Angeles, 2023a
Los Angeles City Council districts	City of Los Angeles, 2023b
Los Angeles County municipalities	California Open Data Portal, 2019
Los Angeles County supervisorial districts	County of Los Angeles, undated
Los Angeles County Service Planning Areas	County of Los Angeles, 2022
California state assembly district	California Citizens Redistricting Commission, undated
California state senate district	California Citizens Redistricting Commission, undated
Federal congressional district	California Citizens Redistricting Commission, undated
Census tracts	U.S. Census Bureau, 2022

How to Use the Tool

In this section, we provide guidance for using the tool and describe its functions and default and optional settings.

Updates

This version of the tool has a broader scope with a more focused user interface. Updates to this version of the tool consist of the following:

- Users have access to multiple types of housing. Instead of just PSH locations, the tool can display locations of multifamily affordable housing, shelters, board and care facilities, MH facilities, and residential SUD treatment facilities.
- The number of sites has increased from 346 to more than 7,000.
- Because there are multiple housing types, each type is mapped separately with a set of filters specific to that type of housing. Users can select the housing type to be mapped before any sites appear.
- The downloadable data include hundreds of variables across all housing types, compared with 52 in the initial version. Depending on the user’s housing type of interest, the number and type of data fields vary.
- This tool is designed to be more user-friendly. Instead of users being able to filter every variable in the dataset (some of which are based on text fields), a subset of commonly used criteria is available. All applicable fields are downloadable for further analysis.

Map Overview

When the user opens the Housing Stock webpage, a map of the entire Los Angeles County area will appear, color-coded by the eight Los Angeles County Service Planning Areas. The user can then interact with the map in the following ways:

- The user can place the mouse pointer on any area of the map to shift the map area being displayed on screen.
- The user can click on the “+” or “-” signs located in the upper left-hand corner of the map to zoom in or zoom out of a particular area of the map.
- Using the layer icon located in the upper right-hand corner of the map, the user can choose to overlay jurisdictional boundaries on the map. The map defaults to displaying the eight Service Planning Areas that the county uses to manage service delivery. By clicking on this layer icon, the user can choose different jurisdictional boundaries to display, consisting of
 - City of Los Angeles
 - All municipalities
 - County Supervisorial Districts
 - City of Los Angeles Council Districts
 - City of Los Angeles Community Planning Areas
 - California State Assembly Districts
 - California State Senate Districts.

Selecting, Displaying, and Downloading Data

The left-hand side of the screen contains functions that can be used to select or filter specific housing type information to be displayed on the map or to be downloaded.

1. First, the user will be prompted to select a housing type using a pull-down menu with the following options:
 - a. **Mental health facilities.** This option consists of facilities that provide around-the-clock MH care or MH care in a residential setting.
 - b. **Multifamily affordable housing.** This option consists of residential properties that contain more than one affordable housing unit.
 - c. **Residential board and care.** This option consists of facilities licensed as adult residential care facilities and elderly residential care facilities.
 - d. **Single-site permanent supportive housing.** This option includes project-based PSH buildings.
 - e. **Single-site temporary housing or shelter.** This option consists of single-site crisis, interim, recovery bridge, recuperative, transitional, and shelter program facilities.
 - f. **Substance use treatment facilities.** This option consists of facilities that provide clinically managed substance use treatment or detoxification services in a residential setting.
2. Once the user selects one of these six housing type options, several additional pieces of information and options will appear, as follows:

- a. The map will be populated with the number and location of each building or facility classified in the selected housing type. Users can click on a colored circle to zoom in to see individual projects, then maneuver their cursor to hover over a selected project or projects on the map to see the project name, address, and number of units (depending on whether this information is available in the database).
- b. The user can download all the data associated with the selected housing type by clicking on the “Download” link at the bottom of the list of filters. Of note, the data associated with each housing type are much more extensive than what appears on the map or with the filter options.
- c. The number of sites selected to appear in the map will appear above the map. This number will be updated as any additional filters are applied.
- d. Depending on housing type, a number of filter selections will be displayed to narrow the data to display. For example, if the user selects “Multifamily affordable housing,” a slide bar appears for the user to select the total number of units (i.e., size of the project). Once the user selects any filters, the map will update after the user clicks on the “Apply filters” button at the bottom of the list of filters.
- e. If the user wants to display a different set of filters, they can click on the “Reset all” button at the bottom of the list of filters to start a new search.

Conclusion

This map-based interactive tool of housing resources was designed to bring together disparate sources of information about potential residential options for PEH in Los Angeles County. It was developed as part of a feasibility study to assess the possibility of creating such a tool that would be useful for different stakeholders to better plan and serve PEH. This technical appendix describes the different sources of information that were used to build the tool, the challenges of building the tool and using the different sources of information, and the other related activities that government and nonprofit homeless service organizations are working on. This effort is designed to help document the existing housing stock as well as the challenges of creating such a resource for use in assisting people in need of housing and other forms of residential care.

Community Input

Data Collection Overview

We interviewed 22 people from 11 organizations between August and November 2022 to provide input on the development of the tool. All interviews were conducted remotely and recorded with respondent consent. In all but one interview, at least two researchers participated; one researcher primarily facilitated asking the questions while the other(s) took notes. Participating organizations consisted of county, city, and joint government agencies; nonprofit homeless service providers; and other research entities. In these interviews, we described the goal of the project—to create an interactive, map-based tool that includes all the housing resources in Los Angeles County that might address homelessness—along with the following publicly available information sources that we had already identified:

- the HIC that is managed by LAHSA
- facilities receiving state support, including ALW programs, residential MH and substance use treatment facilities provided in datasets by DHCS or California Department of Health Care Access and Information, adult residential facilities and residential care for the elderly facilities, and social rehabilitation facilities tracked by the CDSS.

We then asked whether there were additional resources that we should include in our tool and, if possible, for documentation of those housing resources. We also asked organizations that managed housing resources about the feasibility of providing information about vacancies in the identified housing resources, including concerns about providing public access to such housing resource information. Participants were asked whether there were other experts or organizations that they thought we should speak with about the topic, and we ended each interview with an open-ended question of whether there was anything else the participant wanted to share related to the topic.

Field notes were taken during each interview and organized in relation to answering our primary questions: Do other housing resources exist that might help inform our effort? If so, how might we incorporate them into our work? After the interviews concluded, one researcher reviewed all the field notes and created a summary of key findings. All staff involved with the interviews reviewed, edited, and approved the key findings summary.

Key Findings

In the sections that follow, we outline the key themes derived from the interviews in relation to identifying relevant housing resources to address homelessness and the feasibility of their inclusion in the map-based interactive tool that we planned to develop.

Existing Tools with Limited Scope or Capability

We learned that some agencies have their own tools to track housing options for their clients. In most cases, these tools were specifically designed to provide information about options that met the eligibility criteria of a specific population that the agency served and were not holistic in design. Additionally, access to these tools was limited.

One service provider, PATH, manages an affordable housing locator tool, called LeaseUp, that was funded by LAHSA. The tool was first designed to make the housing search process for clients with a housing subsidy more efficient by providing a centralized database of property developers, property owners, and managers who are willing to accept housing vouchers. For example, service providers noticed that certain property owners and managers would only accept veterans because of the higher value of voucher that veterans are issued compared with the voucher types issued to others. The tool allows the user to search by location, housing type (e.g., size, design, shared housing), and voucher type.

Los Angeles Family Housing also has a tool it uses to match clients with housing units and is piloting a matching tool to facilitate more-efficient shared housing placements. This tool appeared to be in the piloting phase, and its current focus is on matching potential roommates, with future potential for it to assist with matching with landlords.

We were given a basic overview of a tool developed using the Los Angeles County's Technology Innovation Challenge Funds by Huemen Design to track the housing inventory for PEH (Technology Innovation Challenge, undated). Staff at the Los Angeles County Executive's Office had access to the tool and explained some of its advantages and disadvantages. It was reported that the tool is not widely used and there is no effort underway to update it, which decreases its value. The tool includes only the housing resources that are available in the HIC. It also includes data from the most recent point-in-time count to display resources against where there is, in theory, a need.

We were told that there have been continued efforts within the Los Angeles County Department of Health Services and DMH, and between the two agencies, to develop live bed tracking systems to help manage their portfolios. However, each bed or slot could have requirements tied to specific department eligibility criteria; therefore, each department managed its own portfolio because of the fiscal responsibilities associated with the beds or slots dedicated to them. Because of this, there was concern expressed that having an inventory that other departments, agencies, or individuals could access might set up the expectation that there is an accessible vacancy when that vacancy has associated, potentially restrictive, department requirements.

Additionally, the Intensive Care Division within the DMH operates a bed tracking system for high-level-of-care resources, including psychiatric hospital beds, IMD slots, crisis stabilization, enriched residential services, and licensed care facilities (also known as board and care). For enriched residential services and licensed care facilities, the county does not own the beds but contracts with approximately 200 owners who accept the county rate. We were told that the vision for this residential bed tracker was to have a public-facing version, but that has not been feasible because the operators have not been willing to update it on a regular basis.

DMH also provides a public-facing tool that provides a directory of all contracted entities. We were directed to the tool at DMH's homepage (Los Angeles County DMH, undated-a). The user can search for MH services, including around-the-clock inpatient care and long-term residential support, by address, city, or ZIP Code. The site will display the facility on a map, along with the facility name, address, hours

(including whether the facility offers walk-ins or referrals only), phone number, and languages spoken. The representative we spoke with had trouble using the tool and was not sure whether it was up to date.

We also are familiar with a national-level tool managed by SAMHSA that provides detailed information about MH and substance use treatment facility resources. This tool is called the Behavioral Health Treatment Services Locator (SAMHSA, undated). Facilities can be searched by address, city, or ZIP Code. In the tool, service type can be selected (substance use or MH services), as well as location (e.g., within the same state, within the same county, within a specified distance). For each main service type (e.g., MH, substance use), if desired, the user can also select additional filters, such as the service setting (e.g., outpatient, residential, inpatient), type of treatment offered (e.g., medication assisted, testing, recovery support, education, counseling), payment type accepted (e.g., Medicaid, private health insurance, cash, self-payment), special programs or groups offered (e.g., youth adults, LBGTQ, veterans), and other relevant service offerings (e.g., case management, social skills, transportation assistance). For each facility that meets the user criteria, the facility's address, phone number, and a link to the organization's website are provided, along with an option to view the other details about the organization (e.g., service type and services offered; license, certification, or accreditation; payment accepted; languages spoken). The information can be filtered and downloaded. The tool does not indicate whether there is availability at the facilities. As noted previously, we incorporated information provided in this resource into our tool for residential MH and substance use treatment facilities that met our criteria for inclusion (in Los Angeles County).

The Los Angeles County Department of Public Health's Substance Abuse Prevention and Control department manages an online tool of SUD treatment service options in Los Angeles County called the Substance Use Service and Bed Availability Tool (Substance Abuse Prevention and Control, undated). This tool operates similarly to the national tool, although it focuses solely on SUD treatment facilities. The user can enter a location and find a treatment provider with a certain mile distance range (as specified by the user, from five to 30 miles from user-inputted location). The user can filter by treatment or service type, languages spoken, clients serviced (youth, veterans, homeless), availability of beds, availability of services after 5 p.m., or availability of weekend intake appointments. The tool displays a list of facilities that meet the criteria, along with each facility's address, business hours, phone number, and website, as well as a listing of the number of available beds and number of available intake appointments. For each listing, a date and time for when it was last updated is provided that provides the user an idea of whether the vacancy rates and intake availability information are up to date.

Multiple Initiatives Underway with Some Limitations

In addition to the previously mentioned tracking tools, we learned that the Alternatives to Incarceration working group was given a directive by the Board of Supervisors to work with the different county departments to create a list of beds for PEH (Los Angeles County Chief Executive Office, 2021). It was mentioned that, even with this directive and staff from several departments working together, there have been roadblocks to creating such a tool.

Currently, supported by philanthropy, there are efforts underway to better track the adult residential facilities, which technically are considered ARFs and RCFEs but also are known as board and cares, that both the Department of Health Services and DMH use as they accept the county rates. As noted previously, the list of facilities was shared with us for inclusion in our tool.

Vacancy Rates Are Too Hard to Track

There was anonymous agreement among the respondents that tracking vacancy rates among the different housing resources was a nearly impossible task. Although some tools attempt to do this (such as PATH's LeaseUp), service providers mentioned the technical challenges and expressed concerns about the burden to keep the site current. These concerns were based on their experience with similar efforts. For example, during the coronavirus disease 2019 (COVID-19) pandemic, many shelter options cut their inventory in half; these reductions were occurring dynamically based on outbreaks or staffing. Many service providers expressed that it was challenging to stay current with the inventory and that they required increased communication between providers. It was also reported by one of our participants that service providers are providing daily census reports to LAHSA, but "it will always be out of date. The services are too dynamic to keep up to date."

Resources Might Be Geographically Targeted

We learned from service providers that housing resources can be city-specific, which means that if a person in need is not from that city, they cannot access the city-associated resources. Several examples were given, such as tiny home villages in Redondo Beach and Montebello and the Bridge Housing options. Although this strategy might prevent migration to resource-rich areas, it also creates hurdles for the people who need services, including documentation of last permanent residence or other service documentation from the area to qualify for the housing. A reverse-matching strategy was mentioned as a workaround when a vacant unit and person fitting the unit's criteria are identified, but that strategy still requires that the client have documented eligibility criteria before a placement can be made. As a result of this targeting, there was some question about the value of providing a tool that inventories resources that are strictly limited to people in specific geographic locations, because it would be of low value to people who do not live in that exact location. Big-picture motivations related to a better understanding of the entire housing stock were not generally of interest to the service provider entities with whom we spoke because such motivations do not fit well with their operational goals to find placement for the individuals that they serve in specific geographic locations.

Abbreviations

ALW	Assisted Living Waiver
ARF	adult residential facility
CDSS	California Department of Social Services
CTCAC	California Tax Credit Allocation Committee
DHCS	Department of Health Care Services
DMH	Department of Mental Health
HIC	Housing Inventory Count
ID	identification
IMD	institution for mental disease
LAHSA	Los Angeles Homeless Services Authority
LIHTC	low-income housing tax credit
LPS	Lanterman-Petris-Short
MH	mental health
PEH	people experiencing homelessness
PSH	permanent supportive housing
RCFE	residential care facility for the elderly
SAMHSA	Substance Abuse and Mental Health Services Administration
SUD	substance use disorder

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