Building a 21st Century Road Map to Child Welfare Transformation

FINAL REPORT

February 2022

Abt ASSOCIATES

About This Report

This Report was funded by Casey Family Programs under contract with Abt Associates to support and advance the ***Thriving Families Safer Children Initiative.*** Through strategic advising and the use of innovative tools in high-priority areas, Abt has provided a roadmap for action for a child and family well-being system focused on children from prenatal to age 3. Project activities were aligned in support of the 21st Century Research Agenda. Additionally, Abt was asked to develop a set of eight videos aimed at enhancing the competence of Casey Family Programs staff in using data to drive evidence-informed decision making. Abt worked together with Casey Family Programs over the course of the project to further advance the 21st Century Research Agenda by convening Abt researchers who work across multiple federal agencies and projects to learn more about the agenda and share lessons learned and insights for future opportunities.

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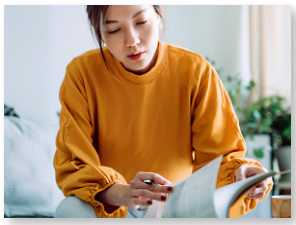

Appendices

Introduction

Over the last decade, a growing body of data and research has highlighted the profound human, societal, and economic costs of both Adverse Childhood Experiences (ACES) and Adverse Community Experiences (ACES). This "pair of ACES" encapsulates the phenomenon that "people with adverse childhood experiences also often live in communities with widespread adversity" (Ellis & Dietz, 2017). Simultaneously, there is growing recognition that our nation's child welfare system—currently focused primarily on protection—must substantially transform. Designed as a reactive, not proactive, system, it typically responds after child maltreatment and other adverse childhood experiences have occurred, with the primary intervention being removal from the home.

COVID-19 has highlighted the historical lack of investment in the conditions that children need to thrive (e.g., paid family leave, economic supports, healthcare access), and demonstrates how a crisis can exacerbate children's vulnerability to disease and violence. With the uncertainty of the pandemic, many more families are struggling and subsequently, more children are at risk for exposure to adversity. Preventing early adversity requires assuring that all children, regardless of sociodemographic background, have what they need to reach their full health and life potential.

Data from both the front end and deep within the child welfare system has dramatically informed our work and highlights the essential need for us to build early-childhood efforts focused on systems change and community conditions. In FFY 2020, nationally there were 618,000 victims of child maltreatment, equaling a national rate of 8.4 victims per 1000 children in the population. Child protection agencies received 3.9 million referrals for child maltreatment involving 7.1 million children—more than 19,000 children every day (Child Maltreatment 2020). Of these reports, over half are screened in (54%) and less than half screened out (46%). For the same period 407,000 children were in foster care. While African American children make up 14 percent of the child population in the US, they account for 20 percent of those entering the child welfare system. We know the child welfare system is steeped in inequities linked to race and poverty that play a role in removing children from their homes (Rivaux et al., 2008), and these decisions most negatively impact the life trajectory of our youngest children.

Our youngest children are at the highest risk. In 2016, the Commission on Child Fatalities underscored that children who die from child maltreatment are very young (Commission to Eliminate Child Abuse and Neglect, 2016). Almost three-quarters (70.3 percent) of child fatalities in FFY 2019 involved children younger than 3 years, and children younger than 1 year accounted for 45.4 percent of all fatalities. The rate of child fatalities for African American children is 3.1 times greater than white children. Similarly, Black and AIAN women have pregnancy-related mortality rates that are respectively two and three times that of white women (Medicaid and CHIP Payment and Access Commission, 2020).

Infancy is the age at which a person is most likely to live in a HUD-funded shelter for individuals and families experiencing homelessness (Gubits et al., 2015). For young children in particular, the links between racial inequity, poverty, health, housing, and involvement with the child welfare system are profound. More than 60 percent of child maltreatment decisions nationally are linked to poverty (Weiner et al., 2021).

Almost half (43%) of childbirths in the United States are funded by Medicaid, with the highest state rate being 71 percent (Kaiser Family Foundation, 2020). At the same time, our child protection systems are overloaded. They are responding to the needs of families with young children that we know can and should be met much earlier in our communities. The good news is that across health, housing, and human service systems there is increasing recognition that we must look collectively toward a population-level and social determinants of health approach to advance equity and address the "pair of ACES."

"

"If I knew then what I know now, I would start by building a continuum of preventive services focused on children from birth to age 3.

David Sanders

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Casey Family Programs (CFP) has been at the forefront of efforts to redesign child welfare through the Thriving Families Safer Children (TFSC) initiative. This partnership cuts across the public and private sectors, and is focused on transforming child welfare toward a system focused on the well-being of children and families. Understanding the structural barriers and opportunities involved in shifting to a coordinated system for well-being involves a deeper understanding of the determinants of health in the areas of economic stability, education, health access and quality, and in the community and built environment where families live (Department of Health and Human Services, 2021). Based on the outcomes of key public health and human services convenings, as well as key data points mentioned above, CFP leadership determined that focusing on the prenatal period to age three (PN-3) and the families of these children is a critical priority in transformational efforts to build a system for child and family well-being.

Social Determinants of Well-Being

Abt Associates' mission is to improve the quality of life and economic well-being of people worldwide using innovative tools that target opportunities at the intersection of the social determinants of health. To achieve the goal of equitable impact across our work, Abt advances principles and practices that consider the intersectionality of a variety of equity issues. We engage with clients and partners to innovatively leverage data and identify solutions for shifting community conditions and addressing structural inequities embedded in systems that affect families' abilities to provide and care successfully for their children. CFP sought a partnership with Abt because of our research, data, and technical assistance capabilities and projects that cut across the social determinants of health as well as our experience to deeply examine the experiences of young children and their families.

CFP initially engaged Abt Associates to support and advance the TFSC initiative through strategic advising and the use of innovative tools in high- priority strategic areas to inform a roadmap for action for a child and family well-being system focused on children from PN-3. During the project, alignment with and support to the 21st Century Research Agenda was also incorporated into the project scope. Additionally, Abt was asked to develop a set of videos aimed at enhancing the competence of CFP staff to use data to drive evidence-informed decision-making. Abt continued to partner with CFP over the course of the project to help advance the 21st Century Research Agenda by convening Abt researchers who work across multiple federal agencies and projects to learn about the agenda and share insights and opportunities.

This report will describe Abt's innovative approach (Accelerated Automated Search) to using automated tools to search for literature and data, combined with the voices of lived experience and subject matter experts, to generate wisdom about what is known about creating a PN-3 child and family well-being system. Key takeaways and actionable strategies will be offered, along with a set of tools (Appendix C) to help advance CFP's child welfare transformation and 21st Century Research agenda efforts. Additionally, future directions will be shared and encapsulated in a vignette simulating the experience of a family in a transformed child and family well-being system. Finally, as requested, Abt will offer and describe ways in which they can continue to assist CFP with child welfare transformation efforts, including support to the 21st Century Research Agenda, using tools to inform and guide both research and transformation efforts, and providing technical assistance and implementation support across sectors for jurisdictions.

Accelerated Automated Search Overview

This section describes the development of Abt's **Accelerated Automated Search** (AAS) process and its application to CFP's key questions for this project.

What is an AAS?

Finding and summarizing knowledge has a direct impact on the research, dissemination, and implementation of evidence-based practices and novel approaches, and on improved outcomes of interest. Literature reviews are a common methodology for knowledge curation, but are limited by lack of human resources and the sheer number of publications available. It is estimated that there are approximately 30,000 scientific journals publishing upwards of two million articles every year (Wagner et al., 2021). In this context, subject matter experts benefit from the support of automated tools to provide customized, iterative, and replicable processes.

Text analytics and Natural Language Processing (NLP) tools are being used to modernize and expedite search processes in literature reviews (Qin et al., 2021). These tools augment traditional literature review processes to allow faster and more sophisticated categorizing, filtering, and searching of large sets of peer-reviewed literature. The algorithms that support data gathering additionally help to build a knowledge infrastructure customized to the research domain, which produces a replicable system tailored for continuous knowledge discovery and curation. These tools also generalize to web scraping and discovery of gray literature, such as reports and white papers that are not found in peer-reviewed journals but which also contribute to systematic reviews and can help identify emerging topics and initiatives.

> ***Tokenization*** *is the process of splitting words or phrases into smaller units.*

Once data are gathered, researchers can use NLP and Machine Learning (ML) tools to filter documents, model topics, and label documents. Integrated into an ongoing or iterative process, these algorithms can learn to identify possible incorrect labels, flagging them for follow-up by researchers and improving the overall accuracy of the database. These processes, and the work done to standardize and tokenize text, become the groundwork for more sophisticated analyses as the number of documents added and reviewed grows over time (e.g., by leveraging complex semantic and grammatical rules derived from massive datasets of millions of documents).

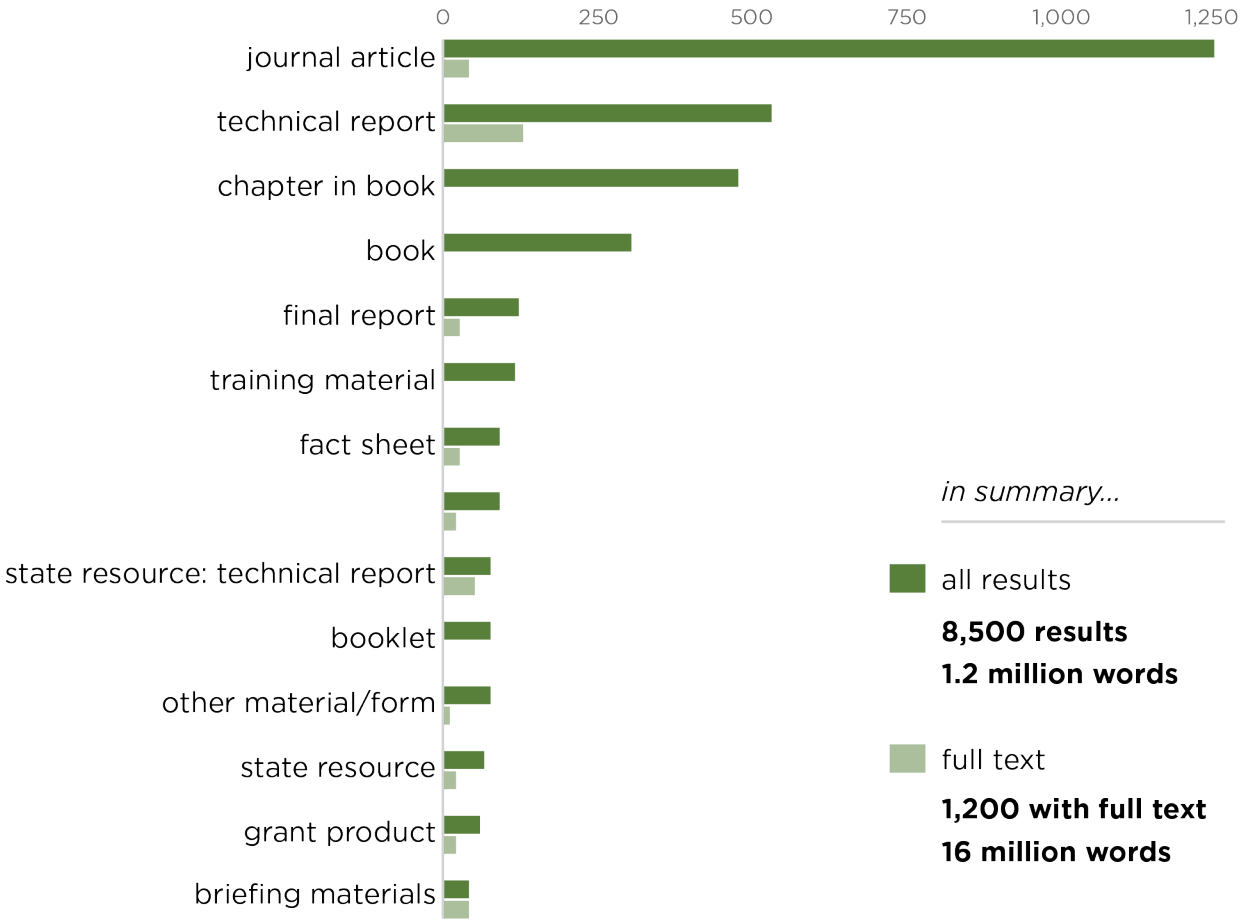
Testing Innovation

Inspired by the global challenge of the pandemic, in 2020 Abt analyzed a large body of existing literature on COVID-19 and related respiratory diseases during a two-week **"knowledge sprint."** The goal of the knowledge sprint was to (1) develop a literature search tool that can answer specific questions posed by a user that are within a large volume of text, and (2) deliver a set of processes and standardizations that would allow replication on other bodies of text or other publicly available websites or repositories. The results were noteworthy; in just two weeks, the COVID sprint team analyzed over 40,000 journal articles on COVID and related respiratory diseases.

With the success and learning from this knowledge sprint, Abt decided to apply the same methodology to the Child Welfare Information Gateway (CWIG). Abt chose CWIG as a data source because of its depth and national reach for the field of child welfare. The website contains over 2,000 pages and receives over 800,000 visits per year. It maintains an electronic library of over 110,000 titles, both peer-reviewed and gray literature, with an estimated 100,000 subscribers to its library listserv. The child welfare sprint team web-scraped and analyzed over 30,000 documents on child abuse prevention, foster care, and adoption.

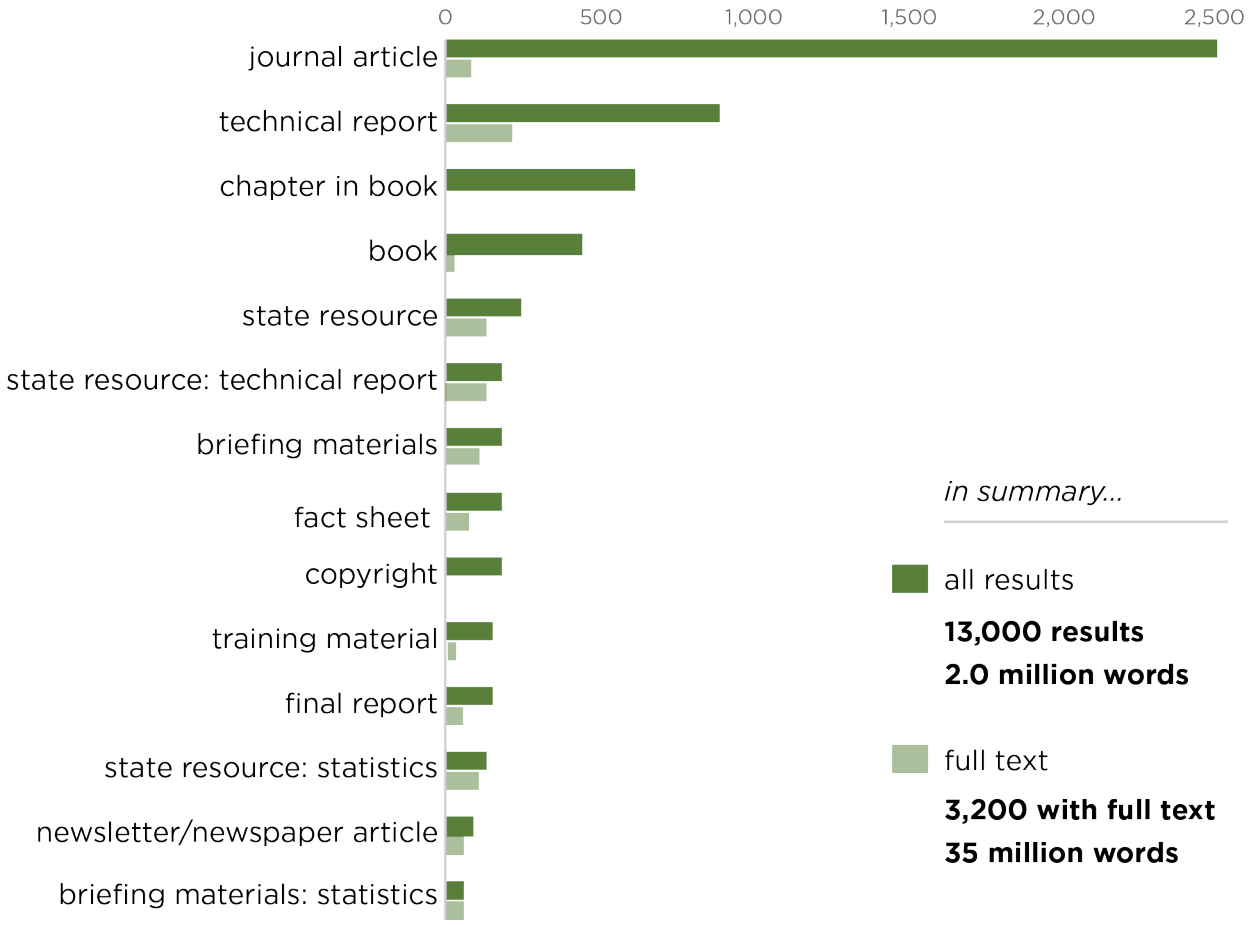
Three robust data sets resulted from these activities. For each query, we could extract relevant sentences, show publication year, link source articles or filter by resource type (e.g., only journal articles), or publication year (e.g., after 2015) to look at a subset of results. One additional advantage was the ability to categorize the data in ways that could identify both peer-reviewed literature and grey literature.

Supplement: Prevention Corpus



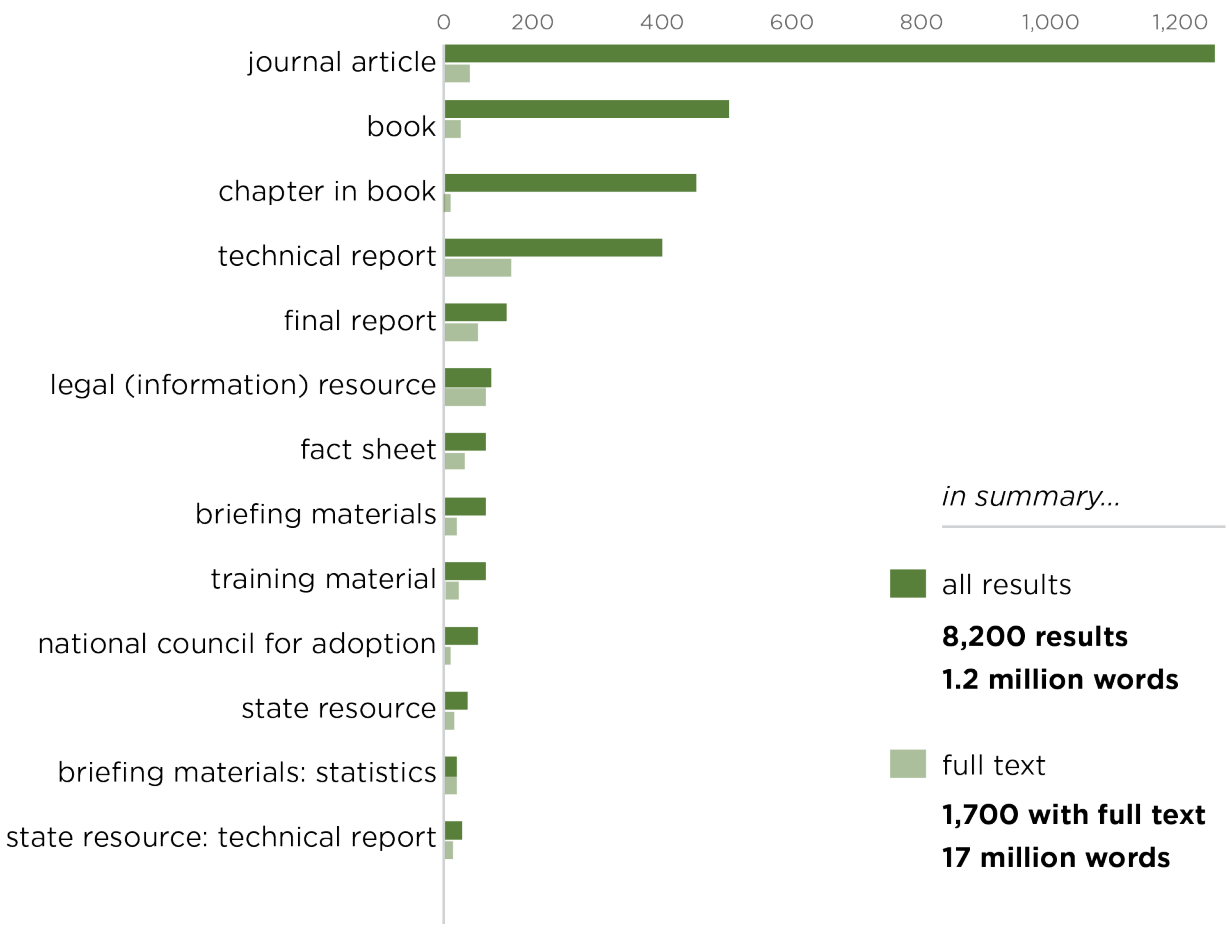
98%	79%	100%	100%	45%	10%	100%
Publication Year	Resource Location	Keywords	Abstract	Resource Type	DOI	Title

Supplement: Foster Care Corpus



99%	90%	100%	100%	49%	9%	100%
Publication Year	Resource Location	Keywords	Abstract	Resource Type	DOI	Title

Supplement: Adoption Corpus



99%	82%	100%	100%	46%	3%	100%
Publication Year	Resource Location	Keywords	Abstract	Resource Type	DOI	Title

Ways to Explore and Illustrate the Data

Part of the value of conducting text analysis is that once data are structured into a machine-readable format, we can look at document count frequencies allowing for understanding the distribution of documents to search phrases and can help assess if a search term is too narrow or too broad (Figure 1). Further, intersections of search terms can be mapped to understand the overlap of keywords with other keyword groups (Figure 2). This can help us revise or refine our search techniques as well as guide our thinking in subsequent iterations.

Figure 1: Raw Frequency of Search Terms

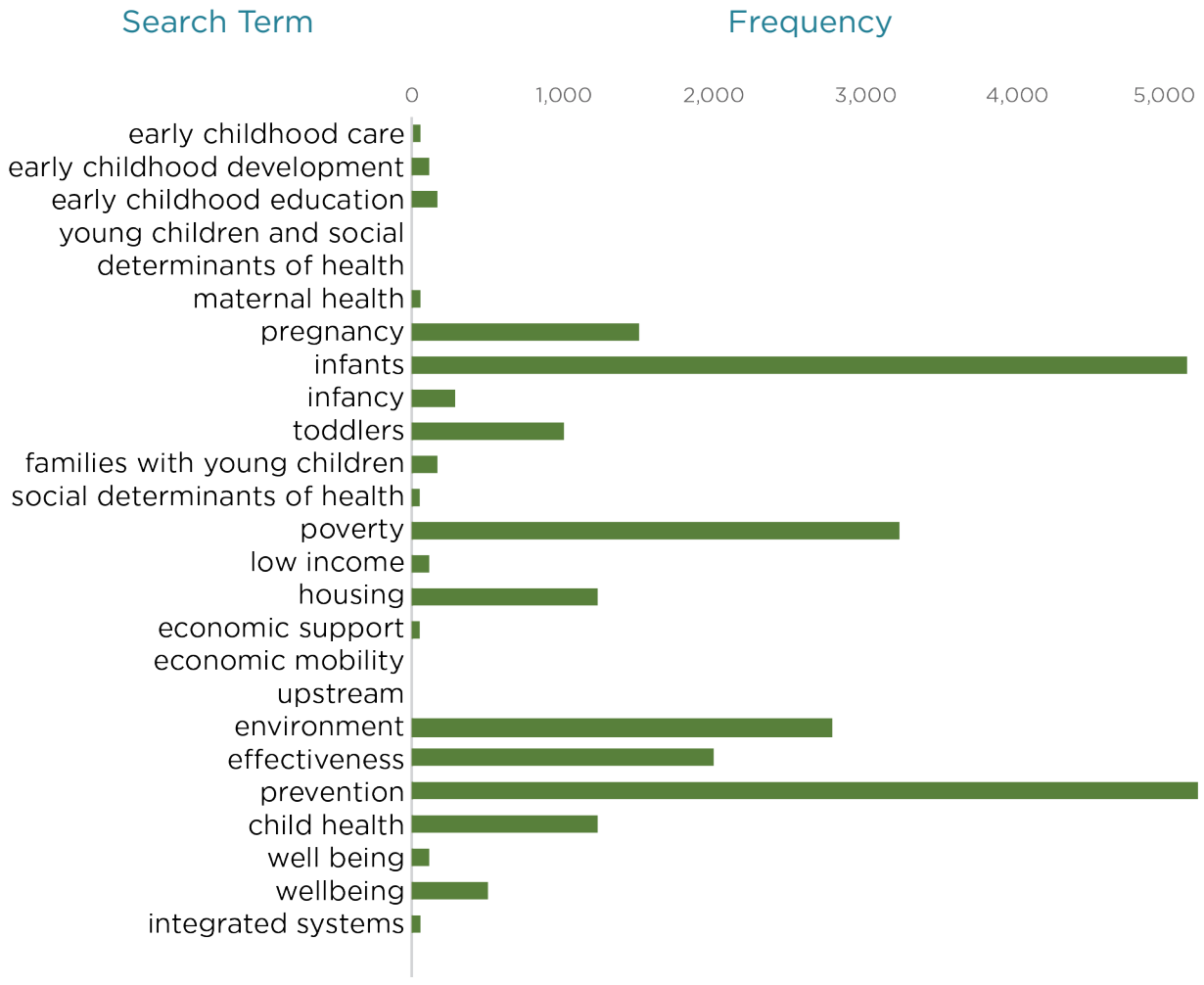
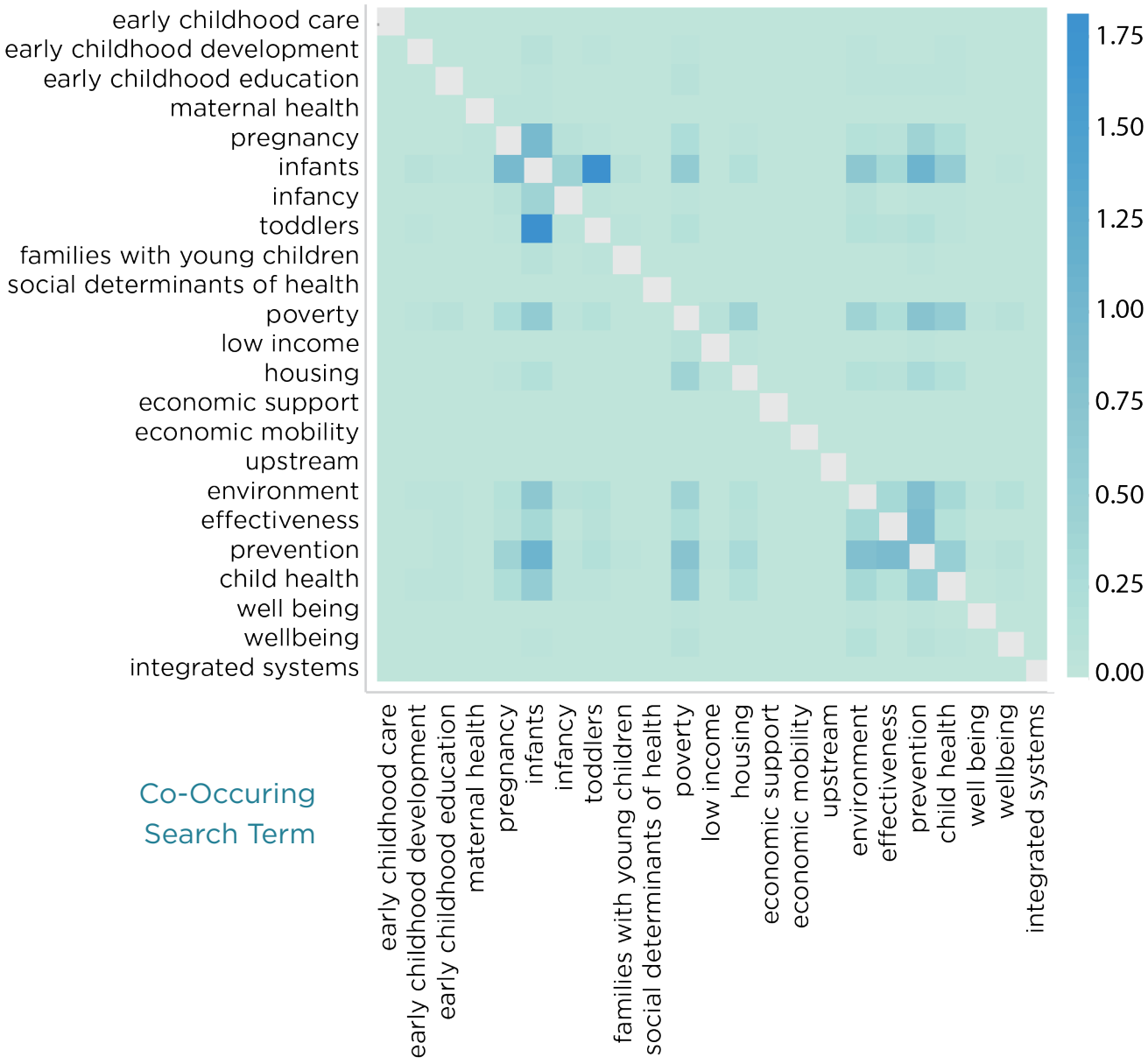


Figure 2: CWIG Keyword Co-Occurence



Automated Labeling and Categorization of New Data

As we document sources and types of data, we can expand into using NLP or predictive tools to label new sets of information. For example, the figure below shows the counts of document types in the dataset that were extracted from the CWIG using the term "foster care." Human tagged keywords from websites, libraries, or literature repositories can be utilized in supervised learning approaches to "teach" AI tools to automatically tag documents without labels into these groups. These document types have similar properties but may not always be labeled appropriately when found through web scraping or document libraries. We can use the structure and textual characteristics of these documents to help us label new documents with suggested types as we add them to our process, by training our tool with the data provided by manually classified databases. Additional labels and categorization can be added to the database at any time. Given a small number of human-tagged documents for training, the ML algorithm can automatically assign tags based on methodology, geography, demographics, or any other human-defined category.

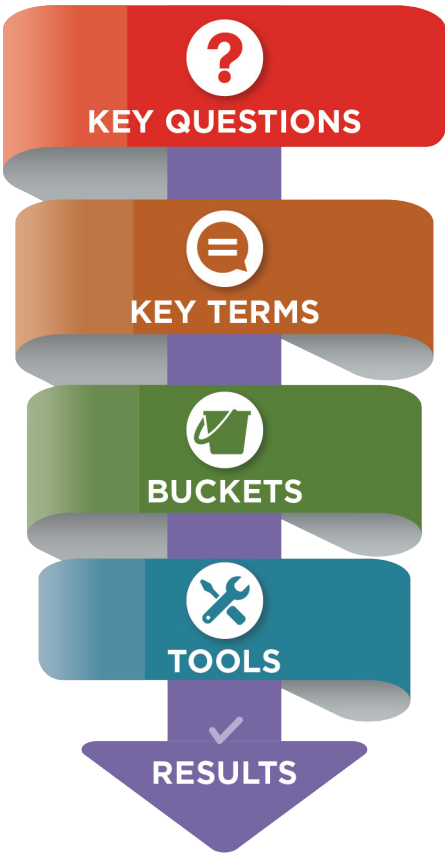
Both sprints resulted in machine-learning-powered literature synthesis tools and processes to collect, clean, analyze, and visualize large amounts of text. The promising results of these early sprints and the key search terms generated, validated, and formed the impetus for the tools and processes for this project. One key lesson learned from these early knowledge sprints was the need to incorporate both the end user of the knowledge generated and subject matter experts who can generate, validate, and iteratively guide the information gleaned, and translate it into wisdom for application.

```
data_predictions['Resource Type'].value_counts()
```

```
technical report                                283
state resource\r\ntechnical report              130
state resource\r\nstatistics                    125
state resource                                  116
briefing materials                               88
journal article                                  71
fact sheet                                       66
final report                                     53
briefing materials\r\nstatistics                 52
information packet or sheet                      37
newsletter/newspaper article                     36
book                                             32
other material/form                              25
chapin hall at the university of chicago.        25
training material                                20
booklet                                          20
legal (information) resource                     11
copyright                                         2
chapter in book                                   2
Name: Resource Type, dtype: int64
```

As Abt began its work with CFP to inform a Roadmap for the PN-3 space, there was a clear need to engage CFP staff as the end users and to engage experts across multiple disciplines. To accomplish this in a systematic way, two frameworks for the translation of research to practice were drawn upon: the Interactive Systems Framework (ISF) for Dissemination and Implementation and the Rapid Synthesis Translation Process (RSTP).

The ISF was developed to address the gap between determining what works based on the evidence presented and moving that knowledge into the field and to the practitioner (Wandersman et al., 2008). The ISF addresses both the needs and the hurdles encountered among different audiences in using research in the most effective manner possible. The RSTP provides additional specificity on the ISF. According to the RSTP, six steps are needed to distill research evidence into useful and user-friendly formats: (1) accept topics suggested by end users, (2) scan findings, (3) sort for relevance, (4) synthesize results, (5) translate findings for end users, and (6) give end users and experts the opportunity to review (Thigpen et al., 2012). The AAS followed these six steps, including engaging subject matter experts from public health, prevention, child welfare, housing, health, economic mobility, and equity, as well as those with lived expertise, throughout the process to ensure the review was exhaustive.



As described in Section 3, working collaboratively, Abt and CFP first formulated primary exploratory ***key questions***, identified key focus areas, and created a set of system components identified as Direction Setting Markers (DSM), also discussed in Section 3. Once these were identified, the Abt team drafted an initial set of ***key search terms*** (see full list in Appendix A). Given the importance of advancing equity for systems transformation, Abt was purposeful about developing a set of terms that could also potentially identify this literature. Abt collaborated with CFP to elicit feedback and validate the terms, then organized them into topical ***buckets*** and developed a cluster logic for the technical team to apply to its tool. For each of these activities, the subject matter expert and technical teams worked in tandem to iteratively check the results, review key terms and cluster logic, and rerun the ***tool*** when necessary to yield additional data and ***results***. In partnership, we sought to explore and generate wisdom to inform the roadmap from a broad and comprehensive body of literature.[i]

Advancing Knowledge to Support Systems Transformation

This section details **how the AAS process was used to guide our literature search strategy** including our key word development, the data repositories selected, the analytic techniques applied and the results.

As previously noted, the child welfare system has a large role in healthy family formation and preservation, and its clients are dramatically overrepresented by young children of color. Child Protective Services (CPS) agencies received a national estimate of 3.9 million (3,925,000) total referrals, including approximately 7.1 million children. The national rate of screened-in referrals is 28.9 per 1,000 children in the national population (Administration for Children and Families 2019, Child Maltreatment 2020). The future of prevention services and our efforts to strengthen families in the U.S. can be centered directly on the experience of young children and families of color, and their interactions with the publicly funded health care and human services systems. Working closely with CFP, Abt sought to understand the body of knowledge around the primary question: What characteristics or elements of a PN-3 network of services, supports, and community conditions promote family and child well-being, and reduce involvement with child protective services?

Children younger than 1 year old had the **highest rate of victimization at 25.1 per 1,000 children** of the same age **in the national population**.

American Indian or Alaska Native children have the **highest rate of victimization at 15.5 per 1,000 children** in the population of the **same race or ethnicity**.

African American children have the s**econd highest rate at 13.2 per 1,000 children** of the **same race or ethnicity**.

Child Maltreatment 2020

The focus of this project is very timely in light of President Biden's Executive Order On Advancing Racial Equity and Support for Underserved Communities, the newly released ACF-IM-IOAS-22-01 Advancing Racial Equity, and the HHS Administration for Children and Families (ACF) Strategic Plan, which includes these five goals:

1. Advance equity by reducing structural barriers, including racism and other forms of discrimination, that prevent economic and social well-being.
2. Take a preventive and proactive approach to ensuring the well-being of children, youth, families, and individuals.
3. Use whole-family, community-based strategies to increase financial stability and economic mobility.
4. Support communities and families in their efforts to respond to acute needs and facilitate recovery from a range of crises and emergency situations.
5. Enable and promote innovation within ACF to improve the lives of children, youth, families, and individuals.

Abt conducted a scan of the efforts being made to address this question. We reviewed organizations, and national, state, and local efforts, that led with equitable and upstream cross-system approaches to child and family well-being—in particular, the Prenatal-to-3 Policy Impact Center, The Pritzker Children's Initiative, and Ascend Aspen Institute's 2Gen. The team reviewed each organization's mission and program structure; how they were attending to social determinants of health equity; policy, legislation tracking, and monitoring initiatives; outcome measures; community capacity and conditions; and their respective approaches to prevention and systems change. Additionally, the Abt team reviewed all TFSC jurisdictions' applications to understand themes across challenges, opportunities, and areas targeted for systems transformation.

After understanding these efforts, CFP and Abt agreed to address the knowledge gap around the ***systems and structures*** that promote child and family well-being. We sought to focus on the social and structural determinants of health that provide the necessary contextual opportunities for families to thrive. While programs and interventions are clearly important for serving families, alone they do not go far enough to reform and transform systems.

We targeted our efforts to assess and explore literature that addressed:

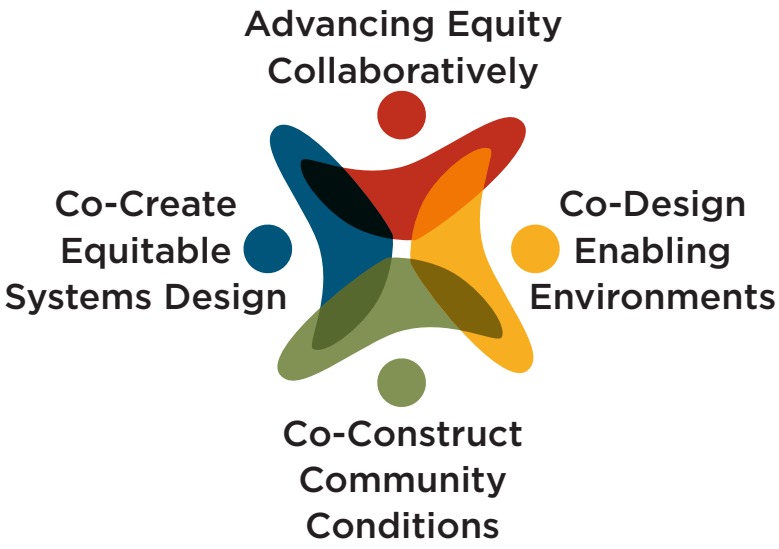
1. Inequities in maternal/child health and the community-based factors that promote equitable maternal and child health outcomes
2. Housing as a community condition for family stability
3. Funding strategies needed to optimize child and family well-being to reduce involvement with child protective services

Throughout our search, we also sought to identify and elevate child and family well-being programs, models, and frameworks that can serve as examples for other jurisdictions in their work toward transformation.

The next step in our process was to further break down our areas of interest to guide our literature search strategy. For this, the team developed a set of ***DSMs*** to inform our keyword development and organize our body of literature.

Direction Setting Markers

The DSMs guided our review of the literature as we sought to answer our primary question, *What characteristics or elements of a PN-3 network of services, supports, and community conditions promote family and child well-being, and reduce involvement with child protective services?* They were:



For each of the DSMs, we developed the following descriptions:

Advancing Equity. This includes literature that addresses the political and structural determinants to achieving large and sustained system improvement and eliminating health disparities and racial inequities, especially in maternal and child systems of care, to achieve health equity and social justice.

Systems Design: This includes literature that addresses frameworks and cross-sectoral partnerships that plan, prioritize, and fund a complex array of architecture and infrastructure for the larger diverse community, to support an array of services for child and family well-being, with equity as the foundation.

Community Conditions: This includes literature that addresses the social determinants of health as outlined in the CDC's Healthy People 2030 (economic stability, education and health care access and quality, neighborhood and built environment, and social and community context) for the conditions in which children and families live, learn, work, age, play and thrive.

Enabling Environments: This includes literature that addresses law, policy, regulation, strategic financing, data, and the embedded and integrated networks, relationships and practices that streamline pathways for optimal health and built environments that keep children and families safe, healthy, and thriving.

After we developed a framework for understanding the area of knowledge we were seeking from the literature, we worked with our AAS technical team to employ an iterative process for conducting each search. In the next section we will provide an overview of the way we worked with the team to pilot the AAS tool.

Development of Key Words to Guide AAS

Once the team had solidified the primary question, key areas of focus, and DSMs, we conducted a deep literature dive, leaning on our subject matter experts to develop key terms related to each DSM. We met with CFP team members for an iterative process of reviewing and affirming our terms. We developed a robust set of over 330 search terms to be applied to the AAS (see Appendix A for Key Terms). We dissected our primary question into topical bodies of literature that would advance knowledge across our DSMs.

This resulted in sorting literature and key terms into six "buckets", which centered around: 1) child and family target population, 2) equity, 3) community conditions, 4) system-level approaches, 5) exemplar programs, and 6) individual-level determinants. Because of our focus on enabling environments, preventive solutions, and population-level strategies for promoting child and family well-being, we paid the least attention to the individual-level determinants bucket.

Description of Key Terms in Each Bucket

Bucket	Description
Population	Keywords relating to prenatal (PN-3, PN-5), child, and maternal populations that touch the child well-being system
Equity	Key words relating to eliminating health disparities and racial inequities in services to promote maternal and child well-being
Community Conditions	Keywords identifying gaps within services and supports for PN-3 community conditions; or, alternatively, identifying enabling environments that reduce the need for involvement of child protection services, and promote child and family well-being
System-Led Approaches	Keywords confirming knowledge about and identifying gaps within PN-3 systems, and preventive and cross-sectoral strategies, including policies that reduced involvement by child protective services and promote child and family well-being
Exemplar Programs	Keywords confirming knowledge about and identifying gaps within PN-3 exemplar programs that reduced involvement by child protective services and promote child and family well-being

We then applied inductive key term sorting tactics to develop "clusters" or key terms that form subtopics of knowledge that can be sorted or organized within a larger bucket. For example, if we draw from one of our main buckets, "Population," then a cluster within this bucket could be "Maternal." Keywords within the "Maternal" cluster range from "Mothers of color" to "Maternal support" or "Maternal resources." The team engaged in an ongoing cycle of constant AAS, scanning results, and deep reflection with our CFP partner subject matter experts to determine whether we needed to refine and/or expand our main buckets, or redefine any key term or change the placement of any key term within clusters. At every step, the CFP and Abt subject matter experts made sure that the universe of key terms developed was able to speak to our key research questions and advance knowledge within our DSMs.

Once our buckets and clusters had been sorted, we created groupings of clusters called "cluster logic" that, via AI methods, were used to generate a series of documents that would help to identify bodies of literature and knowledge gaps that speak to our research questions and DSMs. The AAS and human touch points provided further confirmation and refinements of cluster logic groupings.

Examples of Bucket and Cluster Logic

Population + Community Conditions + System	Population + Community Conditions + Program + System
PN-3 + Housing + Coordinated Service Delivery + Maternal Health	PN-3 + Housing Stability + Home Visiting + Child Protective Services
Maternal Population + Housing + Coordinated Service Delivery + Maternal Health + Equity	Maternal Population + Housing Stability + Home Visiting + Child Protective Services + Maternal Health + Equity
PN-3 + Housing + Funding + Maternal Health + Equity	
PN-3 + Housing Stability + Child Protective Services	
Maternal Population + Housing Stability + Child Protective Services + Equity	
Maternal Population + Housing Stability + Home Visiting + Child Protective Services + Maternal Health + Equity	

Throughout the entire process, the CFP and Abt team continued to engage in a cyclical process of shaping our exploratory questions and confirming alignment with the key DSMs. The AAS acted as a machine learning strategy to affirm synergy between scanned results and the DSMs.

Selected Data Repositories

For this project, Abt applied its search tool to the CWIG, the Campbell Collaboration, and the Cochrane Library. CFP requested including both the Campbell Collaboration and Cochrane Library, which collect synthesized research evidence and reviews as additional data sources. We included 569 publications from the Campbell Collaboration and 8,650 publications from Cochrane for analysis.

As the 21st Century Research agenda was unfolding, CFP subsequently asked Abt to apply its tool to the additional digital libraries of JSTOR (15,694 publications), Medline (98,895 publications), and Academic Search Complete (158,867 publications), and to include additional key terms (i.e., family resource centers and mandated reporting) to support CFP priority research areas and further understand the effectiveness of the tool when it is applied to these commonly used data sources.

Applying Text Analytics Techniques

We used Python (nltk, spacy, pandas, numpy, and fasttext) to conduct text analysis on the titles and abstracts of the papers from these repositories. We describe four main steps in our text analytics process: data collection, data cleaning, data processing, and data analysis.

Initially, we web-scraped or exported data from literature repositories into a tabular format to create a common data structure. Our data cleaning focused on the title and abstract for each publication as the input columns into the text analysis and filtering process. Each set of papers from the literature sources were passed through this cleaning process:

- We replaced special characters, web addresses, and other unwanted information.
- We filtered out any non-English documents based on the language contained in that document's title and abstract.
- We removed common "stop" words such as "the," "to," and "a" to prevent these words from impacting analysis. In addition, we removed other common words such as "author" or "abstract" that are common in this context and don't contain meaningful information.
- We stemmed the words, removed plural terms, and considered alphanumeric tokens only after formatting all digits to their letter forms.

During our data processing, we applied these cleaning steps to the keyword lists generated by the subject matter experts and verified that any stemming or shortening the word into a root, a process known as tokenization, retained the initial meaning of the word. Once that had been confirmed, we used the final version of the tokenized keyword list and the tokenized title/abstract, using the cleaning step outlined above. We then grouped the results by each publication record so that for each paper we had a count of the number of keyword tokens in the title and abstract.

For the analysis step, we decided to focus on a subset of papers that met the following criteria:

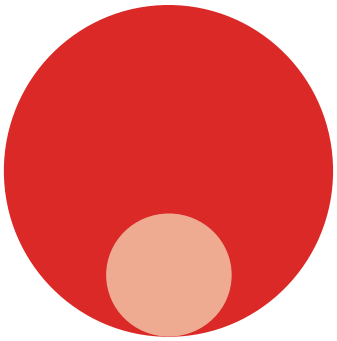
- The paper has at least one keyword in the title or abstract from the target population category.
- The paper has at least one keyword from the other topic categories (e.g., systems, community, program, or equity).

This group became our analytical set of papers for each literature repository and is referred to as our "broad group corpora." The subject matter expert team defined 16 clusters of interest (population PN-3, population PN-5, population other, population maternal, systems funding, systems coordinated service delivery, systems maternal health, systems support services, systems equity, community approaches, community neighborhood, community environmental determinants, community housing, community equity, program support services, program family-centered services), as well as two additional clusters to focus on: family resource centers and mandated reporting. For any given cluster, we apply logic groupings (e.g., [PN-3 OR PN-5] AND systems equity) to find documents matching those cluster criteria. For the purpose of our research, the "AND" term states that the database will search for terms that belong in each cluster named. The "OR" term states that the database will search for documents pertaining to keywords in either one cluster or the other (not both simultaneously). For the keywords, we use the tokenized title/abstract to get papers, along with the count of that particular keyword.

Results

The AAS process had three phases. Each phase built incrementally upon prior results and iterative interpretation by the team and identified CFP subject matter experts.

Phase 1: Initial AAS Results

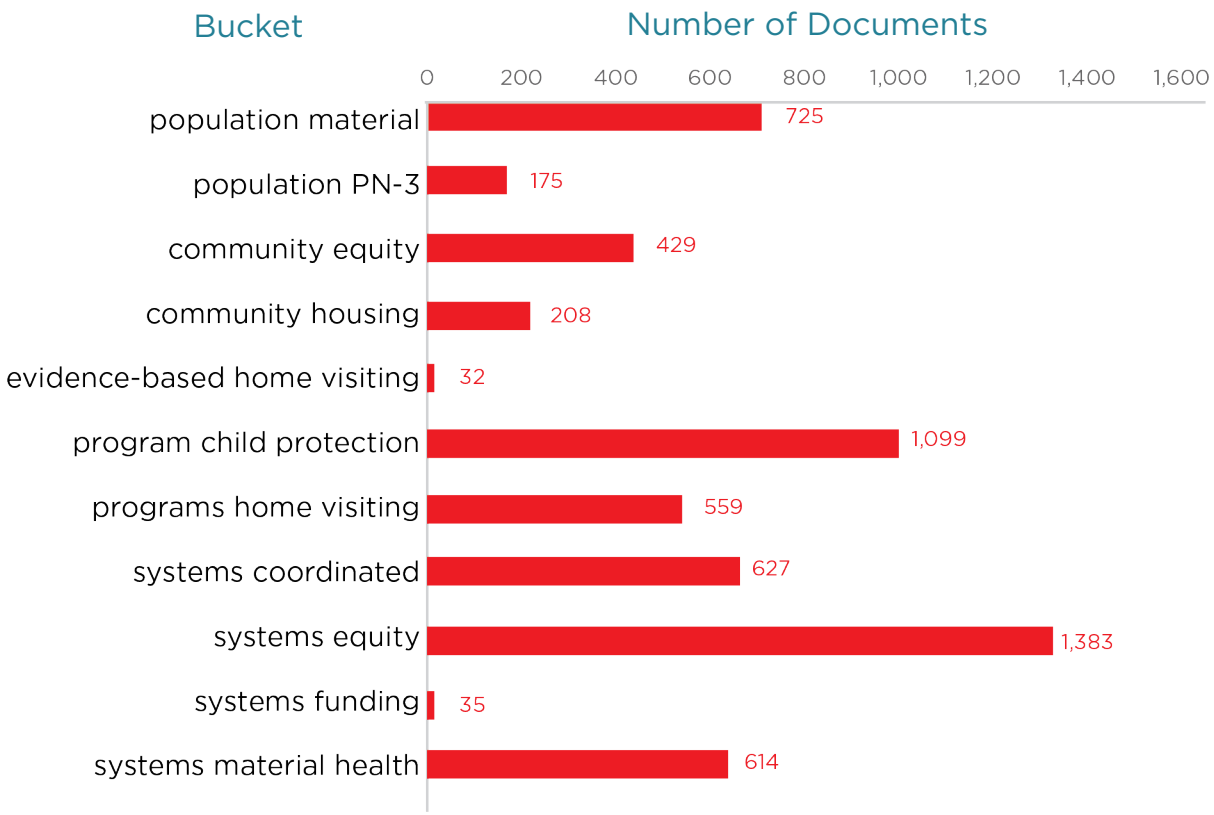


Gateway Library
63,000 Unique Documents

Analytic Corpus
5,855 Unique Documents

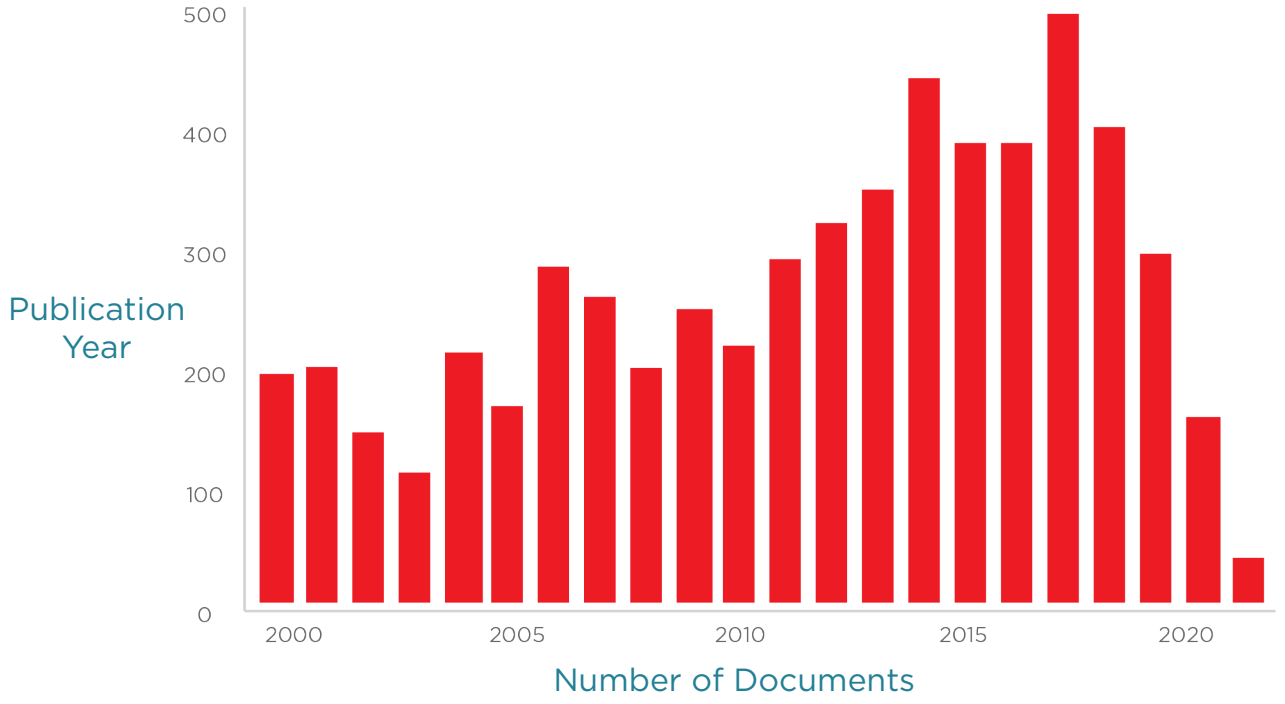
Our initial AAS search began with the CWIG library. The search in this repository focused on sifting through documents from key intersections from the cluster logic identified by our CFP partners. The CWIG library began with 63,000 unique documents. Our analytical corpus is defined as documents found based on the universe of terms from each "bucket" of knowledge identified by subject matter experts, research partners, and our DSMs. Once we applied our full analytical corpus (list of terms), the Gateway produced 5,855 relevant unique documents. Within each larger bucket, the clusters with number of documents associated with selected key words is indicated below.

Phase 1 Results



Results can also show the number of documents in our corpus and the distribution of publication years between 2000 and 2021. The highest number of documents in our corpus appearing in the data repository were published in 2017, followed by 2014.

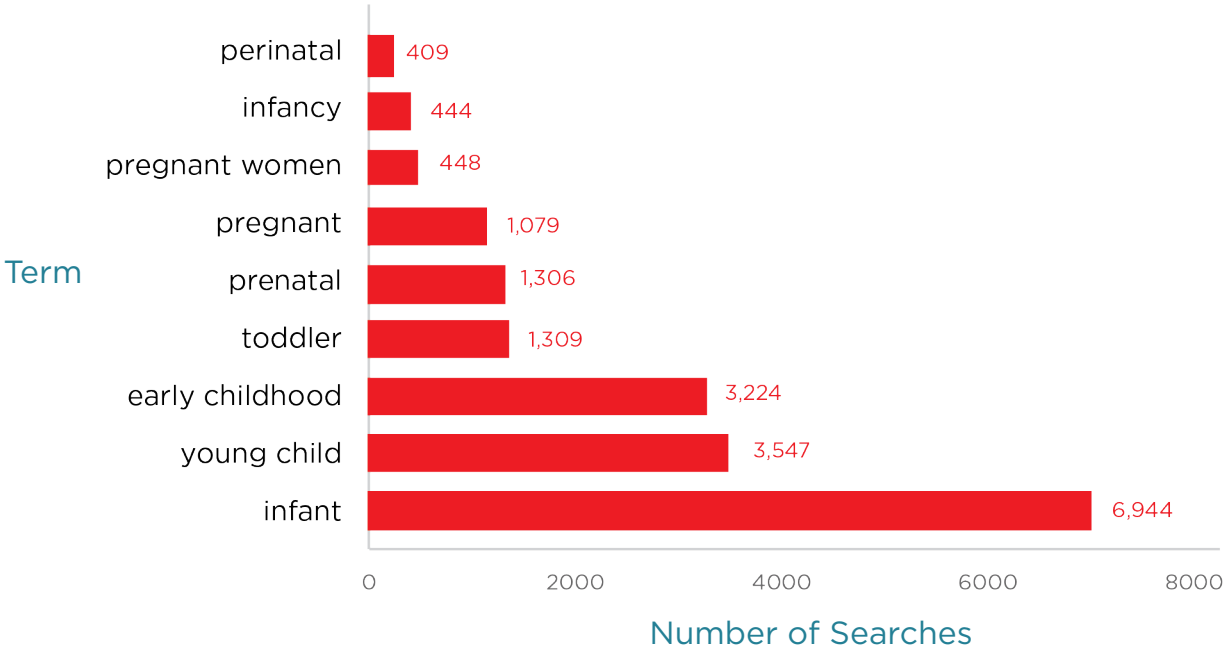
Distribution of Publication Year



The primary focus of the initial AAS is to elevate bodies of literature in the CWIG repository exploring exemplar PN-3 programs, services, and networks, as well as community conditions that promote child and family well-being. Our AAS found documents that examined preventive approaches and coordinated system approaches to reducing touch points with child protection services. The AAS lifted documents about advancing equity, the social determinants of health, and disparities in child and maternal health outcomes.

The bucket "Target Population" and the clusters within the bucket (maternal, mothers, PN-3, PN-5) is the primary bucket paired with any combination of the other buckets and clusters within them. Most of our target population documents contained the keywords "infant," "young child," or "early childhood." See below for the top 10 search terms related to our target population corpus.

Top Search Terms in Target Population Corpus



Relative to roughly 60 search terms in the "Target Population" bucket, the **key terms in the Maternal and Mother cluster appear least often in the literature**. Results demonstrate **deep gaps in the literature that address the poor relationship between advancing maternal health equity on the one hand and child and family involvement with CPS on the other.** For example, terms such as Black mother (46), Hispanic mother (41), Latina mother (27), women of color (33), mothers of color (11), Native American mother (1), Latinx mother (0 documents), Asian American mother (0 documents), and Asian Pacific Islander mother (0 documents) held the least number of documents relative to all other search terms in the "Target Population" bucket. The AAS shows the need for increased bodies of knowledge speaking to the unique experiences of mothers and mothers of color in the child and family well-being system that could reduce their involvement with CPS. This is a critical finding to support our DSMs and future opportunities within the 21st Century research agenda.

The results from our corpus indicate zero pieces of literature that speak to the relationships among housing status or housing experiences as a community condition (affordable housing, vacant housing, resident turnover) and exemplar program supports or child protection services that both promote equitable maternal health outcomes and reduced child and family involvement in CPS. This is despite the fact that according to AFCARS categorizations of foster care entry reasons, 10 percent of entries involved inadequate housing, with some state's data as high as 26 percent during FFY2019 (Williams, 2020).

We see sparse literature (nine documents) that examines community factors or environments (environmental insecurity, environmental racism, food insecurity) and *system funding optimization* strategies (blended and braided funding, childcare subsidies, paid family leave) that promote equitable maternal and child health outcomes and reduce involvement with CPS. However, findings indicate a larger number of documents (roughly 50) exploring the ways in which community factors or environments (environmental insecurity, environmental racism, food insecurity) and *systemwide coordinated service delivery* (shared governance, coordinated service provision, coordinated career pathways, provider linguistic and cultural competency) can work to reduce involvement with CPS.

Moreover, our findings suggest that the largest body of literature (roughly 65 documents) examines the role of equitable community-based approaches and coordinated funding and service delivery in promoting child and family well-being and reducing involvement with CPS. Such references to community-based approaches were identified by keyword searches that turned up the terms "community health," "community-centered," "community engagement," "community investment," and "community development."

Largely, our results illustrate greater bodies of literature highlighting the Enabling Environments and Community Conditions DSMs that foster child and family well-being and reduce involvement with CPS. Within the Community Conditions DSM, results demonstrate larger bodies of knowledge in community-based approaches, followed by community housing as a social determinant of health and community environments. The AAS search found deep literature gaps within our Systems Design DSM describing how community stakeholders, thought leaders, sectoral partners, and funders work alongside persons with lived expertise to integrate cross-sectoral child and family-serving systems and eliminate health disparities and racial inequities.

Phase 2: Mandated reporting and family resource centers (FRC) applied to Gateway, Cochran, and Campbell

This phase derived from a deeper dive into the population bucket and child protection cluster. With key insights from our Casey partners, we developed two additional clusters, "family resource centers" and "mandated reporting" and ran an AAS on these two clusters. The goal of this phase was to identify papers to supplement research CFP was conducting.

Using the keywords from each of the new clusters, we modified the process to not use the population specific filtering and only rely on the keywords from each cluster. There were two stages of filtering used to identify documents from these clusters. First, we filtered each set of documents using only the keywords in each list. Second, we tested running each set of keywords in addition to any documents that had the keywords "hotline," "helpline," "crisis nursery," "crisis nurseries," "crisis childcare," or "childcare" to gauge intersections between the family resource centers or mandated reporting lists and these additional terms. We generated and delivered a set of searchable files from CWIG, Cochran, and Campbell. These files had tabs for the filtered groups of documents.

Phase 3: Mandated reporting and FRCs applied to JSTOR, Medline, and Academic Search Complete

Phase 3 of the AAS was an additional request made by CFP and focused on informing a 21st Century Research Agenda for Child Welfare. In partnership with Annie E. Casey Foundation (AECF) and the William T. Grant Foundation, CFP set out to convene top researchers, policy analysts, agency leaders, and people with lived experience in the child welfare system and create a comprehensive research agenda that addresses major knowledge gaps across the full continuum of child welfare services. The goal was to identify and fill research gaps and to support the use of findings in decision-making to improve practice and policy.

The purpose of building **a 21st Century research agenda—grounded in diversity, equity, and inclusion**—to support child and family well-being is to (1) form a broad-based coalition of research partners to identify research gaps to support child welfare, (2) articulate clear research questions that need to be addressed that are relevant for families, jurisdiction leaders, policy-makers and practitioners; (3) identify research strategies that will close the gaps and answer those key questions; and (4) help agencies use findings to improve policy, program and practice strategies resulting in transformative systems change.

Organizations included in this effort include Black Administrators in Child Welfare, the National Indian Child Welfare Association, Child Trends Hispanic Institute, the American Public Human Services Association, the Child Welfare League of America, and the American Academy of Social Work and Social Welfare.

With the initial intent to align the Roadmap for Action with the 21st Century Research Agenda, Abt reviewed the 21st Century draft report and used it to inform key terms, buckets, logic clusters and DSMs. Subsequently, the Abt team was asked by CFP to collaborate with their Research Team and their partners, including participating in the 21st Century listening/input summer sessions and fall Summit, and coordinate an in-depth discussion with Abt subject matter research experts to advise on gaps, opportunities, and future directions for child welfare related research. A final request was to conduct an additional AAS targeted specifically on key terms/topics associated with the 21st Century Research Agenda (i.e., family resource centers and mandatory reporting) across an identified group of literature repositories to affirm results of CFP's prior scan of the literature.

Using the keyword list and the methodology above, we filtered down the publications from each literature repository (CWIG, Cochrane, Campbell, JSTOR, Medline, and Academic Search Complete) to the broad group that meets our criteria. Below is a summary of the number of publications in the broad group as well as their percentages out of the initial count that were included in our broad group corpora.

Percentage of Publications Included in Broad Group Corpora

Repository	Number of Publications	Publication Year Range	Broad Group Corpora
CWIG	63,416	2000-2021	7,077 (11%)
Cochrane	8,650	1997-2021	1,424 (16%)
Campbell	569	2005-2021	30 (5%)
JSTOR	15,694	2000-2021	154 (1%)
Medline	98,895	2000-2022	5,270 (5%)
Academic Search Complete	158,867	2000-2022	4,086 (3%)
Total	**338,306**	**1997-2022**	**18,041 (5%)**

For our search results analysis, we focused on documents in the broad group that contained terms related to family resource centers and mandated reporting. The keywords related to family resource centers were:

- Family resource(s) center, family support center, family advocacy center, family enrichment center, settlement house, community family center, neighborhood community center, crisis nursery, parent child center, family success center, native connection(s)

The group of keywords related to mandated reporting were:

- Mandated reporting, mandated reporter

The results of these searches were provided in an Excel workbook containing multiple worksheets for the logic intersections of the keywords and terms. The "terms" worksheet has a list of documents that matched any term from the FRC, mandated reporting, or additional terms. The "Family Resource Centers (FRC)" and "Mandated Reporting (MR)" worksheets contain documents that matched the keywords in each of those respective clusters. The "FRC & MR" contain documents with an intersection between both sets of terms. Finally, the "Filtered FRC" and "Filtered MR" worksheets identify documents that matched the respective clusters plus the additional keywords. Within each worksheet, we provided attributes of the papers including author, title, abstract, citation information, and the accession numbers. Finally, each document row included a doc_id to identify the document in the publication list's source table.

Number of Publications with Keywords in Each Group

Repository	Family Resource Center	Mandated Reporting
CWIG	113	287
Cochrane	0	0
Campbell	0	0
JSTOR	12	8
Medline	29	180
ASC	109	177
TOTAL	**263**	**915**

A final request for additional keywords related to "cultural brokers" and "cultural broker programs" was made to the project team. This request originated from a technical assistance request to CFP from a jurisdiction interested in the existing evidence related to the effectiveness of cultural broker programs in child welfare settings and to inform an upcoming evaluation of their program. For this set of keywords, we again modified the process to exclude the population specific filtering. This output was completed using only the CWIG database and yielded approximately 2389 titles for key terms generated below:

Culture | Cultural brokers | Cultural broker programs | Cultural humility
Cultural sensitivity | Culturally responsive | Anti-oppressive practice
Ethnic sensitive practice | Cultural competence | Anti-racist
Racial disproportionality | Race equity | Culturally relevant

Additional Information

Appendices

Appendix A

Key Terms

Key Question and Sub Questions

What characteristics or elements of a PN-3 network of services, supports, and community conditions that promotes family and child well-being, and reduces involvement with child protective services?

1. Understanding inequities in maternal/child health- What community-based factors promote equitable maternal and child health outcomes and prevent involvement with child protective services?
2. Exploring housing as a community condition- What are elements of a network of services that promote housing stability and family wellbeing?
3. Exploring funding optimization and service delivery- What coordinated funding streams or service delivery exemplar programs must be present to reduce involvement with child protective services

Clusters Across Research Question Phrases

- Characteristics of PN-3 Network of Services and Supports
- Characteristics of Community Conditions that influence PN-3
- Characteristics promoting family and child well-being for PN-3
- Characteristics for Reducing Involvement in CPS for PN-3

Direction Setting Markers

- **Advancing Equity:** This includes literature that addresses the political and structural determinants to achieving large and sustained system improvement and eliminating health disparities and racial inequities, especially in maternal and child systems of care, to achieve health equity and social justice.
- **Systems Design:** This includes literature that addresses frameworks and cross-sectoral partnerships that plan, prioritize, and fund a complex array of architecture and infrastructure for the larger diverse community, to support an array of services for child and family well-being, with equity as the foundation.
- **Community Conditions:** This includes literature that addresses the social determinants of health as outlined in the CDC's Healthy People 2030 (economic stability, education and health care access and quality, neighborhood and built environment, and social and community context) for the conditions in which children and families live, learn, work, age, play and thrive.
- **Enabling Environments:** This includes literature that addresses law, policy, regulation, strategic financing, data, and the embedded and integrated networks, relationships and practices that streamline pathways for optimal health and built environments that keep children and families safe, healthy, and thriving.

Target Population

Terms can reside in multiple clusters. This bucket is comprised of keywords relating to PN-3, PN-5, and Maternal population clusters.

PN-3	PN-5	Other Terms	Maternal Population
Prenatal to three	Birth to five	Infant	Black mothers
Prenatal-to-three	Birth-five	Infants	Latina mothers
Prenatal to age 3	Birth to 5	Young children	Latinx mothers
Prenatal-to-3	Birth-5	Infancy	Hispanic mothers
PN3	B-5	Toddler	Asian Pacific Islander mothers
PN-3	0 to 5	Perinatal	Asian mothers
P-3	0-5	Neonatal	Native mothers
Birth to three		Prenatal	Native American mothers
Birth to 3		Early childhood	Women of color
Birth-3			Mothers of color
B-3		Families with young children	Black mothers
Zero to three			Mother and baby placement
ZT3			White mothers
0 to 3			Maternal child
0-3			Pregnant women
			Teen parent
			Young mother
			Pregnant and parenting

Community Condition Clusters

Terms confirming knowledge about and identifying gaps within PN-3 community conditions that reduced child protection services involvement and promote child and family well-being

Community-based approaches	Neighborhood Factors	Environmental Determinants	Housing	Equity (These terms were merged with Equity Terms)	Other (revised terms to best fit clusters or deleted)
Community health	Neighborhood context	Environmental determinants	Affordable housing	Protective factors	
Community-centered	Neighborhood revitalization	Environmental racism	Housing insecurity	Social determinants of health	
Community childcare	Gentrification	Environmental insecurity	Vacant housing	Discrimination	
Community collaboration	Social norms	Environmental supports	Resident turnover	Barriers	
Community engagement	Local development	Exposure	Housing cost burden	Opportunity gap	
Community development	transportation	Food insecurity	Housing cliffs	Social emotional competence	
Community involvement	Neighborhood	Food insufficiency	Housing	Food cliffs	
Community access	Walkability	Job insecurity	homelessness	Culturally responsive approach	
Community approaches	Play grounds	Poverty	Safe housing	Benefit cliffs	
Community health services	Zip code	workforce	Residential segregation	Childcare cliffs	
Community reinvestment	Parks	Unemployment rate	Public housing		
Community resources	Green space	Quality care	Housing stability		
Community assets	Built environment	Labor market	Housing instability		
Community health services delivery	Lighting	Food deserts			
Collective approach	Trees	Environment			
Community safety	Benches	Concentrated poverty			
Collective impact	Social Connections	Public safety			
Community outreach	Social integration				
Community norms	Relationships				
Community mobilization	Nurturing environment				
Community efficacy	Support systems				
Community indicators	Family diversity				
One Stop Center					
Community health					
Community after-school programs					
Community advocacy					
Community coalitions					
Strong communities					
Community based prevention					
Promote wellbeing					
Mobilize communities					

System Clusters

Terms confirming knowledge about and identifying gaps within Pn-3 systems including policies that reduced child protection services involvement and promote child and family well-being.

Funding	Collective approach (These terms were merged with Coordinated Services Delivery)	Coordinated Services Delivery	Governance (These terms were merged with Coordinated Services Delivery)	Equity (These terms were merged with Equity Terms)	Other (Revised terms to best fit clusters or deleted)
Fragmented funding		Access		Discriminatory	
Funding streams		Universal		disparity	
Child tax credit		WIC		Disproportionality	
Childcare subsidies		SSI		Diversity	
Coordinated funding		TANF		Environmental prevention	
Blended funding		Early childhood care		Epistemic injustice	
Braided funding		Early childhood care and education		Epistemic responsibility	
Childcare subsidy program		ECE		Equity	
Paid family leave		ECCE		Ethnic	
Child allowance		Public health		Hermenuetical injustice	
Child savings account		Schools		Historical injustices	
Child tax credit		Legal advocacy		Historical marginalization	
Anti-poverty programs		Public housing policies		Inclusion	
Livable wages		Silos		Human-centered design	
Paid family leave		System policy surveillance		Institutional	
Economic mobility		Shared governance		Intersectionality	
Asset building		Governance changes		Medical racism	
Self-sufficiency		Paid family leave		Medical genocide	
Safety Net		Income supports		Prevention	
Universal benefits		Health insurance coverage		Race	
		Assistance programs		Racial	
		Coordinated service provision			
		Cross-sector			
		Collaborative Child welfare services			
		Hotline			
		Helpline			
		Warmline			
		Intake			
		Mandated reporter/ reporting System representatives			

System Clusters Continued

Terms confirming knowledge about and identifying gaps within Pn-3 systems including policies that reduced child protection services involvement and promote child and family well-being.

Funding	Collective approach (These terms were merged with Coordinated Services Delivery)	Coordinated Services Delivery	Governance (These terms were merged with Coordinated Services Delivery)	Equity (These terms were merged with Equity Terms)	Other (Revised terms to best fit clusters or deleted)
		Hotline		Racism	
		Helpline		Systemic racism	
		Warmline		Structural oppression	
		Intake		Systemic mistrust	
		Mandated reporter/ reporting System representatives		Testimonial injustice	
		Health coverage		Transformation	
		Provider availability		Upstream	
		Court hearings		Social determinants of equity	
		Legal advocates		Social change	
		Provider linguistic and cultural competency		Safety net research	
		Culturally appropriate		Innovative	
				Developmentally centered	
		Systems		Bias	
		System oversight		Distributive equity	
		System synergy		Provider linguistic and cultural competency	
		Unconventional partners		Environmental prevention	
		Network			
		Information sharing			
		Administrative data			
		Cross-sector			
		Collaborative			
		Child and family wellbeing			
		Wellbeing			
		Systems transformation			
		Systems reform			
		Transformative			
		Innovative			
		Lived expertise			
		Lived experience			
		Co-design			
		Co-create			
		System inequity			
		Narrow inequities			
		Lessen disparities			

Equity Terms

Equity terms that were pulled in one table together that reflect equity clusters across each main bucket.

Discriminatory	Race	Social Determinants of Health	Restorative Justice Program
Discriminatory	Race	Social determinants of health	Restorative justice program
disparity	Racial	Discrimination	Protective factors
Disproportionality	Racism	Barriers	Primary prevention
Diversity	Systemic racism	Opportunity gap	Preventative care
Environmental prevention	Structural oppression	Social emotional competence	multicultural
Epistemic injustice	Systemic mistrust	Food cliffs	Culturally responsive approaches
Epistemic responsibility	Testimonial injustice	Culturally responsive approach	Differential response
Equity	Transformation	Benefit cliffs	Cross-cultural
Ethnic	Upstream	Childcare cliffs	Evidence-based home visiting
Ethnic racial bias	Social determinants of equity	Upstream	Adverse childhood experiences
Hermenuetical injustice	Social change	Universal care	African American
Historical injustices	Safety net research	Universal access	Asian
Historical marginalization	Innovative	2gen	Hispanic
Inclusion	Developmentally centered	Two-generation approaches	Intergenerational chronic stress
Human-centered design	Bias	Trauma-informed	Intergenerational trauma
Institutional	Distributive equity		Indian American
Intersectionality	Protective factors		Latino
Medical racism			LGBTQ
Medical genocide			Native American
Prevention			Tribal communities
			Environmental racism

Program Clusters

Terms confirming knowledge about and identifying gaps within PN-3 exemplar programs that reduced child protection services involvement and promote child and family well-being

Family-centered Services	Support Services	Equity (These terms were merged with Equity Terms)	Parenting services (These were merged with Family Centered Services)	School-based	Other (Revised terms to best fit clusters or deleted)
Toxic-stress prevention	Training	Upstream		School-based	
Intervention	Safe and consistent care	Universal care		Early education support	
In-home counselors	Respite care	Universal access		English as a second language	
Family-centered engagement	Recovery	2gen		ESL classes	
Family-centered involvement	One-stop center	Two-generation approaches		English language learners	
Family support	Neighborhood-based organizations	Trauma-informed		After-school programs	
Family services	Medical assistance	Restorative justice program		Early head start home-based option	
Family resource center	Maltreatment prevention program	Protective factors			
Diversion program	Prevention child maltreatment	Primary prevention			
Comprehensive services	Life-skills training	Prevention			
Family diversity	Intensive services	Preventative care			
Kinship care diversion	Home visiting	multicultural			
Kinship	Crisis care	Culturally responsive approaches			
Healthy Families America	Co-located services	Differential response			
Family strengthening	Helplines	Cross-cultural			
Social emotional competence	Hotlines	Evidence-based home visiting			
Positive parenting	Diverting children				
Parenting training					
Parenting support groups	Differential response				
Parenting classes	Alternative response				
Parenting mentoring	Kinship care				
Parenting empowerment	Non relative foster care				
Parenting leadership	Family preservation				
GED classes	Faith based				
Child sexual abuse prevention	Tribal casino				
Maternal home visiting	Inclusive				
Paternal home visiting	Child protective assessment				
Early childhood home visiting	CPS				
In-home counselors	Child protective services				
Parents as teachers	Child protection				
	Infant home visiting				
	Child protective				
	Child protective investigation				
	Warmline				
	Child protection hotline				

Individual Clusters

Terms that reflect or are associated with individual characteristics.

Family-characteristics dynamics	Parental determinants	Equity (All merged in Equity below)	Harm	Stability	Child characteristics	Other/Resources
Child to adult ratio	Adults with GED	Adverse childhood experiences	Abuse	Family well-being	**Disability	Behavioral health
Family development	Adults with high school diploma	African American	Domestic violence	permanence	Crossover youth	Health
Family resources	Dual language learners	Asian	DV	protection	Preterm birth	Home birth
Nurturing families	Education	Hispanic	Homicide	**resilience	Sudden infant death syndrome	Investigation
Nurturing relationships	Father involvement	Intergenerational chronic stress	Infant death	safety	Transition age youth	Mental health
Single mother families	Fatherhood	Intergenerational trauma	IPV	sobriety		People 65 and over
Vulnerable families	Low income	Indian American	Intimate partner violence	Social and emotional competence		
	Maternal depression	Latino	Neglect	Social support		
	Maternal health	LGBTQ	strangulation	Social connections		
	Parent resources	Native American	Substance abuse	Well-being		
	Parent resilience	Tribal communities	Substance use			
	Parenting	Violence	suicide			
	Paternal care					
	Paternal engagement					
	Paternal parenting					
	Perinatal death					
	Perinatal depression					
	Perinatal mortality					
	Prenatal care					
	Literacy					
	Vocational training					
	Higher education					
	Job training					
	Debt					
	Expenses					

**Equity Terms – equity terms that were pulled in one table together that reflect equity clusters across each main bucket

Appendix B

Vignette:
One Family's Journey—Present and Future

The Story of Juanita and Her Family

PRESENT: Times are stressful times for the Robinson family. Juanita is a 24-year-old Latina, a newly single parent, who has just learned she's pregnant and has two children, Rosa (3 years) and David Jr. (6 months). She's married to David Sr., who is 25, an African American, and the father of David Jr. Juanita and David have been married for 4 years and separated a few months ago because of David's drinking and differences about how to care best for their kids. David Sr. has begun traveling a lot as a truck driver and is typically home only twice a month for a couple of days each time. Juanita and David are both grateful that David, who lost his job at a factory during the COVID-19 pandemic, was recently able to become trained and get a job as a truck driver. Juanita worries about David's mental health as he has a history of depression and alcohol abuse. When he's home, David helps with the kids and seems to really love them – but is often tired and doesn't know much about infant and toddler development and care. Juanita feels uncertain when she leaves David alone with the children, but due to her increased hours as a personal care aide at a nursing home and loss of consistent childcare due to COVID related closures, she's had to lean on David as a caregiver more than she might prefer.

Both of Juanita's pregnancies were difficult and she's worried about being unexpectedly pregnant again. She has healthcare through the state and is grateful for the care both the children and she receive through the public health clinic. Rosa is a happy, high-energy child, but has asthma and has had slow development of her language and fine motor skills. She was identified at 2 ½ years old by her pediatrician as having some developmental delays and referred for services. Juanita contacted the agency she was referred to right away, who told her she needed to fill out a form and mail it into them. She did this, but no one got back to her and then she gave birth to David Jr. She has just contacted the agency again and was told they never received her form and she'll need to complete it again. Also, because Rosa is now 3 years old, there may be a change in her eligibility for services.

David Jr. seems to be doing well, but Juanita hasn't been able to get him to his last two well-baby visits with the pediatrician due to work, transportation, and childcare issues. She worries he may have delays like Rosa and at the end of the day, Juanita is completely overwhelmed trying to manage the complexity of all the paperwork and trying to communicate with multiple staff at multiple agencies.

David Sr. grew up in foster care and his foster parents, Ray and Liliana, live nearby and sometimes watch the kids, but they're both in their 70's and have mobility and health issues. Their relationship with David Sr. has become strained since he and Juanita split. He's staying with a friend when he's in town and although he's earning more money now, he hasn't made plans for permanent housing for himself and hasn't been providing money to Juanita consistently. Juanita's mother, Rosa, and sister, Janelle (16 years), also provide some support, but Juanita's mother has become disabled due to knee and hip issues, and they live in a different part of town. Juanita's car needs new tires and other repairs to pass inspection. She's been driving it only to and from work and is unsure when she'll be able to fix the car. Both Juanita and David were so thankful for the child tax credit which helped them catch up financially the last several months and put Rosa in preschool. Now that it's ended, they are getting overwhelmed by their bills piling up again and Juanita's concerned she may not be able to pay rent or childcare this month. Juanita knows she and David need help organizing their finances now that they'll have two households. They both could benefit from mental health counseling and parent education and are wondering where they can turn to for help. She worries all their stress will bring an end to their dreams to have a healthy and self-sufficient family, one that never needs to be "on welfare". Juanita is very concerned about getting involved with the child welfare system as David was, and what that might mean for them and their children. Juanita wishes she had support to successfully navigate the various systems and resources in her community to get her family what they need. She fears support will come too late, and something more serious will happen to David, the children, or to her.

FUTURE: Fortunately, because of recent systems transformation, policy, practice, and funding changes focused on building a child and family well-being network of services and supports in the Robinson's community—many of the systems created to help their young family are more sufficiently resourced and are operating in a more coordinated, collaborative, and cohesive way. Juanita and David's community has recognized that the community conditions and complexities of navigating essential systems are really root cause problems that make it incredibly challenging for families like theirs to succeed.

In addition, thanks to learning from multiple federally funded projects like CMS's Integrated Care for Kids (InCK), DHHS and DOEs Preschool Development (PDG) grants, and ACF's Community Collaborations to Strengthen and Preserve Families (CCSPF), the community is focused on keeping children with their families and out of foster care.

New approaches to designing and promoting data interoperability, exchange, and analytics in order to support seamless service delivery across health and human services space have occurred—so there are less forms and paperwork for families to complete prior to services beginning. Juanita and David can now enter the door of any program in their community or call 211 and tell their story once. An assessment of need that matches their family for services and supports is immediately done with direct referrals for appointments made to each program. Services are now more available in their local community so getting to and from appointments is easier—and there's more virtual and home-based services they could choose to access along with mobile apps that provide appointment reminders and parenting and child development tips as well as notices about new programs and services. Juanita was also excited about the new mobile well-child clinic that comes through her neighborhood two times a month. She's been able to get David's immunizations updated, have his ears checked and get him a referral for a developmental assessment. Importantly, their family has also been assigned a Family Care Navigator who can work with all family members to set goals, identify opportunities and resources, and provide support and monitoring as long as the family needs it.

At both the federal and state government levels funding for services is being integrated across systems for children PN-3 and their families including maternal and child health, early care and education, family resource centers, housing, financial self-sufficiency, and behavioral health. Data is being collected across the system, from the local level closest to the family's experience, all the way up through agencies coordinating or providing services and government agencies responsible for funding and monitoring service quality and effectiveness. A cross-sector, cross-systems early childhood governance team has been established in the Robinson's community which includes parents, providers, legislators, government officials, philanthropy, business, advocates, researchers, and other stakeholders. They're leveraging a set of equitable and prevention oriented frameworks including the Children's Bureau's Protective Factors Framework, the CDC's Essentials for Childhood, Healthy People 2030, and the Waters of Systems Change to codesign and implement a strategic plan that looks towards a socioecological approach to systems transformation and highlights prevention in the context of organizational, community, and policy systems.

Importantly, the Council's intention is to explicitly address social justice, power dynamics, and relationships needed to elevate and implement health and root cause solutions to improve community conditions and the network of services and supports to ensure young children and their families thrive.

They've named the council **HEALTHY BABIES, HEALTHY FUTURE (HBHF)** and they've established goals related to improving systems coordination and access to and quality of services across the PN-3 arena. HBHF has hired experts to assist them in applying GIS/geomapping techniques, similar to those used to map access points to healthcare, to assess and plan for changes in service access points aligned with the needs of underserved communities. In particular, they're focused on leveraging family resource centers, public health centers, and pediatricians as primary access points for an array of supportive services from childcare to economic assistance, transportation, food and nutrition, parenting education programs and employment supports. They've cocreated a dashboard of community, systems, and child and family well-being indicators that includes data related to community conditions, service access, and equity to help them understand needs and if the redesigned system is working as well as when and where changes may need to occur. A team of local researchers from a historically black college, in partnership with a group national experts intent on building local capacity for evaluation, have just been funded to conduct research on the new Family Support Warmline that's diverting families from the child protection system into community-based resources and supports. With all of these partners working across silos and sharing collective responsibilities for outcomes, prospects look promising for sustained systemic transformation.

Child and Family Well-Being System

System Overview

PRESENT STATE

The community has dedicated public employees and several nonprofits focused on services to support the well-being of children and families. Although budgets are stretched thin, everyone works hard. There are many supports and services available, including a public health clinic, WIC, SNAP, a public housing agency, a family resource center, developmental services, a Head Start program, and public pre-K in the local elementary school. However, services are not coordinated, and residents do not always know how to access them. Employees of the different programs are not always aware of each other or have access to services "outside of their lane." Families need to know where to go for help and need to visit different physical locations and apply separately for each support. Agencies leaders feel they do not have enough bandwidth to coordinate, much less redesign their systems. Like many communities, there is a shortage of childcare for infants and toddlers and many families rely on family and friends to patch together care.

The CPS agency hotline struggles to sort through a steady stream of referrals for families facing eviction, lacking adequate food, healthcare, and other poverty related issues as they investigate a steady stream of abuse and neglect reports and support families who have entered the child welfare system. Last year there was an infant death in a family not previously known to the system. This has prompted deep distress in the community and soul searching within the child welfare system about what could have been done to prevent it.

FUTURE STATE

The HEALTHY BABIES, HEALTHY FUTURE (HBHF), a cross-sector early childhood partnership has been established in Juanita's community, with the goal of transforming the community into a place that ensures they thrive in the first year of life and reduce CPS referrals by 50% within 3 years. After engaging in a highly participatory community consultation process, HBHF developed a plan to address the needs and preferences identified by parents and identified a series of family touch points for connecting families to resources. Working closely with a parent advisory council, HBHF set the following priorities: (1) create a single application process for housing, child care, Head Start, SNAP, and WIC to make it easier for families get the resources they need; (2) work with the state on Medicaid redesign to provide more resources for prenatal care and well-baby supports in the local federally qualified health center; (3) build the supply of quality childcare in the community that can meet parents' need for care during the varied hours they work; (4) offer a universal home visiting for new parents that begins in the hospital after birth; (5) hire navigators and launch a communication campaign to make sure that parents know how to access resources in the community; (6) create parent education and support groups; and (7) build a new playground on Juanita's side of the neighborhood that is accessible and away from heavy traffic. After months of negotiation, human services agencies in the community agreed on a common application form and process. To work on goal #3, the local Head Start program received permission from the federal Office of Head Start to convert some Head Start slots to Early Head Start-child care partnership. HBHF also identified a site for a new playground, worked with the local zoning board to get it approved, and approached the local business council about raising funds for equipment. HBHF conducted a major outreach effort to area birthing hospitals and pediatrician practices to partner on resource referral at significant touch points PN-1 and contracted with local nonprofits to offer more direct access to concrete supports, peer parent parenting education and support groups for parents of infants. Finally, HBHF launched a multipronged communication campaign about the importance of supporting parents in the community and information about how to access resources.

Child and Family Well-Being System

Housing and Environmental Factors

PRESENT STATE

Juanita and the children live in a small two-bedroom apartment on a high traffic street. The children share a room. The building is old, and Juanita worries it may have mold issues. The landlord is threatening to evict her because she is late on her rent. Juanita's sister gave her a stroller so she can take the kids out for walks, but she must cross through high traffic areas to get to the playground. Juanita is afraid to take both kids on her own, so she only goes if David or a friend can go with her. Juanita's rent has just gone up again and she's not sure she can make her next month's rent. David is living with a friend temporarily, and if they don't get back together—he will need a permanent place to live as well so the kids can visit with him in a safe environment.

FUTURE STATE

With a housing voucher, Juanita moves into a larger unit in a better maintained building, farther away from the high traffic street. Prior to the apartment being built, the cross-sector team required a racial equity analysis and studied the racial composition of the new development and whether displacement was likely to occur. She feels more secure in her apartment because she lives in a state with codified tenant protections that grant low-income tenants access to right to counsel in eviction proceedings.

Rosa and David Jr. have their own bedroom separate from Juanita and David who have reconciled since they received counseling from the local mental health center. David and the kids have also been regularly attending a parent support group when David is home with a welcoming group of peer parents. Now he has lots of ideas about how to play with the children and there is more floor space for the kids to play. The new playground will be an easy walk from her new apartment when it is finished. Juanita hopes the new location will help control Rosa's and her own asthma.

Child and Family Well-Being System
Employment and Economic Mobility Factors

PRESENT STATE

Juanita works as a personal care aide in a nursing home earning $15 an hour, but her hours have been inconsistent, and she does not have health care coverage at work. Juanita has gotten a pay increase/differential and is working more hours since COVID but worries they will cut her pay and hours in the future. She returned to work just a few weeks after David Jr. was born. She has a patchwork of childcare options including David's foster parents, her mom or sister and neighbor Kim. She really wants to keep Rosa in preschool. Juanita has a high school degree and some community college credits. She dropped out of community college during her first pregnancy; she was struggling with some classes and didn't have a clear career goal. Juanita and David have a hard time making it to the end of the month.

FUTURE STATE

Juanita works as a personal care aide in a nursing home earning $15 an hour. She returned to work a few weeks after David Jr. was born. With the housing and childcare vouchers, Juanita was able to stop waitressing in the evening and spend more time with her children. In addition, HBHF connected Juanita to a community-based organization that provides free tax preparation and helped her apply for economic support through the Earned Income Tax Credit (EITC) and Child Tax Credit (CTC). She used her tax refunds to purchase a used car and received free car seats from HBHF.

The home visitor told her that she could participate in HUD's Asset Building Family Self-Sufficiency program where she was able to receive additional support like financial coaching, job training and an escrow savings account that increases in value as her earnings grow.

She also gave her information about community college and training programs. She is working with a case manager on a plan to enroll in a part-time LPN program at a community college, where she can take some courses online. After becoming an LPN, Juanita's wage will increase to more than $20 an hour and she anticipates obtaining employer covered health care.

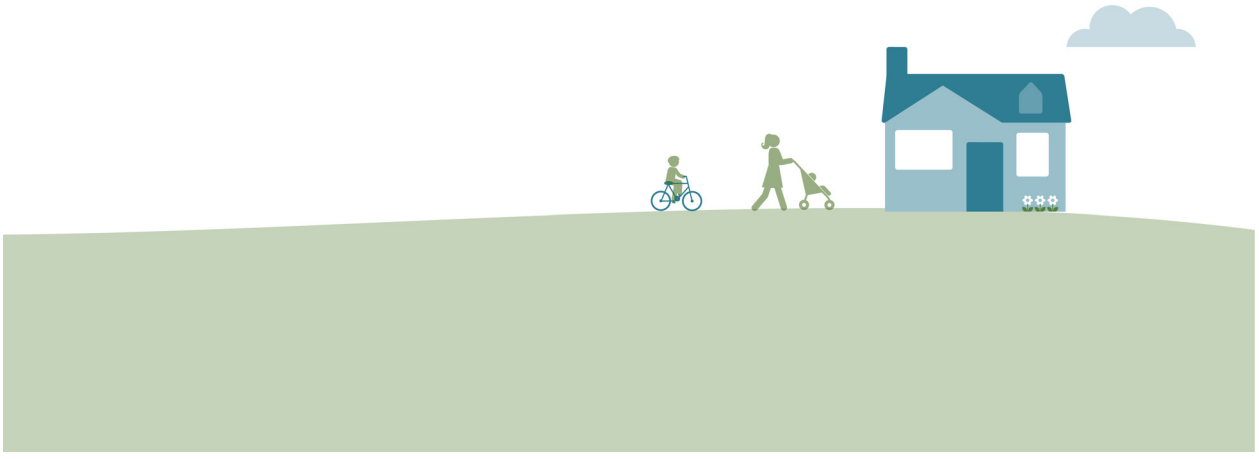
Child and Family Well-Being System
Child Care Factors

PRESENT STATE

Juanita's neighbor Kim, who lives one block away watches her kids 2 – 3 days week. Juanita's mom and sister usually watch the kids one day a week too on Saturday or Sunday, but without a car, Juanita hasn't been able to get the kids there. Her in-laws also help out, especially if one of the kids is sick, but they're not able to commit to a full day of care. So Kim has taken the kids another day a week which is great, because she's been a real support to Juanita. Kim helps Juanita with questions about how to get the kids on a sleep schedule or what to do if they are sick or have an injury. Kim is not a licensed childcare provider, so Juanita pays in cash and cannot get a childcare subsidy. Kim used to be a registered family childcare provider but she dropped out of the system. The red tape got to be too much and she could not find required annual training classes at a place and time she could attend.

FUTURE STATE

Juanita's mom, sister, and in-laws helped take care of David Jr. for the first 6 weeks. The Early Head Start (EHS) program worked with Kim, the home-based childcare provider who had been taking care of Rosa, to become a licensed family childcare partner. EHS helped Juanita apply for a childcare subsidy so she no long has to pay Kim in cash. When David Jr. turned 6 weeks old, Kim began caring for him as well. Through a developmental assessment conducted by EHS, Juanita learned that Rosa has language delay. The program helped Juanita enroll her in a Part C early intervention program. The early interventionist visits Rosa at Kim's day care and helps Juanita with strategies to support her daughter's language development. Juanita's mother and in-laws continue to help when the children are sick and can't go to Kim's day care. Rosa will be going to preschool next year. Juanita and her EHS case manager have started talking about options: pre-k at the elementary school, center-based Head Start, or a combination of part-day Head Start and family childcare at Kim's.



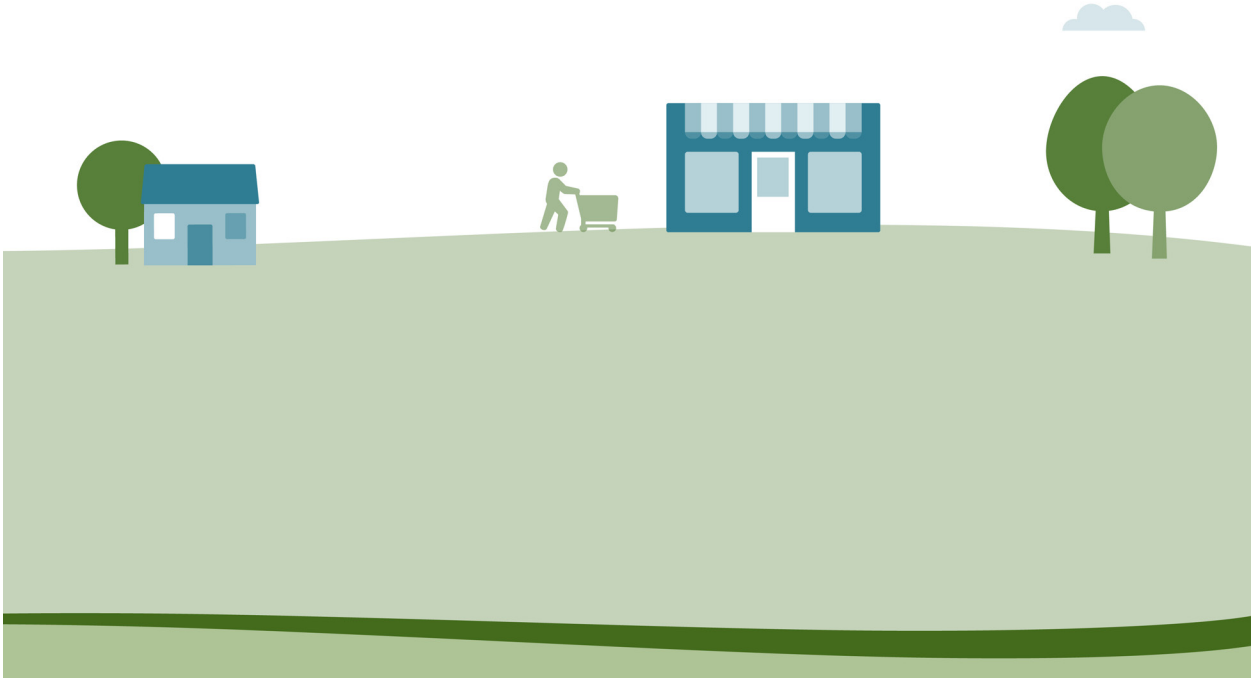
Child and Family Well-Being System
Health and Development Factors

PRESENT STATE

Juanita and Rosa both have asthma. David Jr. has had frequent ear infections and is a little underweight. After Kim brought it up, Juanita wondered if Rosa should be talking more by now. She wasn't sure what to do about it—but finally talked to her pediatrician at the public health clinic during one of Rosa's well-child visits. After lots of appointments and testing, Rosa was diagnosed with developmental delays. Rosa has a lot of energy and sometimes, Juanita can't get her to bed until after 11 pm at night. Juanita has been diligent about making sure her kids have all their immunizations and attend well-child visits at a local public health clinic. The doctors are busy and rushed but they have been helpful in treating her son's ear infections. She's missed the last two well-child visits for David Jr. because of transportation work and childcare issues. The public health clinic got Juanita and the kids enrolled in Medicaid, but David Sr. is uninsured and has not seen a doctor in years. Sometimes he seems depressed and drinks too much.

FUTURE STATE

Juanita and Rosa both have asthma. David Jr. has had frequent ear infections and is a little underweight. Juanita hopes moving to the new apartment away from a heavy traffic road will help with their asthma. Juanita has been diligent about making sure her kids have all their immunizations. She takes them to the public health clinic in her neighborhood, where the family's primary care doctor is monitoring their asthma and David Jr.'s ear infections. At their well-child visits, the pediatrician asks Juanita about their housing, food security, employment, safety, and stress and offers a brochure about the local family resource center and their parent support groups. He also refers her to a nutritionist at the clinic to talk about strategies to address David Jr.'s weight. Through a Medicaid redesign, the clinic now conducts developmental screenings for all children.



Child and Family Well-Being System

Nutrition and Food Security Factors

PRESENT STATE

Juanita receives SNAP benefits and has enrolled David Jr. in WIC, but she's worried about how her COVID pay increases and David's job as a truck driver will impact their eligibility for benefits. Providing healthy food is challenging because there are no grocery stores with fresh fruits and vegetables within walking distance. Because of Juanita's car issues, David borrows his parent's car to drive her to the grocery store twice a month when he is off the road. Juanita's mom, Rosa, helps out by making some meals or giving her a little cash when the family gets low on food. Juanita tried to breastfeed with Rosa, but it became painful so she switched to formula provided by WIC. Because of this, she decided not to try to breastfeed David Jr. and formula just seems to get more and more expensive.

FUTURE STATE

Juanita receives WIC and SNAP, which she applied for with one form. HBHF has worked with the local merchants association to launch a weekly farmer's market in Juanita's neighborhood at the new playground site, increasing her access to fresh food and vegetables. Because the economic support she received through the EITC and CTC allowed her to buy a used car, Juanita can do her grocery shopping outside of her neighborhood where there is greater availability of healthy foods, as well as taking her children to visit her mother and sister.

Child and Family Well-Being System

Parenting, Family Life, and CPS Involvement

PRESENT STATE

Juanita and David both want to do their best for Rosa and David Jr. and help them be healthy, feel safe and secure, and ready school. Rosa finds the kids activities on the internet and sometimes David will try them with the kids. Her sister Janelle has given her some books and toys for the kids too. Juanita is on her own with the children most of the time when David is on the road, making it hard to keep up with work, meals, errands, and sleep. When David Jr. has an ear infection and can't sleep, Juanita feels even more tired. When he won't stop crying she finds it difficult to cope. Rosa started having tantrums about six months ago. She has had meltdowns a few times when David was with the children, and he lost his temper. After this happened in a hall of their building, a neighbor called CPS, and a child protection worker has just reached out to say she needs to come and do a visit with the family.

FUTURE STATE

Juanita continues to juggle work and family life. However, with a better apartment, stable and affordable childcare, and a car, Juanita feels like she is managing, even though she is tired and doesn't always get enough sleep. Through EHS, she has learned about developmentally appropriate behavior, which has helped her to be more patient with her children. She has also received books and ideas for activities to do with them, and tips for dealing with sleep, teething, and other issues. Through HBHF's drop-in parent support group, she's made friends with other moms going through the same struggles. She also enjoys occasional social events for parents and children at the EHS program. David Sr. has participated in Dad Time, community events sponsored by HBHF for dads and their young children. Being a busy parent of two young children is challenging, but Juanita feels like she is coping. She has family and community support and plans for the future.

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