

Merging Local Data to Explore the Experiences and Needs of Children of Incarcerated Parents

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This research was funded by the Annie E. Casey Foundation. We thank them for their generous support and guidance. We also acknowledge that the findings and conclusions presented in this report are those of the author alone, and do not necessarily reflect the opinions of the Foundation, the Urban Institute, or its trustees.

We would also like to acknowledge and thank the three organizations and the dedicated staff who conducted the analyses outlined in this report: Vanessa Bekkouche and Jim Lucht at The Providence Plan, Erin Dalton and LaToya Warren with the Allegheny County Department of Health and Human Services, and Robert Goerge from The Chapin Hall Center for Children.

BACKGROUND

In 2007, the Urban Institute received a grant from the Annie E. Casey Foundation to conduct exploratory research on the impact of parental incarceration and the experiences and needs of affected children. As part of this grant, the Urban Institute supported three organizations which set out to merge local and state level criminal justice and human services data to learn about children of incarcerated parents in their localities. The local partners on this project were The Allegheny Department of Health and Human Services in Pittsburgh, Pennsylvania; The Providence Plan in Providence, Rhode Island; and The Chapin Hall Center for Children in Chicago, Illinois. The purpose of the work was to learn more about the impact of parental incarceration, as well as to explore the possibilities for using criminal justice and human services data to understand the population of affected children.

This report presents findings and lessons learned from the three sites. It begins with a discussion of the datasets obtained by each site and how they were linked, followed by a review of the analyses conducted and the sites' findings on children of incarcerated parents in their jurisdictions. The report closes with a discussion of the possibilities and challenges involved in merging and analyzing administrative data on this population.

THE DATASETS AND DATA LINKING

Several types of administrative data provide information on children and families affected by incarceration, and linking multiple datasets can produce a more comprehensive view of the experiences of these families than can any one dataset alone. The three sites in this study drew on varying data sources depending on what was available and suited to their analytic needs. Using techniques that will be discussed in the sections below, they linked records for the same individual across multiple datasets and linked parents to children using records that contained information on both parties, thereby pulling together multiple pieces of data to present a fuller picture of these families.

The obvious sources for data on incarcerated parents are criminal justice agencies such as state and federal corrections departments, local jails, probation and parole agencies, law enforcement agencies (which often maintain data on arrests), and the courts. These agencies hold data on the criminal histories of incarcerated parents as well as additional information such as demographic characteristics and education, employment, and substance abuse histories. Unfortunately, criminal justice agencies rarely track data on the children of those under their supervision. However, data on the children and families of individuals involved in the justice system can be found in any number of other government sources, including birth records, child welfare data, school records, and datasets that track the use of human services (mental health services, for example) and social benefits (TANF, Medicaid, etc.).

Determining which datasets to use involves considering what data are available, how reliable the data are, how they can be linked with other datasets, and how useful they are

for the types of analyses one is trying to conduct. For example, all three sites in this study restricted their analyses to incarcerated mothers because they could not locate datasets that consistently and reliably linked incarcerated fathers to their children. The sites looked at various types of criminal justice involvement – prison incarcerations, jail bookings, arrests – and a range of outcomes for the mothers and their children depending on the available data in their jurisdictions. Below we describe the data used by each site and how the datasets were linked.

Pittsburgh

The Allegheny County Department of Human Services (DHS) maintains an integrated data warehouse that tracks local data from a large number of sources and provides an ideal foundation for the type of analysis undertaken for this project. The data warehouse currently contains more than 15 million client records from ten independent data sources. It houses data on criminal justice involvement (state prison, local jail, probation and parole, and juvenile probation); child welfare cases; use of county human services including drug and alcohol treatment and mental health services; and receipt of public benefits. The data are linked using a complex, customized algorithm that has been continually refined in the years since the system was introduced in 2001. The warehouse is updated daily with new records, which are matched to existing data using first name, last name, date of birth, race, gender, and social security number. The system uses a probabilistic matching method similar to the one described below for Chicago.

For this project, the DHS researchers focused on the following subsets of data within the existing data warehouse:

- Bookings to the Allegheny County Jail, January 1988-May 2007;
- Child welfare cases from the DHS Office of Children, Youth and Families, 2001-2004; and
- Involvement with the juvenile justice system, as tracked by the Juvenile Probation Office, 1980-2007.

Providence

The Providence Plan used two state-wide datasets for this project:

- Incarceration data from the Department of Corrections (DOC), 2004-2007; and
- Birth records from the Department of Health (DOH), 1997-2005.

Unlike the other two sites, Providence identified the children of incarcerated individuals through birth records rather than administrative datasets such as child welfare or social services records. By using this approach, they captured a broader swath of the population, including children who have not had contact with the welfare or child welfare systems. The researchers linked women who were incarcerated to their children in the DOH birth records by matching the first and last names and the dates of birth of the mothers and children.

Chicago

Chapin Hall maintains an Integrated Database on Children's Services in Illinois (IDB) that combines several administrative datasets obtained from government agencies in the state. The IDB includes data on child welfare, juvenile and adult criminal justice involvement, education, employment, and receipt of benefits from social programs such as TANF and Medicaid. Individuals are linked across datasets and over time; individuals are also linked to others in their families/households when that information is available. Records are linked using a probabilistic matching method conducted by a specialized software program. This method compares multiple pieces of identifying information between two records, including name, social security number, birth date, gender, race/ethnicity, and address, and then calculates the probability that the two records refer to the same individual. Comparisons that exceed a certain threshold of probability are designated as a match.

For this project, the Chapin Hall research team drew on the following data elements from the IDB:

- Arrests, Illinois State Police, 1990-2005;
- Incarcerations, Illinois Department of Corrections, 1990-2001;
- Foster Care Cases, Illinois Department of Children and Family Services, 1976-2005; and
- Abuse and Neglect Allegations, Illinois Department of Children and Family Services, 1976-2005.

ANALYSES AND FINDINGS

After obtaining and merging the datasets, each site identified a sample of children and parents from the data and conducted analyses to explore the experiences of these families. The sites' analyses and findings are discussed below.

Pittsburgh

The research team from the Allegheny County Department of Human Services (DHS) focused their analysis on children in foster care whose mothers had a history of bookings in the Allegheny County Jail. A "booking" in the jail means that an individual was arrested and was incarcerated in the jail for a period of time ranging from a few hours to several months or more. For the purposes of our discussion we will consider these women to be, "incarcerated mothers," – which they are – but the reader should be aware that this incarceration could be as little as a one-time stay of a few hours or less. While for some mothers incarceration may be a brief, isolated event, in many cases it seems to be an indicator of a larger pattern of ongoing involvement in the criminal justice system, as evidenced in the discussion of the mothers' booking histories below.

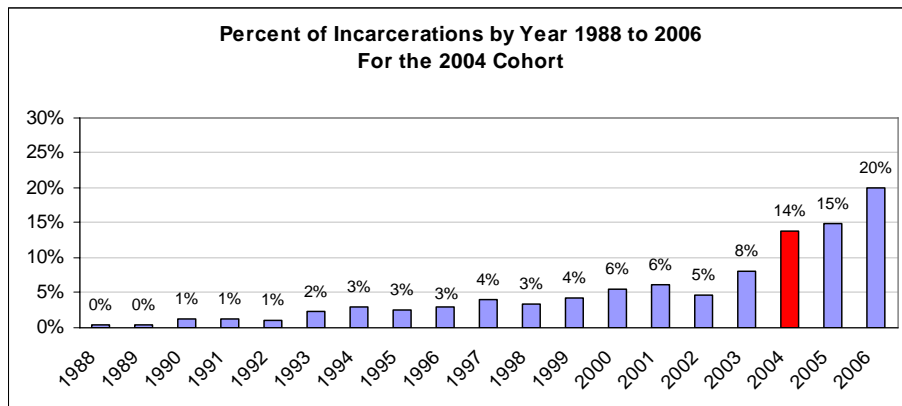
The DHS researchers examined a sample of 4,109 children who were first placed in foster care in Allegheny County between the beginning of 2001 and the end of 2004. 702 (17%) of these children had a mother who was booked in the Allegheny Jail at least once

between January 1988 and May 2007, indicating a significant overlap between the populations involved in the child welfare and jail systems.¹ Interestingly, the share of children with a history of maternal jail involvement steadily increased during the four-year period, from 14% in 2001 to 21% in 2004, suggesting that an increasing number of children in the Allegheny County foster care system have a history of maternal incarceration.

Looking at the 2,823 mothers of children placed in foster care between 2001 and 2004, the researchers found that 455 (16%) of these mothers had a history of bookings in the jail. The mothers had an average of eight bookings over the nineteen and a half year period covered by the data. Nearly half (44%) of the charges involved in these bookings were for misdemeanors, 17% were for drug-related offenses, and 7% for prostitution. Less than 1% of the bookings involved violent felony charges.

Taking a detailed look at the combined jail histories of these mothers, the researchers found that the number of bookings increased steadily in the years before foster care placement, spiked in the year of placement, and continued to rise in the years after placement. Figure 1 below shows the distribution of jail bookings for mothers whose children were first placed in foster care in 2004, demonstrating the pattern just described. Similar to findings from a study of incarcerated mothers in New York City, this pattern suggests that in many cases the children entered foster care, “at a time when the mother’s criminal activity had increased and she was no longer able to care for her children. The downward spiral then continued after the child’s placement.”²

Figure 1: Distribution of Jail Bookings of Mothers with Children Placed in Foster Care in 2004



For each mother-child pair, the research team identified the jail booking that occurred closest in time to the child’s foster care placement. In three-fifths of cases the jail booking closest in time to the child’s placement occurred after the placement, not before.

¹ The jail histories of the mothers are explored in further detail below, but it should be noted that the booking may have occurred before, during or after the child’s foster care stay.

² Ross, Timothy, Ajay Khashu and Mark Wamsley. 2004. *Hard Data on Hard Times: An Empirical Analysis of Maternal Incarceration, Foster Care, and Visitation*. New York, NY: The Vera Institute of Justice.

65% of mothers with a jail history had a booking within one year of the child's placement, split almost evenly between one year before (29%) and one year after (36%) the placement. 42% had a booking within three months of the child's placement, again split fairly evenly between before and after the placement. A significant number (24%) were first placed in foster care while their mother was in the jail, suggesting the possibility of a direct relation between the incarceration and the placement in these cases.

The DHS team also compared the children placed in foster care between 2001 and 2004 whose mothers had been booked in the jail to their counterparts placed during the same years whose mothers did not have a history in the jail system. The latter group of children provide a good comparison group for examining the impact of maternal incarceration because their involvement in the child welfare system indicates that they are likely to have similar disadvantages (poverty, family instability) as those children with a history of maternal jail involvement. Indeed the groups are matched in terms of race and gender, although the children of incarcerated mothers are statistically more likely to be younger (under age 12). A geographic analysis shows that the children of incarcerated mothers come largely from the same communities as those without incarcerated mothers, with about two-thirds from each group living in "communities of disadvantage" as defined by the Casey Foundation's Kids Count project.³

Looking at foster care outcomes, the research team found that the children of incarcerated mothers were statistically more likely than their counterparts with no maternal incarceration to have adoption as their ultimate placement goal.⁴ They were also statistically more likely to be placed in a foster home (78% versus 56%) and less likely to be placed in a group home (14% versus 31%). These patterns suggest the possibility that maternal criminal justice involvement affects how foster care cases are handled.

Interestingly, adolescents with a history of maternal jail stays are actually less likely than their counterparts to have a record of involvement in the juvenile justice system.⁵ While overall 21% of children age 12 and older who were placed in foster care were involved in the juvenile justice system, only 11% of foster children with a history of maternal incarceration were. These findings are statistically significant. Unfortunately none of the analyses conducted to date suggest a reason for this difference.

Providence

Researchers from the Providence Plan began their analysis by examining the population of women incarcerated in Rhode Island between 2004 and 2007, using data from the DOC. They found that the majority (70%) of female offenders in Rhode Island are white, 19% are African American and 10% are Hispanic. Over half (53%) the women are

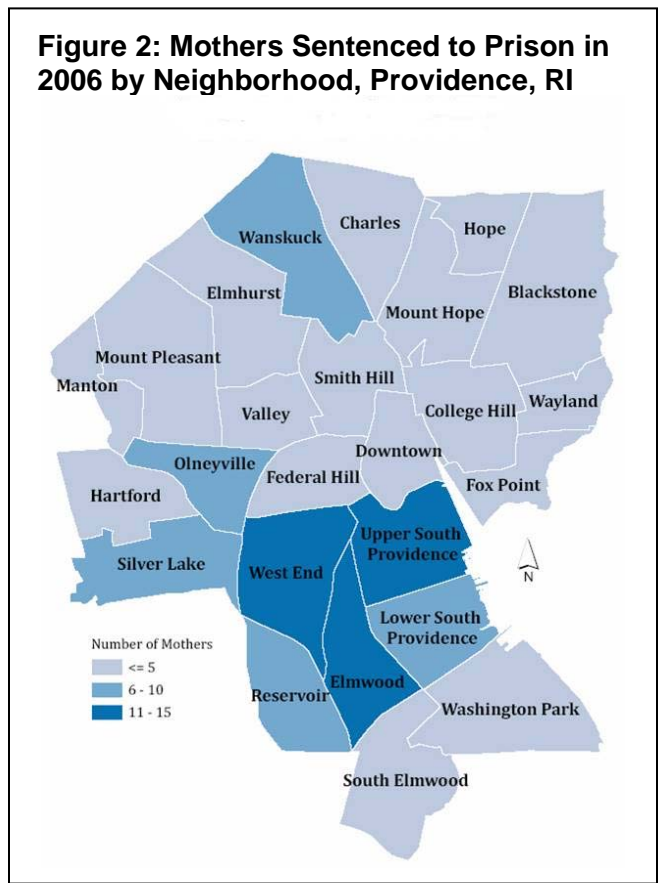
³ O'Hare, William and Mark Mather. 2003. *The Growing Number of Kids in Severely Distressed Neighborhoods: Evidence from the 2000 Census*. Baltimore, MD: The Annie E. Casey Foundation,

⁴ It should be noted that there were a significant number of cases in both groups for which data on the ultimate placement goal was not available.

⁵ An adolescent's involvement in the juvenile justice system may have come before or after his or her mother's jail involvement and his or her foster care placement.

incarcerated for non-violent offenses and the majority (63%) have at least a high school education. 75% of female offenders report having children and the average number of children reported is 1.8.

Still working with the DOC data, researchers mapped the locations of the female inmates sentenced in 2006 who reported having children and reported residing at a Providence address prior to incarceration (see Figure 2 below). They found that 41% of Providence mothers sentenced in that year came from four Providence neighborhoods – West End, Elmwood, Upper South Providence, and Lower South Providence – even though these neighborhoods hold only 22% of the city’s overall population. In addition to incarceration, the four neighborhoods are also disproportionately affected by poverty and low levels of education.



For the next phase of the analysis, the women in the DOC dataset were linked to Rhode Island birth records, resulting in a population of 303 women incarcerated between 2004 and 2007 who were mothers to 473 children born between 1997 and 2005.⁶ While the majority of these children, like the majority of female offenders in Rhode Island, are white, the children are statistically more likely to be African American than the general population of children born during the same time period (20% vs. 7%). This suggests that African American children in Rhode Island are at greater risk of having their mother incarcerated.

The researchers examined the birth histories of children whose mothers were incarcerated and compared them to children born during the same time period whose mothers

were not incarcerated (at least not during the period covered by the DOC data). They found that children of incarcerated mothers were:

- Born to younger mothers;
- Statistically more likely to be born to teen mothers and to single, unwed mothers;

⁶ The Providence research team also linked the children of incarcerated mothers in their sample to education data from the Providence Public School District. However, this linking resulted in a small sample size and the representativeness of the sample was difficult to determine. For these reasons, that analysis is not included in this report.

- Statistically more likely to have received delayed prenatal care, defined as first receiving care after the third month of pregnancy; and
- Statistically more likely to be born at a low birth weight (under 2500 grams).

More detail on these findings is presented in Figure 2 below. The Providence research team chose to focus on the birth factors described above because they have been linked to developmental outcomes. Their findings suggest that many Rhode Island children whose mothers are incarcerated have faced developmental challenges from the time of birth, indicating that maternal incarceration is associated with other child risk factors that may begin well before the incarceration itself.

Figure 3: Characteristics of Children Born in Rhode Island, 1997-2005		
	Children whose mothers were incarcerated 2004-2007 (n=473)	Children whose mothers were not incarcerated 2004-2007 (n=120,427)
African-American	20%	7%
Mother's age at birth (median)	24 years	29 years
Mother was a teenager at time of birth*	16%	8%
Mother was not married at time of birth*	83%	34%
Child received delayed prenatal care*	38%	16%
Child was born at a low birth weight*	14%	8%
* Statistically significant at the .01 level ($p < 0.01$).		

Chicago

Chapin Hall focused its analysis on women who had an arrest in Illinois between 1990 and 2005 and were the mother of a child listed in the social benefits or child welfare data in the IDB. In order to be able to analyze full adult criminal and child welfare histories, Chapin Hall limited its analysis to a subset of these women who were age 18 or younger on January 1, 1990 (the earliest date for which Chapin Hall had arrest data) and who did not have a child in foster care prior to January 1, 1990. This resulted in a final sample of 2,401 mothers with arrest histories who were mothers to 5,691 children.

The research team set out to explore the criminal and child welfare histories of these mothers, and how the two histories intertwined.⁷ They found that in a third of cases where children were placed in foster care, they were placed prior to their mother's first arrest, while in two-thirds of cases they were placed after her first arrest. For the latter

⁷ The analysis does not include juvenile arrest or incarceration histories, but by limiting the sample to women age 18 or younger at the start of the data, it captures virtually all adult arrests and incarcerations.

group, mothers experienced an average of three arrests before their children were first placed in foster care and this first placement occurred an average of five months after the last prior arrest.

These findings suggest that, for at least a sizeable share of children with mothers involved in the justice system (the third whose placement occurred prior to the mother's arrest), foster care placement is not directly related to arrest or subsequent incarceration. For those cases in which these events may be related, multiple arrests are likely to occur before a child is placed in foster care. When placement does occur, however, the fact that it occurs relatively soon after an arrest indicates the possibility that the placement may be related to the arrest or other family disruption that occurs around the time of the arrest or in its aftermath.

Further analysis indicates that for 41% of the mothers in the sample who were reported for abuse or neglect of their children, the first abuse/neglect report occurred prior to their first arrest, on average two years prior. This indicates that when abuse and neglect occurs, it often occurs well before any criminal justice system involvement of the mother.

Looking at incarceration histories, the research team found that two thirds of placements of children of incarcerated mothers in the sample occurred prior to the mother's first incarceration. On average these children were placed more than a year prior to the incarceration. In the other third of cases, children were first placed in foster care after their mother's first incarceration. On average the mothers in this group were incarcerated twice before their children's first placement and again there was more than a year between the most recent incarceration and the foster care placement. These findings suggest there is not an immediate temporal link between incarceration and foster care placement. The fact that multiple incarcerations may occur before a child is placed in foster care also suggests that the relationship between incarceration and foster care placement is not a direct one.

While in some cases child welfare issues such as foster care placement and abuse and neglect allegations may be related to arrest or incarceration, for a sizeable number of mothers involved in the justice system these issues surface before their first arrests or incarcerations. Other justice-involved mothers, of course, are never involved in the child welfare system.

The Chapin Hall researchers also conducted a broader analysis of the 14,321 women who were incarcerated in Illinois between 1990 and 2001. Four-fifths of these women reported being mothers and they reported having an average of three children (the data do not distinguish between adult and minor children). 3,783 women – a fourth of the incarcerated women and a third of those who reported being mothers – had children in foster care at some point in time between 1976 and 2005 (according to matches in the IDB). Likewise, a third of the children of women incarcerated in Illinois entered foster care at some point between 1976 and 2005. In comparison, less than one percent of all Illinois children enter foster care during their life, although the rates for certain at-risk groups are likely higher.

POTENTIAL FOR USING ADMINISTRATIVE DATA TO LEARN ABOUT CHILDREN OF INCARCERATED PARENTS

As the analyses described above demonstrate, the linking of state and local administrative datasets provides enormous opportunities for exploring the experiences and needs of children with incarcerated parents, particularly incarcerated mothers. Because many criminal justice agencies maintain data on their clients but not their clients' families, and many social service agencies do not track the criminal justice involvement of their clients or their clients' parents, in many cases linking datasets is the only way to obtain a complete picture of the criminal justice, child welfare, and social service involvement of these families. From the experiences of the three sites, it is clear that several factors must be taken into account when undertaking a project similar to those described in this report. We discuss some of the key considerations below.

Obtaining Data

Any project that involves obtaining administrative data requires building relationships with potential data providers. Developing trust with agencies that hold data is even more important for this type of project because some of the data (such as child welfare records) is incredibly sensitive and pertains to children, a vulnerable population. Memorandums of Understanding or other formal agreements may be necessary before an agency is willing to share data.

The decision on what data to use should take into account what are available from local agencies and how reliable these datasets are. As the three sites in this study found, it is much easier to link data on incarcerated mothers than incarcerated fathers. Many of these fathers have limited involvement in their children's lives prior to incarceration. This lack of involvement, combined with an overall bias on the part of a variety of agencies to track data on mothers but not fathers of their clients, mean that fathers may not show up in any records linking them to their children, even birth records.

Researchers should also attempt to gauge the quality of the data they are obtaining. Some agencies may track data on children, for example, but this may be done inconsistently and large portions of the data may be missing. Many datasets use self-reported data, which can be inaccurate. One advantage of merging across datasets is the ability to use different data sources to validate each other in cases where data fields are available in multiple datasets.

Merging and Analyzing Data

There are several methods for matching records from different datasets, from direct matching on specific pieces of identifying information to complex matching algorithms and probabilistic matching approaches. Any method is likely to involve some error. Researchers should be aware whether the method they use is erring on the side of matching records that may not actually belong to the same individual or is more conservative and may be missing records that are actual matches. An additional concern

is that for each data linking step undertaken, a portion of the records will not match and therefore the sample size will be reduced.

Establishing a proper chronology of events is also important. Sites had to determine which years of data to use and how to address the inherent limitation that certain pertinent criminal justice and child welfare events might have occurred before or after the available data. They did this by making these limitations explicit, obtaining the greatest time period of data available, and, in the case of Chicago, by selecting a cohort from the available data.

Any analysis should recognize that there are inherent limitations when working with administrative data. First and foremost, arrest and incarceration records do not capture all criminal involvement. Thus, parents with no history of arrest or incarceration may still be involved in crime and at risk for future justice involvement. In addition, there will always be children who do not show up in any of the available datasets. For example, using state birth records to identify children of incarcerated mothers captures a large portion of children, but misses those who were born out of state. In some cases, the children who do not show up in the data may be those who are doing better; for example, they may be those who are not receiving public benefits or involved in the child welfare system. There is also the possibility that if a mother is out of the child's life by the time of a given record, she may not be listed as the parent.

CONCLUSIONS AND FUTURE POSSIBILITIES

The three sites involved in this project conducted distinct analyses based on the data that were available and pertinent to their research questions. They used different measures of criminal justice involvement and explored different outcomes. These analyses produced a range of findings, including some that were seemingly contradictory across sites. Both Pittsburgh and Chicago found a substantial overlap between families involved in foster care and those involved in the justice system, suggesting that these families face multiple challenges. They also learned that mothers with a history of criminal justice involvement typically have multiple arrests, jail bookings, and incarcerations, usually for minor offenses. The findings from these two sites differ, however, with regard to the temporal gap between criminal justice involvement and foster care placement. While Pittsburgh's analyses indicate that jail bookings occur close in time to a child's placement in foster care, Chicago's work suggests a greater period of time between arrest and incarceration events and foster care placement. The exact relationship between a mother's arrest or jail history and her children's placement in foster care is still unclear; however, both sets of findings suggest that an arrest or jail booking does not automatically and immediately result in foster care placement, and that placement may occur for other reasons.

Providence conducted a somewhat different analysis, attempting to capture a cross-section of the entire population of children with incarcerated mothers, not just those involved in the welfare or child welfare systems. They found that when compared to other children, the children of incarcerated mothers faced substantial challenges, such as coming from low-income neighborhoods. These challenges were present from birth, as

children of incarcerated mothers were likely to have a range of birth characteristics associated with developmental and economic challenges, such as being born at a low birth weight or to a teenage mother.

While the findings from each site cannot necessarily be generalized to the national population of children with incarcerated mothers, they raise some interesting questions. They certainly suggest a need for communication between the many agencies that may touch the lives of a single family. They also suggest that early interventions targeting high-risk families could prevent a range of negative outcomes for those families, including incarceration and foster care placement. The distinct findings of each site also suggest the importance of these types of analyses being done at the local level. Each city and state has different laws governing the justice system, the child welfare system, and related agencies, and these differences may lead to different patterns of criminal justice and social service involvement among families. Finally, the challenges encountered by the sites highlight the need for agencies to collect more detailed data on the families of their clients and their experiences with other parts of the system. Criminal justice agencies, for example, should collect detailed data on inmate's children. This information can aid in the quest of researchers, policymakers, and practitioners to better quantify, describe, and meet the needs of this important and vulnerable population.