

E5: Using Administrative Data to Examine Workforce Dynamics in Michigan, Illinois, and Louisiana

Thursday, June 29, 2023

1:45 p.m. – 3:00 p.m. | Potomac

1. Descriptive Information

E5: Using Administrative Data to Examine Workforce Dynamics in Michigan, Illinois, and Louisiana

This session will examine how state and local administrative data can be analyzed to describe workforce dynamics in early child care and education. Project teams from three states (Michigan, Illinois, and Louisiana) will describe their use of administrative data sets, including those related to unemployment insurance, Quality Rating Improvement Systems, and workforce registry, and will discuss the strategies employed to gain access to these data sets and bridge them effectively. Presenters will describe how constructs such as recruitment, retention, and turnover can be operationalized from administrative data sets and used to answer novel research questions such as the following: In Michigan, what is the relationship between staff shortages and turnover and child care quality? In Illinois, what industries do individuals work in before and after leaving child care, and how do their wages compare to initial child care wages? In Louisiana, how widespread is turnover and to what extent does turnover compromise statewide improvement efforts? The presenters will candidly address the limitations associated with each data set, allowing attendees to understand their applications and implications. This session will also offer valuable findings that highlight challenges and opportunities for other agencies in developing their own administrative data systems.

Presenters

Rebecca Frausel, Public Policy Associates

Rebecca Ullrich, Virginia Department of Education

Daphna Bassok, University of Virginia

Hyein Kang, Chapin Hall at the University of Chicago

Scribe

Jeremy Long

Number of Attendees: 21

2. Documents/Presentations Shared (Please list any electronic documents, PowerPoint presentations, or web links used during the session.) **Collect presenter PowerPoints or other documents on the flash drive provided.**

CCEEPRC_2023_AdminData_CG_RF

BASE CCEEPRC slides ILUI wages analysis

Bassok_CCEPRP_Final

3. Brief Summary of Presentations

- **Summary of Presentation #1: The Interdependence Between Staff Turnover and Child Care Quality Improvement in Michigan**
- Fairly recently, Michigan implemented its innovative “next generation” QRIS model, with two major goals: first, to encourage participation in the QRIS, especially for home-based care providers, and second to promote equity in the system by factors such as provider type, geography, type of care needed by parents, and children served with respect to race/ethnicity and age.
- These changes were implemented on February 1 of this year and include a reduced emphasis on staff credentials as an indicator of quality in favor of classroom observations to validate self-reported quality indicators, as well as a greater focus on quality improvement and program support. If you’re interested in learning more about the changes, I’ve included a URL on the slide which will provide a more detailed comparison on what changed.
- The focus of our study is first, to examine the implementation and impacts of this QRIS model on key stakeholders, including providers and parents. Michigan is one of the first states to implement a more simplified

QRIS that relies more on classroom observations to measure quality and that emphasizes quality improvement. Our study will analyze the implementation of this system and the state's success in meeting its goals of greater participation and equitable access.

- A second focus of the study is to leverage recent improvements in Michigan's child care workforce data system in order to examine how staff turnover can mediate quality improvement.
- The research partnership will examine the implementation and impact of Michigan's innovative, "next generation" QRIS model that is designed to remedy the inequities and reduce the barriers of the traditional system, and at the same time to encourage and support the engagement of *all* providers in a validated quality improvement process to the benefit of all system stakeholders. Michigan is one of the first states.
- With a simplified rating structure, a greater focus on support for programs and ease of access, and a reliance on classroom observations to validate self-reported quality indicators, this new system aims at incentivizing more providers—in particular home-based child care providers (HBCCs)—to enter the QRIS and support them in reaching high levels of quality. It also aims to promote greater equity in the system by provider type, geography, racial/ethnic subgroup, age group, and type of care needed by parents.
- First, a careful analysis of the implementation of this system and the state's success in meeting its goals will yield useful insights about the viability of this approach and challenges in enacting this a "next generation" QRIS. While Markowitz et al.'s (2020) recent study suggests that a simplified QRIS relying on classroom observations to measure quality has promise, and an emphasis on quality improvement has been cited as a key improvement for QRIS (Cannon et al. 2017), Michigan is one of the first states to actually adopt such a system.
- The Michigan Department of Education also administers MiRegistry, which is the workforce registry of early child care and education professionals in Michigan.
- Michigan has recently revised its MiRegistry system, and some of the changes include a requirement for all child care workers to report health and safety training, and for all licensed ECE workers to report education, credentials, and training to the state.
- MiRegistry also serves as the portal enabling ECE professionals to register for professional development opportunities that might be required for their role.
- And the system also allows organizations, such as providers, licensing consultations, and Great Start to Quality (GSQ) validators to access these records. Child care staff and child care providers are linked, which makes it possible to examine staff retention and turnover by provider.
- Staff self-report employment so employers can access records.
- Crucially, the MiRegistry system and the Great Start to Quality systems are connected; for licensed child care programs to participate in the QRIS, each program must have an organization profile, and qualification information for each educator must be in MiRegistry.
- This makes it possible to examine staff retention and turnover by provider, and link that with their quality improvement plans.
- As we're all very aware, turnover in the child care sector is quite high, and staff turnover may have an impact on a provider's efforts to improve and maintain their quality.
- New staff members may require time to acclimatize their roles and become fully effective in implementing the planned improvements. Additionally, turnover may disrupt the continuity of efforts, as progress made by previous staff members may need to be restarted or adjusted by new team members. With staff turnover, there also comes the loss of institutional knowledge.
- There have been previous studies of how quality improvement relates to staff turnover using administrative data, but most of this research has been restricted to center-based providers. Using MiRegistry allows us to extend this research base to include home-based providers.
- You might be wondering—how can there be turnover at a home-based care provider? Michigan's licensure system classifies two different types of home-based providers: Family homes, where 1 caregiver provides care for up to 6 children, and group homes, where 2 caregivers provide care for up to 12 children. So not all home-based providers are single proprietor and may also be exposed to problems of staff instability.
- To describe some of the steps we followed for administrative data access. First, it's crucial to develop collaborate partnerships with state agencies, and we've been lucky at Public Policy Associates to have fantastic collaborators at our partner agencies who understand the power of their administrative data to add to the base of child care research. Second involves an examination of the feasibility of the available administrative data to

answer research questions. For us, this involved carefully examining codebooks state agencies might maintain for their administrative data, or if that's not feasible to examine the data fields available, and our state partnerships were also crucial in connecting us with this information.

- Third is to work together to create a data share agreement, which is the formal contracts describing what data are being requested and how the data will be used. Finally, it's important from the research perspective to prepare for contingencies in case the data do not match exactly what was expected. Preliminary analyses of administrative data can be conducted to understand the adequacy of the administrative data to answer research questions, and researchers might have to work with the state agency or the funder in case revisions to the analysis plan are required.
- To give a sense of our timeline, our grant was awarded last October, the revised QRIS was implemented in February, and by March the data share agreement had been developed and signed by all parties. As of this month, we're still working with the state agencies to get full access to the administrative data. In the meanwhile, of course, we've been doing work on some of our other methods streams related to this project.
- The data we are requesting from MiRegistry is in the left column, and the data from Great Start to Quality relating to the QRIS is on the right.
- MiRegistry, as I mentioned, has profiles both for providers (the organizations) as well as for employees (the staff). Each provider and staff member is assigned a unique ID. The employee profile will follow that individual throughout their ECCE career and houses information on education, certification, training, etc. The Provider profile includes information on provider type and children they're eligible to provide care for, as well as all their staff.
- The GSQ data also operates at the provider level, and includes all the QRIS information, including the star rating (or, as it's known under the new system, the quality level), the date the level was published, when it expires, and all the sub/domain scores that contribute to determining the provider's quality level.
- For our project, we requested the MiRegistry data since the enhanced requirements kicked in, in 2022, until the end of the project, in 2026. For GSQ, we requested more historical data, from 2014-2022 under the old QRIS, and from 2023-2026 under the revised system.
- Employees self-report their employment information in MiRegistry for verification of credentials, so this linkage, between providers and employees, enables us to examine retention and turnover by provider.
- The provider information is linked across the MiRegistry and GSQ systems, which allows us to examine how quality and quality improvement varies by provider, but also how staff turnover can mediate quality improvement plans.
- There are some advantages to using administrative data to study issues of turnover. Because MiRegistry is required for all licensed providers, the large sample size allows us to compare these different groups, not only with respect to whether changes in the QRIS impact different types of providers differently, but also to examine how staff turnover differentially impacts different types of providers.
- The limitations that I'll address really relate to how the observation period is limited by the availability of administrative data and rules regarding how it's governed, so, for example, we're limited in our ability to examine staff turnover prior to 2022 when more stringent rules were put in place for MiRegistry. And we're also waiting for full implementation of the revised QRIS; provider ratings are valid for 2 years, so as we start to get further away from the February 2023 implementation date, we'll start to see more impacts of the revised QRIS on quality ratings.
- The large sample size (only possible using administrative data) allow small program effects to be more easily detected, and permit effects to be estimated for different groups.
- While we're still in the preliminary stages of gathering the administrative data, we're pursuing other research activities, including primary data collected with providers, parents, and those involved in the implementation of the revised QRIS. Through a combination of administrative and primary data, our aim is to paint a holistic picture of how the revised QRIS is impact families and providers in Michigan.
- **Summary of Presentation #2: CCEE Workforce Retention and Turnover Trajectories in Illinois**
- The BASE project is sponsored by Office of Planning, Research, and Evaluation with a contract awarded to MDRC. MDRC is leading the BASE project with partners: MEF Associates, Chapin Hall, and Decision Information Research, Inc. We also are working in collaboration with Erikson Institute and Butler Institute and Daphna

Bassok, Diana Schaack, Aisha Ray, Debra Pacchiano, Juliet Bromer, and Amy Roberts with strong substantive expertise in home-based child care, CCEE working conditions, the pipeline into CCEE, mental health, and racial equity in CCEE.

- The BASE project is designed to:
 - 1. increase knowledge and understanding of factors that drive turnover in CCEE; and
 - 2. document evidence on current initiatives to recruit, support, and retain a stable and qualified CCEE workforce.
- Early project activities include a literature review, scan of existing strategies, and a scan of available data sources.
- Environment scan: to understand the landscape of strategies and initiatives currently underway that aim to build, retain, and advance CCEE workforce
- Data scan explores the potential of data to speak to knowledge gaps and identifies data that could help develop a deeper understanding of CCEE workforce dynamics to contribute to existing research and enable policy makers to devise more effective strategies to support the CCEE workforce
- Three data sources assessed in data scan include:
 - Unemployment Insurance (UI) wage data in Illinois,
 - Workforce registry data from Montana, and
 - Linked registry, wages, post-secondary, and other data sources from Colorado
 - Briefs on all three of the early project activities will be published in the next few months.
- These are the knowledge gaps identified by the BASE literature review and environmental scan.
 - Workforce dynamics: encompass entry into and exit out of the CCEE field. It includes tenure and advancement, as well as entry and exit into different roles, settings, and types of care. Workforce dynamics include multiple phases of employment: entry, retention, turnover, and advancement.
- We can't identify role of individuals in the UI wage data -- limited data contents keep us from addressing some knowledge gaps here without linking to other data sources
- In this analysis we're focusing on the first knowledge gap by looking at:
 - What happens to workers over time?
 - What do overall workforce dynamics (entry into, exit from, path through the field) look like?
- For this analysis, we use quarterly unemployment insurance wage data from the state of Illinois, covering quarter 1 of calendar year 2005 to quarter 4 of calendar year 2021. Employers are required to report total quarterly wages to the state UI system, which includes over 90 percent of all jobs.
- This presentation is about an analysis of UI wage data from Illinois but it's important to note that UI data are extremely similar across states, so what the analysis I'll describe here could be replicated in other contexts. We worked with Illinois because we had an existing partnership with the Illinois Department of Employment Security that helped make this analysis possible on a short timeline.
- At the employer level, UI wage data has employer names, ID, industry code, number of employees per quarter, employer primary address and county code, total wages paid per quarter. The industry code allows us to identify an employer primarily engaged in providing childcare services.
- At the employee level, the data has hashed SSN and total wages earned per quarter by employer, so we can distinguish between wages from multiple jobs for the same person. Hashed SSN is a unique identifier for each worker – which allows us to track workers over time
- However, the UI wage data also has some limitations. The data doesn't show hours worked or weeks worked, full-time/part-time status, only total quarterly wages. We also do not have information on workers' role, or title, or occupation, which makes it difficult for us to identify whether a worker is a teacher or an admin staff member.
- Our analyses all use cohorts of CCEE workforce defined as employees at businesses whose primary NAICS code is "Child Day Care Services" (624410). This table summarizes coverage of this cohort, who's included and who's excluded in the data.
- In the data, we're not able to capture individuals working outside the state providing the UI wage data. We're also not observing employers classified as elementary or secondary schools, family child care homes operating as sole proprietors. Any individuals who are paid informally are also excluded in the data.

- We do observe workers for childcare employers, but the caveat is that we don't know their roles, or whether they are part-time/full-time workers. So we define CCEE workforce as workers at employers whose industry code is child day care services.
- For this analysis, we have research questions around earnings, recruitment, and retention and advancement of CCEE workforce.
 - In terms of earnings, ...
 - In terms of recruitment, ...
 - In terms of retention and advancement, ...
- I'll be highlighting a few findings from here today, but the full findings can be found in a forthcoming brief.
- Because we have quarterly data, we use 2nd quarter to annualize wage by multiplying by 4.
- All CCEE jobs include all jobs in the childcare industry that were stable only, to exclude seasonal or temporary employment. and stable employment meaning employed in the previous quarter and the following quarter (i.e., received wages in the 1st, 2nd, and 3rd quarter of the corresponding year). Can go into more detail about this stable employment in the discussion session if someone is interested.
- After adjusting for inflation, we observe childcare workers in Illinois saw a small wage growth between 2006 and 2019, and a larger bump after the pandemic. We observed a dramatic drop in 2020, which reflects the effects of COVID-19 shutdowns.
- Exiting CCEE employees include all jobs in the childcare industry that existed in the 1st quarter of the calendar year and ended in the 3rd quarter of the calendar year. Median wages presented reflect the second quarter of the calendar year which was the last quarter of full quarter employment for these individuals.
- New CCEE hires includes all jobs in the childcare industry that started in the first quarter of the calendar year and persisted until at least the third quarter (stable employment). Median wages presented reflect the second quarter of the calendar year.
- Wages for new hires and for exiting employees are 15-20% lower than all workers (new hires have less experience, leavers are more likely to be low paid) – note that our other analyses concentrate on these groups, so this is good context on other wage findings
- Comparing childcare workers' wages in the UI wage data to other research, it's 5-10% lower than the childcare wages from the Bureau of Labor Statistics, and the potential reasons for the differences are that BLS measures wages of individuals whose role is childcare workers, and that we annualize quarterly wages actually paid to workers without information on hours worked, while BLS wage data is based on hourly rate.
- After inflation adjustment, wages increased 13% between 2006 and 2019 and then 9% between 2019 and 2021
- Median wage for all child care jobs:
 - 2006: \$20,412
 - 2019: \$22,996
 - 2021: \$24,984
- To study where childcare workers come from, we look at those who entered childcare industry in 2019.
- We observe that four out of five new childcare workers who started in 2019 reported prior employment in other industries. One fifth were either entering the industry for the first time, moving into Illinois from another state, or returning to work as a childcare worker after an absence of five or more years.
- This figure shows the top ten industries where new childcare workers had worked before coming into childcare industry. They previously worked in industries such as Food Services, Education, and Administrative and Support Services.
- Note that education includes multiple levels and types of educational services; elementary and secondary schools, colleges, universities, and professional schools as well as kindergartens. Preschool or prekindergarten educators who are employed by public or private K-12 schools would be included in this industry.
- As we looked at where childcare workers come from, we tracked these 2019 entry cohort and see what their wages were like in those previous industry. This figure shows median wages earned by the new childcare workers in 2019 who worked at least three months in another industry a year before entering the childcare industry. For interpretability, we also inflation adjusted these wages to January 2019 dollars.
- We observe most wages earned in past jobs were in general similar to, or lower than starting wages in the childcare industry, except Administrative and Support Services industry and Ambulatory Health Care industry.

- To see how long workers stay in the childcare industry after they start, we follow individuals who entered the childcare industry in 2010 or 2011. We find:
 - 72% of the workers stayed in the childcare industry after 1 year of childcare employment
 - About half of the workers left the industry after 2 years
 - 70% of the workers left the industry after 3 years
 - Following them over time, about 7% stayed in the childcare industry after 9 years
- Then we study those who left the childcare industry and followed them to see to what industry they move after leaving the childcare industry, and what they earn in that industry. This Figure shows 10 most common industries in which they worked after leaving childcare.
 - One out of three workers who left childcare for another industry chose to work in Educational Services industry.
 - This finding supports common hypothesis that many workers leaving ECE centers are leaving for jobs in school-based settings, where you will see on the next slide that they are generally paid better.
 - Followed by 10% choosing Administrative and Support Services industry, 9% choosing Food Services industry, 7% choosing Social Assistance, and 5% choosing Nursing.
- We study what their wages are like in these industries after leaving childcare industry and compare to the wage before leaving childcare. This figure shows the median annualized wage for individuals who left the childcare industry and the median wage they made in the childcare industry before exiting. Again, for the comparison, we adjusted these wages to 2019 January dollars.
 - The median childcare wage before exiting was about \$17,000.
 - We observe that exiting CCEE employees generally earned higher wages in the other industry after leaving childcare.
 - Except for Food Services industry, Recreation, and General Retail industries.
- What can we learn about the CCEE workforce from UI wage data?
- Movement into and out of other industries
 - Most common industries of past employment: Food Services
 - Most common industries after leaving childcare: Education
- Retention because unemployment insurance (UI) was able to track them.
 - Ability to track individuals over time
 - Half of new childcare workers left the industry after 2 years
- But very limited ability to understand subpopulations or unpack trends without linking to other data sources

• **Summary of Presentation #3: Understanding the Early Education Workforce: The Power of Administrative Data & Descriptive Analyses**

- Goals of the team. Descriptive data. In general it's been hard to know much about turnover rates in early childhood and therefore hard to build policy and put forth solutions.
- How can we have good data (turnover, wages, etc.?) Can we use this built data to improve quality and access?
- We talk about how this is hard for kids. Turnover is really disruptive in all levels. Tend to make large investments in professional development, if teachers are leaving, throwing away development investments. Very disruptive for parents. More and more sites are having to turn families away because there isn't enough teachers in the workforce. Very rarely have statewide data, big interest in registries. Usually only data in one sector, need it across sectors.
- Founding story – LA completely mandatory to participate. PreK, Head Start, and child care. Measures quality in every classroom must be observed twice a year.
- Overall ECE Teacher Turnover Masks Huge Amounts of Variation Across Sector: Nearly all lead teachers are leaving the field all together.
- Key findings: Worked to get some legislation surrounding child care issues. Raised questions who's turning over, why, factors that predict.
- Further descriptive explorations: Started to look at teachers who were new to the dataset. Exiting teachers scored lower on the class than teachers who were staying.

- Data challenges: Wouldn't see private teachers. Don't have access to PII. COVID, took a break on visiting the classrooms.

4. Brief Summary of Discussion

Audience questions:

Statement: Laura Bello's website – matching system example.

LA: They do have community based child care in their data, unless they weren't taking subsidy. FCC is a choice, don't look at it because most FCC in VA and LA have one owner. Thought about FCC main interest on when do they close/why do they close. Big picture – LA is working on a data system which is a formal workforce system. Want teacher identifies similar to pre-k so you can find them no matter what job they're in.

Between the pre/post class – what supports were given. LA is very coordinated on the class, PD is on the class, coaching on the class. They do have a lot of supports, but could vary between the sites where there was turnover. No data on specific teacher data and how much PD they received. Centers who are struggling more tend to get more support.

All providers in MI are required to be in the registry – are all staff too? If they're licensed providers, yes they must too be in the registry.

In the child care setting, is LA swapping teachers around, multiple teachers in the classroom, therefore teacher of the day might be different. Suppressing retention rates? Yes, imperfect data though. They must report before the visit, they have to list all the lead teachers. If the observer comes and the listed person isn't there, they won't observe.

Thought about what admin data can tell us about workforce, things you'd like to know?

- Surveys and interviews with providers, quality improvement to that plan. How are they responding to the improvements. Interview center directors to talk about turnover rates, nice to get personal experiences.
- UI system, can't identify a persons role. Would be nice to know what type of role their subjects are.
- VA admin data has a lot more data versus LA. Experience is a huge one b/c it speaks heavily on turnover.
- Good data on compensation, full comp packages, benefits, wages, PTO. These belong in the administrative data system.
- Surveys – ask about leaderships, how they are supported, day is organized, bathroom, break room, ratios.

5. **Summary of Key issues raised** (facilitators are encouraged to spend the last 3-5 minutes of sessions summarizing the key issues raised during the session; bullets below are prompts for capturing the kinds of issues we're looking for)

- *Emerging findings that may be of particular interest to policymakers and ACF?*
- *Methodological issues including innovative methodologies that may help maximize resources available for research and evaluation?*
- *Follow-up activities suggested addressing questions and gaps (e.g., secondary analyses of data, consensus meetings of experts, research synthesis or brief, webinar, etc.)?*
- *Recommendations about future ACF child care research directions and priorities?*