Data Challenges and Promising Practices From the States	
Challenges	Promising Practices
Collecting data that represent the full ECE workforce	Nebraska: Nebraska's 2017 survey report included data from center- and home-based settings as well as pre-K and K-3 teachers, allowing comparison across all four groups (Roberts, Iruka, & Sarver, 2017).
	Nevada: Participation in the Nevada registry for all staff in licensed programs has been required as part of the state's child care licensing regulations since 2009 and was fully phased-in as of December 2012 (Nevada Registry, 2018a).
	North Carolina: The 2015 North Carolina workforce study surveyed center directors and teaching staff across all licensed programs. Licensed home-based providers are also surveyed every other year. Their surveys provide clear reporting on their methodology, including details on: sampling methods, survey instruments/questionnaires, response rates for different sub-populations, and survey weighting. Although the survey is limited to licensed programs and therefore does not include license-exempt programs and some public pre-K, the surveys are clear about who is and is not included (Child Care Services Association, 2018).
Collecting core data elements (example: compensation)	Nevada: Nevada collects wage data as well as benefit information as part of its registry membership (Nevada Registry, 2018b). Although reporting this information is optional, as of the fiscal year 2017 report, 80 percent of all members reported wage data, which were used to report aggregate data on wages by job role (Nevada Registry, n.db).
	North Carolina: North Carolina workforce studies collect detailed wage data at both the teacher and program levels, and the data can be disaggregated by region as well as type of setting. The availability of benefits at the program-level is also collected across a wide range of benefit types such as: health insurance, paid leave (sick days, vacation, parental leave), and retirement. Because wage data are collected at the teacher as well as center level, wages can be compared by job role and level of educational attainment, and because North Carolina has completed multiple workforce studies, wages can also be compared over time (Child Care Services Association, 2018).
Linking individual- and program-level data	Oregon: Oregon uses a centralized database to link individual-level registry data (such as qualifications) with program-level licensing data in the state, allowing comparisons of workforce characteristics by setting characteristics. Not only does this process help to ensure that teachers and administrators can be matched with data at the program-level for policy and research purposes, it also reduces the chances of error and creates cost savings by avoiding duplicative paperwork. For example, access to workforce registry data reduces the workload for licensing inspectors during their annual checks. Registry data may also be accessed by Oregon's QRIS administrators to assess workforce qualification levels for rating purposes (Deardorff, Brownell, & Pham, 2016; ECDC, 2017; U.S. Department of Health and Human Services and the U.S. Department of Education, 2016). Colorado: Colorado's 2017 workforce study included both a teacher survey for staff and a center director and family child care provider survey for information at the program level (Schaack & Le, 2017a). The combination of these two forms of data allowed Colorado to paint a richer picture of the
	workforce and answer more complex policy questions. For example, Colorado's workforce study was able to document that "higher wages, more workplace benefits, and having stronger collaborative leadership in a center predicted teachers' intentions to stay in their jobs" (Schaack & Le, 2017b).
Answering in-depth policy questions	 Colorado: In addition to describing the key characteristics of the state's ECE workforce, Colorado used a 2017 survey to investigate a variety of other topics, such as: Teacher perceptions of their preparation for the job, barriers to ongoing professional development, and the supports needed to continue their education; Turnover and strategies to retain teachers; Teacher well-being (levels of burnout, depression); and The relationship between programs that serve children living in poverty and the educational attainment of their ECE teachers (Schaack & Le, 2017a).
Comparing data over time	Ilinois: Illinois has legislation to ensure that workforce data are collected regularly. A statewide survey of the workforce within licensed child care facilities must be conducted every two years by the Illinois Department of Human Services (IDHS) (Whitehead, Anderson, Ernst, & Presley, n.d.). Washington: Washington ensures that the data for its MERIT registry are regularly updated, and inactive memberships are culled by keeping MERIT professional records active for one year from the date of registration. Members are notified of their renewal date by email and must update their MERIT record, including any changes in employment, contact information, and confidential workforce data, in order to remain active (Whitebook, McLean, & Austin, 2016). Oregon: Oregon published a detailed report comparing characteristics of the workforce between 2012 and 2015 using its registry data (Oregon Center for Career Development in Childhood Care and Education and Oregon Child Care Research Partnership, 2017). North Carolina: North Carolina workforce studies have been repeated for several years and allow for comparisons over time. In addition, data collection was deliberately set up with a panel of a subset of centers to enable longitudinal analysis of the same providers over time, although this analysis has not yet been undertaken (Child Care Services Association, 2015).
Practical challenges	North Carolina: North Carolina's workforce studies provide examples of how to increase the response rate to ECE workforce surveys, such as employing a variety of contact methods (email, phone, mail) and using raffle tickets or small gifts to incentivize participation (Child Care Services Association, 2015).