The Spread of Common Illnesses and Effectiveness of Infection Control Practices in Child Care Settings

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Extended Abstract

This paper explores the utility and validity of observations of "infection control practices (ICPs)" (e.g., regular handwashing, separate diapering areas, daily toy sanitation) as a measure of child care quality. ICPs are an appealing measure of child care quality for several reasons: parents can readily observe at least some indicators of ICP; ICPs may be less subject to cultural biases, and require relatively little expertise to evaluate. ICPs also have appeal as a policy target because, in principle and in practice, ICPs can be improved at little budgetary cost, unlike measures of structural quality (child/staff ratios or teacher education levels), which can be costly to change. Prior research has found ICPs in child care centers to be associated with child health outcomes such as ear infections and intestinal illness, which, in turn, may be associated with child development and maternal labor supply (see Gordon et al. forthcoming, Gordon et al. 2007, and references therein).

After considering ICPs as a measure of child care quality, this paper examines differences in ICPs by child care setting and by socioeconomic status, and compares "ICP quality" to more widely used measures of child care "process quality" (Observational

Record of the Caregiving Environment; non-health dimensions of the Assessment Profile). Although we consider a variety of child care settings, we pay particular attention to home-based care because, first, there is less evidence about the quality of home-based care than center care; second, low-income women disproportionately use home-based care; and, third, government subsidy of home-care has increased markedly in the past decade. We examine whether the higher illness rates consistently found for children in center-based care (compared to maternal care) are also found in large home-based care settings. As a methodological innovation, we examine whether higher illness rates in center or large home-based care are also found in analyses of longitudinal data that control for unmeasured child or family characteristics (child fixed-effects). We study whether ICPs are effective in reducing illness in large and small home-based child care settings and in centers.

We use the NICHD Study of Early Child Care, and consider children's experience of respiratory illness, ear infections, gastrointestinal illness, and sick doctor visits. In analyses to date, we have used a sample of 1,300 children followed at three-month intervals from birth to age three. (We are currently extending the analysis to age 4½, which will allow us to estimate better the effect of infection control practices in centers.) Infection control practices were observed in home-based and center care settings at multiple points of time. We consider the predictive validity of our child care quality measures by examining whether specific kinds of quality predict specific child outcomes: e.g., whether reading to children predict children's vocabulary more strongly than reduced illness, and whether hand washing predicts reduced communicable diseases more strongly than it predicts vocabulary.

Our results to date indicate that, like center care, children in large family day-care experience elevated illness rates, especially respiratory infections. As in centers, children in large home care settings with "better" ICPs have reduced rates of respiratory illness (compared to those in large home care settings with "worse" ICPs). Lower-income families tend to use settings with poorer ICPs. Thus, regulations or informational programs that promote ICPs would disproportionately benefit low-income children and families.

References

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