

Working Parents and Child Care: *Charting a New Course for Quality*

by Michel Lahti

Rachel Connelly

Georgia N. Nigro

Rebecca Fraser-Thill



Close to two-thirds of children in Maine under the age of five need child care while their parents work. The quality of child care is a critical policy concern, since research tells us that early childhood experience plays a major role in later-life success for individuals. The authors report on findings from three studies regarding child care arrangements in Maine and the quality of child care in the state and nationally. They describe the development and implementation of Maine's new Quality Rating System (QRS) for child care facilities, Quality for ME, and the role that it can play both in improving child care and in helping parents chose quality care. 

INTRODUCTION

Nationally and in Maine, the majority of preschool and school-aged children in the U.S. live in families in which all parents work. According to a 2007 report to the state legislature from the Maine Child Care Advisory Council, 65 percent of children under the age of five in Maine need child care while their parents work. As research has demonstrated, and as several articles in this issue discuss, the quality of early childhood experience has a major influence on later success for individuals. “Investing early” can also pay big returns for society (see articles by Trostel and Connors this issue). Therefore the quality of the care children receive when cared for by someone other than their parent is a critical public policy concern. This article identifies what research from three studies tells us about child care arrangements in Maine and the quality of child care. It describes a new Maine effort to improve the quality of care in licensed child care settings.¹

CHILD CARE IN MAINE

Maine is geographically and financially diverse, supporting a variety of child care options for working parents. The out-of-home option most often associated with child care in people’s minds is licensed, regulated child care centers. In Maine, these centers serve at least three children, and the average size of a licensed, regulated center is 35 children. However, there are many alternatives to this form of care. There are licensed, regulated family child care homes, in which as many as 12 children under the age of 13 are cared for in an individual’s home. There are licensed nursery schools and part-time programs, which offer care to children ages three to seven for up to three and one-half hours per day. There are Head Start and Early Head Start programs that are family focused and have eligibility requirements for enrollment and services. There are public school preschool programs that are administered by local education agencies. There is also a form of legal, unregulated child care called CARE for ME, where only one or two children are cared for in someone’s home. This type of care is considered “legal” in that these care providers can receive government reimbursement for care if they pass a background check. According to 2007 state Office of Early Care and Education informa-

tion, the total approved licensed capacity for child care served approximately 48,450 children. Center-based care settings have the most approved licensed capacity (63 percent), compared to family child care homes (32 percent) or nursery schools (five percent). Finally, there is care that is informal—family, friend, and neighbor care that parents arrange themselves, where the caregiver does not receive any sort of government support (Maine Child Care Advisory Council 2007).

The focus for policymakers is often on the child care services that are government funded or otherwise government supported. Families are eligible for government subsidy if their income is at or below 75 percent of the Maine state median income. They can continue to receive or be eligible for subsidy as long as they are working or in school and their income does not exceed 85 percent of the state median income. However, where funds are short, the state policy is that families of very low income and families with children with special needs are given priority for receiving a government subsidy. According to information from the state Office of Early Care and Education, Maine provides child care subsidies to more than 8,831 families annually and was projected to spend a total of more than \$36 million dollars during the 2008 federal fiscal year for child care subsidies and related activities. For the time period of 2002 through 2007, there was an 11 percent decrease in the total number of families receiving this type of support. Reports from the state Office of Early Care and Education indicate that subsidies now reach only 38 percent of the children who are eligible.

WHO USES WHAT TYPE OF CHILD CARE IN MAINE?

When choosing child care, parents in Maine, like parents throughout the United States, have a menu of choices available in terms of type and cost of care. Yet not all types of care or all levels of quality

...the quality of
the care children
receive when cared
for by someone
other than their
parent is a critical
public policy
concern.

or costs are available to every parent. Availability depends on where one lives, what time of day the care is needed, the age of the child, and if the child has special needs.

To understand the choices parents make about child care, a statewide random telephone survey was conducted in 2004–2005. This effort yielded 800 surveys of parents whose youngest child was under the age of five. In addition, similar mail surveys were sent to a random sample of 1,571 parents who received governmental support for child care. Of these parents, 391 responded, for a 25 percent response rate.

In reporting these results, we concentrate on the type of care chosen, the cost of the care, and parents’ perceptions of availability. We are particularly interested in whether receiving a government subsidy, a “voucher,” or a “slot,” changes the access, costs, and perception of availability. Child care in this context is defined as care that is provided by someone other than a parent.

Amount of Child Care Used

Thirty-two percent of Maine households with a child under age five reported using no child care, and another 13 percent used less than six hours of care a week. The hours of child care used varied substantially for Maine families even among those who used six or more hours of per week, henceforth known as child care users. Just under half of the user families used 30 or more hours of child care a week. As one would expect, employed mothers used significantly more hours of child care than non-employed mothers. For the mothers employed full time (35 or more hours per week), their children were in care on average for 37 hours per week. In comparison, children were in care on average for 21 hours per week for mothers employed part time, and 17 hours for mothers who were not employed.

Those Maine families who received child care subsidies were substantially more likely to use six or more hours of child care, which is to be expected since receipt of the subsidy is largely predicated on parental employment. Ninety-seven percent of the subsidy recipients used six or more hours of child care a week compared to 57 percent of the non-subsidy recipients.

Type of Child Care Used

In the studies discussed here, we identified five main categories of child care arrangements: relative care, friend or neighbor care, a family day care home, a child care center or preschool, and a catchall “other” category, which includes in-home babysitting. Table 1 shows the primary child care arrangements reported for the youngest child in Maine families with a child under the age of five.

TABLE 1: Type of Child Care Used by Maine Families Using More than Five Hours of Child Care per Week (2004)

Center-based Care	39%
Relative Care	25%
Family Child Care Home	21%
Friends Care	11%
Other	4%

Note: Data from telephone survey, weighted to reflect the true urban/rural distribution in the state.

Child care arrangements varied by employment status. Center-based care, which is often thought to enhance school readiness, was most often used by non-employed mothers (45 percent) and by mothers employed full time (44 percent). Center slots are often offered only by the week or by the full day, and are thus less often the choice of families when the mother is employed part-time. For those mothers who were employed part-time, relative care was chosen 35 percent of the time. It may be that relatives are willing to provide part-time care, but are more reluctant to provide full-time care, or it may be that parents feel that relative care is acceptable for part-time care, but lacks the educational component they are looking for in full-time care. An alternative explanation is that much of the part-time employment occurs when centers are closed and when relatives, who may also be employed, are more likely to be available.

National data available to compare with Maine includes only employed mothers. Table 2 shows that Mainers make more use of formal arrangements such as center care and family day care and substantially less use of relative care. This may reflect a difference in the percentage of mothers working part time in Maine compared to national data, the lack of grandparents available in Maine to act as caregivers, or a greater availability of formal slots in Maine due to the relatively lower average wage levels in the state.

TABLE 2: Primary Child Care Arrangements Used by Employed Mothers (2004)

	MAINE	U.S.
Only With Parents	26%	27%
Relative Care	18%	30%
Friend Care	8%	10%
Family Child Care Home	16%	11%
Center-Based Child Care	29%	26%
Other	3%	N/A

Note: Both columns include data for families with employed mother of children under age five only. Maine data are from the telephone survey only, weighted to reflect the true urban/rural distribution in the state. National data come from Spring 1999 SIPP *Who's Minding the Kids? Child Care Arrangements: Spring 1999 Detailed Tables* (PPL-168), Table 2B. It is always difficult to compare data from different sources. In this case we made the following compromises. In national SIPP data, the friend/informal category also includes nannies and in-home babysitters. In Maine these arrangements are listed as "other." Also SIPP data include the arrangements of all young children, while the Maine figures include only the youngest child.

Parents' Perceptions of Availability of Child Care

In all three study samples, parents were asked whether there were good choices for child care where they lived. This is a critical issue in a rural state such as Maine where many families live long distances from the types of urban centers that are more likely to offer a variety of child care options.

TABLE 3: Parent Perceptions of Choice of Availability of Good-Quality Care Near My Home (2004)

	Percentage—"No Good Choices"
By Subsidy Status	
No Receipt of Government Subsidy	20%
"Voucher" Government Subsidy Recipients	16%
"Slot" Government Subsidy Recipients	14%
By Residence	
Urban Location of Residence	16%
Rural Location of Residence	24%
By Employment Status	
Mother Employed Full Time	19%
Mother Employed Part Time	17%
Mother Not Employed	32%

Note: Data by subsidy status comes from all three surveys, weighted to reflect the true urban/rural distribution in the state. Data by urban/rural residents comes from all three surveys, weighted to reflect the population of the state. Data by mothers' employment status comes from telephone survey only, weighted to reflect the true urban/rural distribution in the state. The reason for using only the telephone survey is that part-time employment of the mother cannot be ascertained from the two mailed surveys.

On average, close to 20 percent of Maine families answered "no," meaning they felt that there were no good choices for child care near their homes. A sense of choice related to the mother's employment status, but the relationship is not simple. Mothers working part time were the most likely to respond "yes," that they have good choices, followed by mothers who were employed full time. This is consistent with part-time employed mothers making more use of relatives and friends than those employed full time. But the most likely to respond "no" to having good choices for child care were non-employed mothers.

Conclusions from Parent Survey Results

Results from the 2004–2005 study, the most recent of its kind in Maine, indicated that most families with young children, even those that include a stay-at-home parent, use some form of child care. Use of child care varies by type of employment. Access to good, high-quality child care seems to be a concern, especially for those families living in the more rural areas of Maine, where one-quarter of the rural respondents said that they did not have good choices for care.

...higher quality child care can
buffer young children from the
negative effects of low income.

We also found differences and similarities between those families receiving child care subsidies from the state and those who do not. Subsidy recipient families were more likely to use licensable care, family day care, and center-based care, which may enhance school readiness. Families receiving child care subsidies did not feel they had less choice in providers than the rest of the population. But only a portion of those families who are eligible for a subsidy receive one, and we found that low-income families who were not recipients were much more likely to use relative and friend care. Many of the respondents to the mailed survey questions about slots and vouchers reported frustration at being on the waiting list for a subsidy and uncertainty about what help they might receive.

EFFECTS OF QUALITY CARE ON CHILDREN: WHAT DO WE KNOW?

The question of how child care affects children has long interested researchers, policymakers, families, and journalists. One important source of research about child care effects is the ongoing National Institute of Child Health and Development (NICHD) Early Child Care Study (NICHD 2005). Unlike other research on the effects of child care

quality, this national study involves multiple investigators at multiple sites. Given its depth and breadth, it has advanced knowledge in unprecedented ways. We present a brief review of this important research to help Maine readers appreciate the national context within which our own child care dilemmas take place.

Goals and Design of the NICHD Study

The major goal of the NICHD study is to examine how variations in child care relate to children's social-emotional adjustment, cognitive and linguistic development, and physical growth and health. The children in the study were born in 1991 in 24 hospitals at 10 sites across the country. The researchers recruited mothers who were over 18 years old, spoke English, were not ill or abusing substances, lived within an hour of the university lab, and had delivered a single, healthy child. Each site enrolled at least 10 percent single-parent households, 10 percent mothers with less than a high school education, and 10 percent ethnic minority mothers. There were 1,364 families enrolled in the study at the beginning; when the children finished first grade, 1,100 of these families were still participating. Although the families in the study represent a range of socioeconomic and sociocultural backgrounds, the sample is not nationally representative. Household income and mother's educational level are higher than the national average, yet sample families are also more likely to receive public assistance than families in general. Despite the sampling efforts noted above, ethnic minority children are still somewhat underrepresented.

Assessments of the children and their care environments occurred when the children were six months, 15 months, 24 months, 36 months, and 54 months, and when they were in first grade. Both the child care and the home environment were assessed through a combination of observations, phone interviews, face-to-face interviews, and questionnaires. Trained assessors observed children in their homes, in their child care settings, in laboratory playrooms, and later, in classrooms. Child outcomes were assessed in three domains: social-emotional functioning, cognitive development, and health and physical development. Despite some limitations, the NICHD study comprises the most comprehensive corpus of child care data focused on quality and child outcomes currently available.²

Selected NICHD Study Findings

Although the NICHD study is ongoing, the research has generated many findings already. We begin with the findings on quality of child care, because this issue, more than any other about child care, garners widespread attention from both the scientific community and the popular press.

Quality of Child Care

In the NICHD study, the researchers assessed many characteristics of the child care environment to measure quality. “Structural” characteristics include such features as child-staff ratios and group size; “process” characteristics include such features as caregiver-child interaction and emotional climate. In one set of analyses, they looked at whether classrooms met the guidelines for child-staff ratio, group size, caregiver training, and caregiver higher education set by the American Public Health Association and the American Academy of Pediatrics. In the researchers’ words, “most classes observed in the study did not meet all four of these guidelines” (NICHD 2005: 31). In another set of analyses, the NICHD researchers created the variable “positive caregiving,” which consisted of responsiveness to communication, stimulation of cognitive development, attachment, facial expressiveness, and positive regard for the infants. Using this variable, the majority of infants (70–80 percent) were judged to be receiving care that was moderately or highly sensitive or moderately or highly positive, whereas toddlers’ and preschoolers’ care was judged to be “not at all characteristic” or “somewhat uncharacteristic” of positive caregiving more than 50 percent of the time. When the researchers extrapolated the figures to the nation as a whole, the results suggested that positive caregiving was “somewhat characteristic” or “highly characteristic” for fewer than 40 percent of children. In other words, many children are spending long hours in child care that is neither stimulating nor responsive.

The strongest and most consistent predictor of overall quality involves the kinds of language caregivers direct to children. Caregivers who respond to children’s vocalizations, ask questions, praise, teach, and talk to children in positive ways tend to be in child care centers that receive high overall ratings of quality.

At several points in time the NICHD researchers have examined the link between child care quality and child outcomes. They showed that quality of care influences children’s cognitive performance (e.g., analysis of practical problems, memory for simple words, identification of letter forms, and language skills). They also found that greater language stimulation by caregivers is related to higher scores on the cognitive measures. But when children’s earlier abilities are taken into account, quality of care is not related to most child outcomes; individual differences in ability are driving the child outcomes. In other words, children’s language comprehension at age 54 months is best predicted by their language comprehension at 36 months and not by the quality of child care experienced in between. But what about the quality of child care experienced up until 36 months?

In a careful look at how quality of child care supports the achievement of low-income children in particular, some of the NICHD researchers (McCartney et al. 2007) have used the sample to test whether child care quality has a direct effect on child outcomes at 36 months and an indirect effect through improvements in the home environment. They found evidence for both pathways, suggesting that higher-quality child care can buffer young children from the negative effects of low income. It is particularly interesting that evidence for the indirect pathway through improved home environments was found. This finding suggests that child care settings are important sites of parent education.

Other Findings

The NICHD researchers also investigated the quantity of time in care. They found that more time in child care through 54 months of age predicted more problem behaviors, such as aggression and disobedience, as observed by teachers at 54 months and in kindergarten. Even when child temperament, maternal sensitivity, and other family background factors were taken into account, these associations held, indicating that time spent in child care was related to the observation of problem behaviors.

One of the most galvanizing findings from the NICHD study is that regardless of the number of hours that a child spent in care over the early years, or the type of care experienced (e.g., center, child care

home, relative care), parenting mattered. Parenting measures, such as maternal childrearing beliefs, infant attachment security, and maternal sensitivity were statistically significant predictors of a host of developmental outcomes, such as language production and comprehension, social competence, and problem behavior. So, for example, this finding suggests that a large portion of the variability in language ability of same-aged children is due to the quality of the parenting the children receive. The skills that are precursors to those needed for school were, in fact, more strongly linked with the parenting measures than they were with child care quality, hours in care, or type of care. Thus, the NICHD findings imply that children benefit from positive parenting, whether the children experience extensive child care or are exclusively reared by parents.

What Does the National Research Mean for Maine?

The NICHD study clearly demonstrated that positive, responsive parenting is key to improving child outcomes. Poverty compromises the capacity of parents to respond sensitively to children, but high-quality child care can offset some of the negative outcomes for children. The recent summary of research by the U.S. Department of Health and Human Services Office of Planning, Research and Evaluation (Burchinal et al. 2009) indicates that good-quality child care can influence positive outcomes for children. High-quality child care makes sense because it can positively affect two generations: children and parents.

Another good reason to heed the NICHD study is to compare its findings on quality to the research done in Maine child care settings on the same topic. Two studies about the cost and quality of child care in Maine, one on preschool classrooms (Marshall et al. 2004a) and the other on family child care settings (Marshall et al. 2004b), revealed that many children spend time in settings that deliver care of fairly low quality. Although the state studies did not evaluate different options for improving quality, the NICHD study suggests many avenues. Quality of care can be improved, for example, by increasing staff education and training, especially in engaging children verbally (see DellaMattera this issue). Maine Roads to Quality

has made great strides in supporting the training of child care professionals, but with only 2,841 providers registered with the project (as of December 2008) of the estimated 6,773 regulated child care providers in Maine, there is clearly a long way to go.

Finally, the NICHD study and data from Maine suggest that some children will spend a significant portion of their early childhoods in child care. With longer time in care associated with more problem behaviors later, policymakers, researchers, teachers, and families must tackle this issue now. We need a better understanding of the reasons behind the association so we can take steps to diminish the negative effects for those children who must spend substantial time in child care. Too often parents have few options to find high-quality care for their children.

IMPROVING THE QUALITY OF CHILD CARE IN MAINE

Concerns about the quality of child care throughout the U.S. have led for a call to establish systematic monitoring or rating systems at the state level. A publication from the U.S. Department of Health and Human Services Child Care Bureau (U.S. DHHS 2007) reported that since 1998, 14 states have implemented statewide quality rating systems (QRS). A QRS is defined as a systematic approach to assess, improve, and communicate the levels of quality in early care and education programs. The idea behind a QRS is that as parents learn more about ratings, they will use them in making child care choices, selecting the highest-quality care they can afford. As the ratings are used, more programs will volunteer for ratings so they are not excluded from parents' ratings-based choices. Ultimately, parents will have more higher-quality choices, and then more children will receive high-quality care. In addition, a QRS creates an accountability mechanism for funders and enhances the professionalization of early care and education workers.

Quality rating systems have program standards based on state-licensing regulations and include levels beyond licensing standards, defined by each state. Accountability measures are built into these systems to determine how well programs meet standards, and some form of notation is provided—stars or steps, for example. These

approaches usually include support to providers to assist them in enrolling in the program and/or to increase their levels of quality to meet higher standards over time. Some states include financial incentives linked to program standards. Finally, most systems have some form of parent education component to help parents understand the system and standards.

Quality for ME: Maine's New Tiered Quality Rating System

Quality for ME was piloted during 2007 and implemented in March 2008. While all child care programs in Maine are required to be licensed to ensure that basic levels of health and safety are met, participation in the Quality for ME program is voluntary, with one exception. Beginning in October 2009, all programs receiving government subsidies will be required to enroll. Participating child care programs complete a self-assessment, and after a review by state officials, receive a step level ranking of one, two, three, or four. The ranking is based on eight components of quality: licensing compliance history, learning environment, program evaluation, staff development, administrative policies/procedures, family involvement, community resources, and child observation. Each of the four steps includes requirements based on these eight components, but the requirements vary from step to step and by type of setting. All requirements of one step must be met before a program can move to the next step, with the fourth step representing the highest level of quality in this system.

Designing Maine's Quality Rating System

Maine's QRS was developed based on research and planning efforts over the last eight years. First, in early 2000, the Maine Department of Health and Human Services (MDHHS) commissioned a set of studies, *The Cost and Quality of Full-Day, Year Round Early Care and Education in Maine* (Marshall et al. 2004a) and *The Cost and Quality of Family Child Care Homes in Maine* (Marshall et al. 2004b), that involved direct observation of licensed center classrooms and family child care homes representing every county in the state of Maine. These 2004 findings indicated that quality was a substantial concern in Maine, with less than a third of all the licensed Maine child

care settings meeting a "good" level of quality.

The design of Maine's QRS involved the use of information gathered from parents and providers. The statewide parent survey discussed earlier was also used, as were recommendations from stakeholder groups advising the state agency. In addition, other state rating systems were studied, and a review of the literature on QRS to date was conducted. Finally, a study was conducted that was similar in approach to Ceglowski (2004), which developed a set of definitions of child care quality through focus group methodology in order to explore directly how parents and providers defined quality.

Concerns about the quality of child care throughout the U.S. have led for a call to establish systematic monitoring or rating systems at the state level.

The study design used in Maine was a qualitative approach using focus group interviews combined with concept-mapping methodology. In early 2005, six regional focus groups were held with 44 people, both providers and parents, attending. Each focus group discussed the general question: *What would you see or hear that would make you think that this was a high-quality child care setting?* The most common responses were positive interactions between caregivers and children, and between caregivers and adults; age appropriate activities, space and materials; caregivers who understand developmental issues for children; and safe, clean environment, healthy foods/snacks.

Next, 80 statements about quality were selected verbatim from the focus group transcripts. The statements were considered to be descriptors of quality and non-duplicative in nature. More than 200 early care and education specialists, parents, researchers, and providers were contacted to review and rate the statements through a concept-mapping process. Forty-seven people responded, and the results of the concept-mapping process provided the following quality domains to be considered most important to measure in a quality rating

system: (1) parent–provider relations; (2) child’s social/emotional needs; (3) quality of staff/health and safety issues/staff–child interactions. These domains are quite similar to the elements identified by Ceglowski (2004). Central in both studies is the importance placed on the interactions between parents and providers.

...the majority of families report using some type of child care, many for a substantial number of hours a week. It is clear that families in Maine need affordable, high-quality child care services.

Getting Started with a Quality Rating System in Maine

The QRS began with enrollments in March of 2008, and as of April 2009 there were 401 center-based and family child care home settings enrolled. This represents approximately 16 percent of all licensed child care settings in Maine. The majority of these settings (60 percent) is self-rated at a step two or lower. As mentioned earlier, all settings receiving government subsidy, approximately 780 settings statewide, will have to enroll by October of 2009.

DISCUSSION AND IMPLICATIONS FOR POLICY

According to Maine State Planning Office estimates, there are 68,944 children from birth to age four in 2008, and that number is expected to increase by about 0.4 percent to 69,228 by 2012. Based on the only scientifically designed household telephone survey conducted, the results of which are now more than five years old, the majority of families report using some type of child care, many for a substantial number of hours a week. It is clear that families in Maine need affordable, high-quality child care services. Estimates from Schilder and Digital River, Inc., (2006) indicate that there will need to be an additional 6,953 slots

made available to completely meet demand for child care by 2012.

Although research on the components of high-quality child care, such as the NICHD study, is ongoing, there are emerging findings that can guide policymakers. Positive parenting is the most important predictor of good child outcomes, regardless of the kind of child care arrangement for most children. In addition, for those children from lower socioeconomic backgrounds, high-quality child care settings can influence positive child outcomes. Many families who qualify for state subsidies, more than a third in Maine, however, do not receive support. Many are on waiting lists. One finding in our studies was that families receiving subsidies felt they did have good choices of child care available to them, which was similar to the responses of higher-income parents. However, more than a quarter of parents living in rural Maine reported not having good choices for quality care. Low-income families not receiving subsidies are the most likely to use relatives and friends as caregivers, settings that are the least likely to have a school readiness curriculum.

In addition, the overall quality of child care settings is in question, as Maine studies echo many national studies and indicate that more than a third of the licensed settings are rated as less than good quality. Using the most recent estimates, this may mean that more than 9,000 Maine children from birth to age five are served in low-quality settings.

The Quality for ME program provides parents four tiers of quality rankings of participating child care facilities. It is hoped that the new required participation of settings that receive government subsidy money will encourage other centers to participate. The ranking scheme was thoughtfully created, based on careful research gathered from both parents and caregivers. Built into the system are limited financial incentives for providers who are serving children with government subsidies. In addition, parents whose children are served in the step four highest-quality settings are eligible to claim a deduction in their taxes. However, these incentives are minimal at best considering the various structural barriers child care providers face in trying to improve the quality of the care.

We hope that this article also illustrates the need for better information about this important aspect of

public policy for Maine families. The household survey information discussed here is more than five years old, and not enough is known about the experiences of families seeking and/or using government subsidies for child care. In 2008, more than \$34 million taxpayer dollars were spent in direct support of child care services. As recommended by the National Early Childhood Accountability Task Force (2007), investments are needed to support state level data infrastructure that moves decision-making from best guesses to policies founded on solid evidence. Parents and citizens deserve rich and continually updated information on the status of young children and early learning programs.

Enhancing the quality of child care settings that serve Maine's working families is a critical policy concern. Getting more accurate and timely information about this aspect of Maine's social services and economic sector is necessary for informed decision making. Maine's working parents who need affordable, high-quality services deserve no less. 🐟

ACKNOWLEDGMENTS

Support for this research was provided to the authors through the State of Maine Department of Health and Human Services, Division of Early Care and Education. Special thanks to Carolyn Drugge, whose leadership and dedication made this work possible.

ENDNOTES

1. For the full report of findings from the parent child care services survey, see Connelly and Lahti (2006); the research done to assist in the development of the Maine quality rating system is found in Lahti et al. (2006).
2. It should be noted that the families in the NICHD study selected the type of care in which they placed their children. As the study was designed, any differences in child outcomes could be the result of the different child care experienced by children or the result of the children's differing family backgrounds. The NICHD researchers address the issue of selection with complex statistical techniques, but these techniques can only go so far toward handling the problem.

REFERENCES

- Burchinal, Margaret, Kirsten Kainz, Karen Cai, Kathryn Tout, Ivelisse Martinez-Beck and Colleen Rathgeb. 2009. Early Care and Education Quality and Child Outcomes. Publication No. 2009-15, OPRE Research-to-Policy Brief No. 1. Childtrends, Washington, DC.
- Ceglowski, Deborah. 2004. "How Stake Holder Groups Define Quality in Child Care." *Early Childhood Educational Journal* 32(2): 101-111.
- Connelly, Rachel and Michel Lahti. 2006. "A Portrait of Child Care Choice for Maine Families with Children under the Age of Five." Working Paper, Feb. 2006. <http://www.bowdoin.edu/faculty/c/connelly/pdf/maineccarrangements.pdf> [Accessed August 31, 2009]
- Connors, Dana F. 2009. "Investing in Maine's Youngest Children Has Great Returns for Business." *Maine Policy Review* 18(1): 26-29.
- DellaMattera, Julie. 2009. "The Early Childhood Workforce." *Maine Policy Review* 18(1): 106-115.
- Lahti Michel, Rachel Connelly, Alex Hildebrand, Sue Ebersten and Guinevere Twitchell. 2006. "A Focus on the Quality of Child Care Settings," Working Paper, Feb. 2006, <http://www.bowdoin.edu/faculty/c/connelly/pdf/maineccquality.pdf> [Accessed August 31, 2009]
- Maine Child Care Advisory Council. 2007. Child Care in Maine. A Report to the 123rd Maine Legislature. Maine Child Care Advisory Council, Augusta. <http://www.maine.gov/dhhs/ocfs/ec/occhs/childcareadvisorycouncilreporttolegislature.pdf> [Accessed August 30, 2009]
- Marshall, Nancy L., Cindy L. Creps, Nancy Burstein, Joanne E. Roberts, Julie Dennehy, Wendy W. Robeson and Frederic B. Glantz. 2004a. The Cost and Quality of Full Day, Year-round Early Care and Education in Maine: Preschool Classrooms. Wellesley Centers for Women, Muskie School of the University of Southern Maine, and Abt Associates, Inc.
- Marshall, Nancy L., Cindy L. Creps, Nancy R. Burstein, Betsy Squib, Joanne Roberts, Julie Dennehy, Wendy W. Robeson and Sue Y. Wang. 2004b. The Cost and Quality of Family Child Care Homes in Maine. Wellesley Centers for Women, University of Maine, Farmington, and Abt Associates, Inc.

Please turn the page for more article references & author bios.

McCartney, Kathleen, Eric Dearing, Beck A. Taylor and Kristen L Bub. 2007. "Quality of Child Care Supports the Achievement of Low-income Children: Direct and Indirect Pathways through Caregiving and Home Environment." *Journal of Applied Developmental Psychology* 28:411–426.

National Early Childhood Education Task Force. 2007. *Taking Stock: Assessing and Improving Early Childhood Learning and Program Quality*. Per Charitable Trusts, Philadelphia.

National Institute of Child Health and Development (NICHD) Early Child Care Research Network. 2005. *Child Care and Child Development*. The Guilford Press, New York.

Schilder, Diane and Digital Research, Inc. 2006. *Maine Child Care Workforce Climate Report and Market Rate Analysis*. Report to Early Care and Education Unit, Maine Department of Health and Human Services, Augusta.

Trostel, Philip. 2009. "The Dynamics of Investments in Young Children." *Maine Policy Review* 18(1): 18–25.

U.S. Department of Health and Human Services (U.S. DHHS). 2007. *Child Care Bulletin 32*. U.S. DHHS, Child Care Bureau, Washington, DC. <http://www.nccic.org/ccb/issue32.pdf> [Accessed August 30, 2009]



Rachel Connelly is the Bion R. Cram Professor of Economics at Bowdoin College. She has published widely on the economics of child care, modeling both the demand and supply side of the child care market. She is the author, along with

Deborah DeGraff and Rachel Willis, of *Kids at Work: The Value of Employer-Sponsored On-Site Child Care Centers* (2004, W. E. Upjohn Institute for Employment Research).



Georgia N. Nigro is professor of psychology at Bates College, where she teaches courses in developmental psychology and community-based research methods. She is a member of Maine's Infant Toddler Initiative Team.



Michel Lahti is a research faculty member at the University of Southern Maine. He is a principal investigator on the evaluation of Maine's child care Quality Rating System and teaches in the Public Policy and Management Graduate

Program, Muskie School of Public Service.



Rebecca Fraser-Thill served for six years as a lecturer in psychology at Bates College. She is the co-author of the forthcoming textbook *Visualizing the Lifespan* (2010, Wiley) and was a member of the workgroup that drafted *Supporting*

Maine's Infants and Toddlers: Guidelines for Learning and Development, a companion to *Maine's Early Childhood Learning Guidelines*.