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Cost calculator methods for estimating casework time in child welfare services: A promising approach for use in implementation of evidence-based practices and other service innovations

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ABSTRACT

Estimating costs in child welfare services is critical as new service models are incorporated into routine practice. This paper describes a unit costing estimation system developed in England (cost calculator) together with a pilot test of its utility in the United States where unit costs are routinely available for health services but not for child welfare services. The cost calculator approach uses a unified conceptual model that focuses on eight core child welfare processes. Comparison of these core processes in England and in four counties in the United States suggests that the underlying child welfare processes generated from England were perceived as very similar by child welfare staff in California county systems with some exceptions in the review and legal processes. Overall, the adaptation of the cost calculator for use in the United States child welfare systems appears promising. The paper also compares the cost calculator approach to the workload approach widely used in the United States and concludes that there are distinct differences between the two approaches with some possible advantages to the use of the cost calculator approach, especially in the use of this method for estimating child welfare costs in relation to the incorporation of evidence-based interventions into routine practice.

1. Introduction

In child welfare services in the United States and England, there is an increasing emphasis on adopting and implementing new practice models and evidence-based interventions which promise to increase benefit for children and families involved in child welfare processes. A critical element in decision-making for fitting innovative research-based interventions on child welfare platforms is the consideration of the economic costs involved in the delivery, dissemination and implementation processes. In fact, both perception and estimation of these costs may play a decisive role in the entire process, from the early exploration of what new services to consider, through the adoption and preparation stage, to actually implementing, and finally sustaining the service as it becomes part of usual care.

There are two major barriers to a systematic understanding of these costs and the use of cost information for data-informed decision-making in the implementation process. First, as Goldhaber-Fiebert, Snowden, Wulczyn, Landsverk, and Horwitz (2011) have shown, economic evaluation research has been under-utilized in the area of child welfare services, and especially in the decision-making process of importing innovative and evidence-based interventions into the child welfare context. Second, unlike the robust development and use of unit cost structures in health services, child welfare traditionally has not developed a unit cost structure, especially for the calculation of time and costs related to casework practice. This has made it difficult to estimate child welfare costs accurately when considering new services to be brought on line. As Goldhaber-Fiebert, Bailey et al. (2011) recently demonstrated in a proof-of-concept paper about a potential new child welfare service being considered for scale-up, the use of modern decision-analytic microsimulation models to assist the consideration of new practices relies ultimately on an accurate consideration of economic costs.

Measurement of time associated with child welfare service delivery activities is essential to the development of unit costs because time units are linked to salaries (including benefits) within budgetary calculations. Since child welfare service activities are typically carried out by case workers, estimation of the time they take to carry out these activities is required. In England a precise method using a cost calculator tool

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has been developed and used extensively for estimating case work time in child welfare activities (Holmes & McDermid, 2012; Holmes, McDermid, Padley, & Soper, 2012; Ward, Holmes, & Soper, 2008) and for explicitly linking time estimates for what are termed child welfare processes to costs that may vary from context to context. The cost calculator tool is an agency-specific interactive computer system that generates reports and analyses that link the time estimates and unit costs with the outcomes achieved for children and young people. In addition, the cost calculator tool and underpinning methodology (referred to as the cost calculator approach throughout this paper) has been used in assessing costs of implementing new practices in the child welfare system and comparing them with usual services (Holmes, Ward, & McDermid, 2012).

This paper first presents the basic elements of the cost calculator approach. Second, the paper presents preliminary findings from pilot studies examining the potential use of the cost calculator for estimating time and unit costs in child welfare services in Oregon and California in the United States. Third, the elements and processes of the cost calculator approach are juxtaposed with a second methodology for estimating time and generating costs for child welfare services that has been widely used in the United States, namely, the workload study approach. The comparison between the two approaches also is used to examine the utility of the cost calculator for estimating time and costs for implementing and sustaining new evidence-based practices in the context of child welfare services, especially within the framework of the four stages of exploring, adopting, implementing, and sustaining these practices in child welfare settings (Aarons, Hurlburt, & Horwitz, 2011). Finally, we speculate about a vision for the future in when unit costs can be easily estimated and used to improve child welfare services for the benefit of children and their families who receive these services.

2. The cost calculator approach

In England, the cost calculator tool has been utilized in many local child welfare services to calculate unit costs of core case work processes and associated administrative costs. The tool was initially developed to cost services provided to children in out of home care (Ward & Holmes, 2008; Ward et al., 2008) and has since been extended to cover a range of other services including the implementation of Multidimensional Treatment Foster Care (MTFC), an evidence-based intervention developed in the US and implemented in English child welfare systems (Chamberlain et al., 2011; Holmes, Westlake, & Ward, 2008). The methodology allows for a very flexible application and has been extended from focusing exclusively on out of home care to include cost calculations for all 'children in need'[1] (comparable to children supported in 'in home' care in the US) and vulnerable families requiring additional support other than child welfare services (Holmes & McDermid, 2012; Holmes, McDermid, & Sempik, 2010; Holmes, Ward, & McDermid, 2012). The methodology also has been extended to include activities carried out by education departments to support children with additional educational needs (Holmes, Ward, & Lam, in press). These extensions provide evidence to explore costs and outcomes longitudinally, following cases over time as they move into the child welfare system and between in home and out of home care. They also are critical for work on all child welfare services and associated costs and for providing a way to assist in the dissemination and implementation of evidence-based treatment and preventive interventions.

[1] A child in need is legally defined under Section 17 of the Children Act 1989 (England and Wales) as: he/she is unlikely to achieve or maintain, or have the opportunity of achieving or maintaining, a reasonable standard of health or development without the provision for him/her of services by a local authority; his/her health or development is likely to be significantly impaired, or further impaired, without the provision for him/her of such services; or he/she is a disabled child.

2.1. Development of a conceptual framework

Child welfare services are provided by 152 local authorities in England. All of these local authorities are mandated by legislation from central government to provide similar processes and functions. The conceptual framework for the cost calculator approach was originally developed using nationally applicable documentation, primarily the Core Information Requirements Process Model (Department of Health, 2001), which specifies the core activities that underpin the delivery of placements and services to children in out of home care. These activities were then broken down and organized into eight social care processes (detailed in Box 1) that are carried out for children placed in the care of local authorities. This conceptual framework then was piloted across a number of local authorities. This pilot research indicated that this is a universally applicable conceptual framework that is transferable across all local authorities in England.

All children placed in out of home care go through the first four processes: in every case, a decision has to be made as to whether the child needs to be looked after by the local authority and a placement found (Process One), care planning is mandatory in England (Process Two) and all children need to be supported once in placement (Process Three). Process Four is carried out at the end of the care episode, whether the child moves on to adoption, returns home or becomes independent. Processes 5 to 8 are undertaken for some children: in England those placed in out of home care for more than 28 days are subject to the review process, many will move onto subsequent placements and some will require legal interventions, such as Care Orders. Young people who come under the provision of the Children (Leaving Care) Act 2000 (Department of Health, 2000) also will be entitled to leaving care services (Process 8).

The development of a standardized, universally applicable conceptual framework facilitates an exploration of activity over time. Fig. 1 illustrates how the conceptual framework can be depicted for a period in out of home care over the course of one year time period.

All of the processes, except Process 3, are discrete events that happen on a specific date, and as Fig. 1 shows, may occur on several occasions during a care episode. Process 3 constitutes ongoing support that is provided for the duration of the care episode, and the activities are reported on a per day, per week or per month basis. Once the unit costs for each of these processes have been developed (see Section 4 below), the costs accrued by a child over a specific time period can be calculated by multiplying the Process Three per diem costs by the number of days covered and then adding up the number of times each of the other processes occurred and multiplying these by their specific unit costs.

2.2. Calculation of unit costs within the longitudinal framework

To estimate the unit costs of child welfare services, the cost calculator approach uses a 'bottom up' methodology, in which costs are built up from an individual child level, based on all the support and services that they receive during the time that they are placed in out of home care (Beecham, 2000; Holmes, Lawson, & Stone, 2005; Ward et al., 2008). The amounts of time spent on each of the eight processes outlined above are costed using appropriate hourly rates. The method then links time spent to data concerning salaries, administrative and management overheads and other expenditure, including any fees or allowances paid for the child's placement.

In order to carry out the 'bottom up' estimations that form the basis of the cost calculator approach, a number of different data items are required. These can be separated into financial information, for example, salaries and organizational overheads, service information and the time use activity data for the eight processes outlined above. The cost calculator tool also makes use of child level data, concerning needs, placements and outcomes. Bringing together these data items facilitates the longitudinal analysis of costs and outcomes for children placed in