



**COMMISSION TO ELIMINATE CHILD ABUSE AND NEGLECT FATALITIES**  
**MINUTES: RESEARCH ROUNDTABLE**  
**December 4, 2014**

**Meeting Location:** *Philadelphia Marriott Downtown; 1201 Market Street, Philadelphia, PA 19107*

**Commissioners Present:** David Sanders (Chairman), Teri Covington, Susan Dreyfus, Michael Petit, Dr. David Rubin, Dr. Cassie Statuto Bevan

**Attending by Phone:** Jennifer Rodriguez

**Designated Federal Officer:** Liz Oppenheim, Executive Director

**Conduct of the Meeting:** In accordance with the provisions of Public Law 92-463, the Commission to Eliminate Child Abuse and Neglect Fatalities held a meeting that was open to the public on Thursday, December 4, 2014, from 9:00 a.m.-12:00 p.m. at the Philadelphia Marriott Downtown. The purpose of the meeting was for Commission members to meet with national and international researchers to obtain a more in-depth understanding of the use of predictive analytics for identifying children at an increased risk for fatalities and near fatalities, a research perspective on how current national data collection systems could be enhanced to better inform practice and policy, and information about additional research that could lead to a better understanding of the issue of child abuse and neglect fatalities.

Chairman Sanders opened the meeting by informing participants that the primary purpose of the meeting was to provide Commissioners an opportunity to have a discussion with researchers. He indicated that the meeting was being recorded, and that audience members would not have the opportunity to ask questions during the proceedings. Finally, he indicated that any audience members wishing to comment could submit testimony or written feedback through the Commission's website.

**OPENING REMARKS: *Chairman David Sanders***

- Chairman Sanders provided a brief overview of the Commission's creation and its charge: to produce a report within two years that addresses several questions, including how best to count child abuse and neglect fatalities, and what strategies or programs are effective in preventing future fatalities.
- In 2014, the Commission has held a number of hearings across the country to review the available research. They have concluded that very little evidence exists regarding effective strategies to reduce child abuse and neglect fatalities.
- In light of this dearth of research, the Commission continues to explore what should be done to build the research base, as well as other considerations for moving forward.
- Two specific areas of focus today: What research exists on the use of predictive analytics to reduce child abuse and neglect fatalities? How can existing data systems be used to identify risk factors for child abuse and neglect fatalities, and what more do we need to know?

## PREDICTIVE ANALYTICS RESEARCH: *Emily Putnam-Hornstein, Ph.D. and Rhema Vaithianathan, Ph.D.*

Drs. Putnam-Hornstein and Vaithiana then provided an overview of data related to the use of predictive analytics to identify children at increased risk of child abuse and neglect, including findings from a collaborative project in New Zealand and attempts to develop predictive risk models in health care and in other locations such as California. Key points from their presentation included the following:

- The New Zealand project was a collaborative effort to explore whether it was possible to risk-stratify a large population of children on the public benefits system, to identify those who were at highest risk of experiencing substantiated child abuse and neglect before age 5. The project and its results have not been adopted, but are under consideration, as official policy by the government of New Zealand.
- Background: When children are born in New Zealand, a lot of data is known about their families (e.g., criminal history, CPS history, public benefit history, abuse history). Policymakers and others began to question why that data is not being shared or used to identify children at high risk of substantiated abuse and neglect.
- They began with these questions: Can this data be harvested? Is the data rich enough to accurately predict maltreatment substantiation? When the answer to these questions was determined to be “yes,” the next question was: Can we do it for all children at birth, rather than just those in the public benefit system?
- The project was able to determine that of the top 10 percent of children at risk (as determined at birth), 1 in 5 would experience substantiated abuse by age 3. That 10 percent of children also accounted for:
  - 40 percent of sudden unexplained infant deaths
  - 18 percent of hospitalization injuries by age 1 and 44 percent of intentional injuries by age 1
  - 31 percent of hospitalizations for intracranial injury by age 1
  - 72 percent of out-of-home placements by age 3
  - 56 percent of all substantiated maltreatment findings by age 3
  - 46 percent of all infant deaths due to nontransport injury
  - 46 percent of infant accident mortality
- The project was not specifically risk scoring for mortality (just for substantiated maltreatment), but they did find that they also captured a high percentage of children who experienced injury hospitalizations (especially those coded by the physician as “intentional”) and deaths.
- Dr. Putnam-Hornstein’s project in California also attempted to determine whether information at birth could be used to predict which children were the most likely to experience reported and substantiated maltreatment. Yet, in contrast to the robust sources of existing and integrated data available in New Zealand, her analysis used only birth record data. The risk factors and other findings were very similar to those in New Zealand.

Note of caution: These models were not developed to identify the small number of children who experience a fatality, but the larger population of those who experience a substantiated report of child abuse and neglect. However, if we are able to identify this larger population, within that population we would be capturing a decent share of children who experience fatalities. It is important to remember that of the top 10 percent of children at risk, a very small number will die.

## *Commissioner Discussion*

This presentation was followed by a discussion of the role and relevance of predictive analytics in child protective services overall, and particularly when attempting to identify children at risk for fatality.

Commissioners' comments and questions yielded the following points:

- There was concern among some Commissioners that the factors used to stratify children before birth might reinforce disproportionality within the system. Panelists responded that disproportionality is not as great for very young children as for older children. In the predictive analytics work being presented to the Commission, race and ethnicity were extracted from the modeling because it was discovered not to have as much predictive value as other data elements. In any case, concerns about disproportionality may be more useful in the implementation/intervention stage. The data gathered from predictive analytics does not replace existing systems of decision-making and judgment; it's just another piece of information for people doing that difficult work.
- It is important not just to focus on substantiated prior reports but also to include data about reports or referrals that were screened in or where there was any prior involvement with CPS (e.g., alternative response). In other words, has anyone had sufficient concern about this family to call in a report?
- Considering the principle of "do no harm" from another angle, if there is data to suggest that a child may be on a path for harm, even death, then some Commissioners wondered whether we have not only a reason but a responsibility to use predictive analytics to identify the child and intervene.
- Predictive analytics may prove most useful in the design and targeting of interventions for populations most at risk. This process may be best developed at a population level, rather at the level of the individual child or family. Predictive analytics was not designed for and may not be appropriate in the context of identifying individual children and families at risk of a fatality.
- The value of review and inclusion of health data (including but not limited to what can be gleaned from Medicaid or electronic health records) should not be discounted. Often the children who become the victims of fatalities or near fatalities are within a subpopulation of children who have already been injured in a prior incident.
- If we only focus on children who have been known to the child welfare system, we are going to miss a significant percentage of the children who will die. If we look at all of the data discussed, we can think more strategically about how to risk-stratify children. If we can identify 10 percent of children who have a high concentration of risk, and if a given community has a limited number of service slots available, can we do a better job of prioritizing these families for voluntary services in a way that would reduce future injuries? Not by aggressively/forcibly treating, but by strengthening those families?
- The question was raised whether predictive analytics would be used in a punitive way or to help families succeed.
- The New Zealand government has not yet established a position on how predictive analytics might be used, but research is looking at how the predictions line up with families currently being served by the government's home visiting program. It was discovered that approximately half of the families receiving home visiting services were outside the targeted risk group. This demonstrated a potential need for enhanced targeting; however, studies have shown that the highest risk families can be very difficult to engage and retain.
- Another option for implementation is to use predictive analytics only when a CPS call comes in. This eliminates some of the potential ethical issues, because the child welfare system is already at the point of needing to make a decision about that family.

- Predictive analytics is intended to classify children and families quite broadly, on a population basis. At this point, there is a lot of data available but it is not integrated very well. We are not at the point yet where this could be reliably used to pinpoint prevention of adverse events in particular families at great, immediate risk.
- Prior CPS reports are already working well as a predictor for future harm. However, if additional data is available about the family, then at the time of a report, that information could be brought in to support and refine the decision-making process.
- Commissioners expressed concern about ethical considerations if the net is cast too broadly. Systems must consider how much stigma is associated with each intervention offered to families identified through predictive analytics. However, the smaller the “net,” the more children will be missed.
- CAPTA requires states to provide assurance that a safe plan of care will be developed for each newborn, if the hospital thinks the child is at risk. Predictive analytics may be helpful with that subset of newborns, particularly the subcategory of drug-exposed newborns.
- It was suggested that the Commission should not shy away from predictive analytics because of potential ethical issues; rather, the Commission should address these ethical issues “head on” and use the available data at birth and at CPS report. The power of a predictive model is that it will *show* which risk factors matter. These factors need not be determined ahead of time; instead, the process is to give the model as much data as possible, and the model will reveal what the critical factors are.
- The question was raised whether the process of predictive analytics could be applied to differences in state systems, rather than just to families, to identify systemic issues around caseload size, caseworker training, etc.? Research regarding how those systemic factors influence outcomes for children and families does not currently exist. In at least one study, race dropped out of the model, but county of residence did not (in a county-based system). So different geographic units should be considered in predictive risk models.
- So the reaction of the county appears to have predicted outcomes for kids.
- Cultural differences were explored between New Zealand and the United States that might affect the implementation of predictive analytics in the two countries. Does one country have a greater prevention culture? Commissioners explored how predictive analytics was used in New Zealand to aid child protection and family success without becoming “punitive” in nature.
- No federal laws exist to limit the ability of states to access birth and other vital statistics for predictive analytics. But very few states and localities are currently taking advantage of this option.

**DISCUSSION OF DATA ELEMENTS NEEDED FOR RESEARCH TO INFORM PRACTICE AND POLICY—*Rick Barth, Ph.D. and John Fluke, Ph.D.***

Drs. Barth and Fluke provided a review of the data elements contained in the primary federally financed systems that collect data related to child abuse and neglect fatalities. Key points from their presentation included the following:

***Dr. Barth***

- Improving outcomes for children requires that data, including but beyond CPS data, be organized by family rather than being child-specific. Treating cases as independent of prior family births, child welfare involvement, criminal justice history, etc. denies critical data needed for decision-making and minimizes opportunities to identify risk.
- Statistics about the number of children who die (or nearly die) due to child maltreatment who are “known” to CPS are very misleading, because what is captured by the term “known” is limited (i.e.,

not whether the *family* is known, but the child) and is inconsistent across jurisdictions.

- There are two ways to achieve the focus on families vs. children:
  - Organize administrative data in this way (e.g., Medicaid, TANF, SNAP, etc.).
  - Link children and their families by birth records. Federal and state laws permit this, and many states are already doing it. The Centers for Disease Control and Prevention (CDC) could do more to encourage this practice.
- Another important data element is *severity* of prior maltreatment reports. This information is not currently available.
- Data elements to consider in risk modeling:
  - Parent factors (e.g., prior TPR, guardianship, birth-related information)
  - Child factors (e.g., age, birth weight)
  - Caseworker characteristics (e.g., experience and training, caseload)
  - Case formulation (e.g., Is there a good current understanding of the risks for the family or is the source of the harm to the child still unclear? Is there a specific plan for how to intervene?)

#### ***Dr. Fluke***

- The greatest opportunities to improve and link data likely exist at the local and state level, not at a national level.
- Categories that would be useful:
  - Longitudinal data to better understand risk and permit a look at causation.
  - Ability to link data across systems. We don't know what data are going to be most helpful to decision-making until we start to link and better organize them. Again, this may be more feasible for local and state entities.
  - Ability to associate children and families with place, to consider the critical and related factors of children's experiences not just at home but within their communities.
- The federal government should have a presumption of data collection for funded programs (e.g., home visiting). There is sufficient compelling evidence that data should be integrated for the purposes of child protection.

#### ***Commissioner Discussion***

Their presentation was followed by a discussion of how the data elements included in these systems could be enhanced in order to improve policy and practice, including the value and feasibility of comparing data across states. Woven into this part of the discussion was the work of the CDC in 2008 in issuing standardized definitions, as well as the degree to which existing systems overseen by the U.S. Department of Health and Human Services (HHS) and Department of Justice (DOJ) aim to have consistent definitions of child abuse and neglect. Key points included the following:

- Cross-state comparisons are complicated (or made impossible) by the absence of standardized definitions. Standardization could begin with the definitions in CAPTA, which are interpreted very differently by states.
- The lack of standardization may not just be a function of the definitions, but also of variations in policy. There was some agreement that while moving toward standardization is a good idea scientifically, it may be challenging culturally.

- Creating a severity index might be one place to start building consensus. A severity index could inform understanding of past CPS involvement and decision-making about the present and future.
- One Commissioner sought to clarify that the use of predictive analytics may prove valuable both before and *after* a CPS report is made. At minimum, rich and integrated data should be utilized in decision-making.
- There is a need to consider predictive analytics within the context of how families are offered services. Resources are limited and need to be targeted to those families most at risk.
- A Commissioner reminded the panel that the Commission heard early testimony on the importance of place-based approaches. A discussion followed about tools such as geomapping that might assist with looking at indicators such as housing, access to nutritious food, and crime. Researchers were encouraged to help the Commission think through how place becomes more actionable using a predictive analytics approach.
- There may be value in looking at how other systems approach standardization. For example, within medicine, physicians initially resisted the development of clinical guidelines, claiming that each patient is different. These guidelines work 95 percent of the time, despite patient differences.

## DISCUSSION OF POTENTIAL FURTHER RESEARCH NEEDED

During this facilitated discussion, participants provided their thoughts about which research studies in the fields of predictive analytics and data elements are needed to enhance practice and policy related to child abuse and neglect fatalities. A summary of the research recommendations is being prepared and will be made available as a separate document.

### *Closing Observations*

- Lawmakers and media often want to know three things: (1) How do states compare to each other? (2) How does state performance compare to national standards (e.g., CWLA)? (3) How do states compare to themselves over time?
- One Commissioner warned that rather than putting more information into a predictive analytics model, it may be important to focus on how the information is going to be used to enhance decision-making. For example, we don't need a model to tell us that young, poor mothers in the inner city are at risk. We need a model that will tell us which *specific* children of young, poor mothers are at increased risk of fatality or near fatality from child abuse and neglect.
- Another Commissioner wondered whether the localities and states that already have rich data could come together and review child fatalities/near fatalities across the country for the past number of years toward developing some risk stratification. The question of whether such a coordinated effort would result in a large enough data set was left open.
- There are currently some groups of systems that can share information; a Commissioner wondered whether research could be done with those systems to guide what should happen in other places.

In closing, Chairman Sanders asked the Commissioners whether they felt the Commission has gathered enough information about risk factors, or what additional information is still needed. Responses included the following:

- The Commission still has not established a definition for a “child abuse and neglect fatality.” For example, a severity index may be of little use in preventing deaths due to neglect.
- Protective factors and family supports still need to be considered.

- To the extent that these data are available, it would be irresponsible not to use them. But questions remain about *how* the data are collected, managed, and used to inform decision-making.
- How can the information gained through these efforts be applied to support better screening for foster and adoptive parents? It would be irresponsible not to apply what we know to people who are supposed to be the intervention for children.
- There may be value in using similar data collection/analysis strategies within child death reviews, to remove (or supplement) the subjectivity of that process.

I hereby certify that, to the best of my knowledge, the foregoing minutes are accurate and complete.



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David Sanders, Chairman, Commission to Eliminate Child Abuse and Neglect Fatalities

Date 3/4/2015