Universal Mandatory Reporting Policies and the Odds of Identifying Child Physical Abuse

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Objectives. To examine the relationships between universal mandatory reporting (UMR), child physical abuse reporting, and the moderating effect of UMR on physical abuse report outcomes by report source.

Methods. We used a national data set of 204 414 children reported for physical abuse in 2013 to compare rates of total and confirmed reports by states or territories with and without UMR. We estimated odds and predicted probabilities of confirming a physical abuse report made by professional versus nonprofessional reporters, accounting for the moderating effect of UMR and individual-level characteristics.

Results. Rates of total and confirmed physical abuse reports did not differ by UMR status. Nonprofessionals were more likely to make reports in UMR states compared with states without UMR. Probability of making a confirmed report was significantly lower under UMR; this effect almost doubled for nonprofessionals compared with professional reporters.

Conclusions. Universal mandatory reporting may not be the answer for strengthening the protection of children victimized by physical abuse. Implementation of child protection policies must be exercised according to evidence to exert the fullest impact and benefit of these laws. (*Am J Public Health.* 2017;107:709–716. doi:10.2105/AJPH.2017.303667)

An estimated 1 in 4 children living in the United States experience some form of maltreatment during their lifetime.[1] In 2014, more than 6.6 million children and their families were reported to Child Protective Services for allegations of child maltreatment.[2] Among them, approximately 3.2 million were screened-in by child protection agencies, and 702 000 children were found to be victims.[2] Children who are maltreated have significantly poorer mental and physical health outcomes compared with the general child population.[3] These health effects are enduring, affecting children's mental, physical, and behavioral well-being well into adulthood.[4–6] The economic consequences of child maltreatment are also substantial. These include greater use of child welfare services, higher health and mental health utilization rates, poorer academic outcomes and work productivity, increased risk for violence as both perpetrator and victim, and reduced quality of life and life expectancy.[7] A recent economic evaluation estimated that the average per-victim lifetime cost of child maltreatment in the United States was $210 012 for nonfatal maltreatment and $1 272 900 for fatal maltreatment.[8] Given the pervasiveness of child maltreatment, its toll on human suffering, and the enormous costs to children, families, and society, understanding how best to protect children from maltreatment is a critical public health issue.

Laws and structures that promote child maltreatment reporting form an important tertiary public health approach to help protect abused and neglected children.[9] Despite large variations in mandatory reporting legislations across jurisdictions in the United States,[10] all states currently require professionals working with children to report child maltreatment. These professional groups include health care providers, law enforcement personnel, social service personnel, teachers, childcare providers, and mental health clinicians. In 2014, these professional reporters initiated more than three fifths of all maltreatment reports.[2] They are also more likely to make confirmed maltreatment reports compared with nonprofessionals.[11] Since these mandatory reporting laws were implemented, a significant decrease in annual child deaths and substantial increases in the number of total and confirmed maltreatment reports have been observed.[12,13]

However, the adequacy of child maltreatment reporting laws remains controversial, especially following high-profile child abuse cases.[14] Some policymakers have petitioned for universal mandatory reporting (UMR), under which all citizens are legally required to initiate a report when they have reason to suspect child maltreatment. As of 2015, 18 states and Puerto Rico have instituted UMR laws,[15] but the evidence of these laws' overall benefit remains inconclusive. For example, UMR has only been associated with higher rates of confirmed neglect, but not of confirmed physical abuse.[16,17] One study[18] compared changes in child maltreatment reporting and victimization rates between 2000 and 2010 and found that the rate of children reported for physical abuse increased significantly under UMR, but the rate of children identified as victims of physical abuse remained

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This article was accepted January 11, 2017.

doi: 10.2105/AJPH.2017.303667

unchanged. These data suggest that, although UMR may lead to more reports being made over time, it has not been effective for detecting certain forms of maltreatment, such as physical abuse.

Child physical abuse is a particularly lethal form of maltreatment. Alone or in conjunction with neglect, physical abuse contributes to the majority of child maltreatment fatalities in the United States.[2] In fact, mandatory reporting laws were originally designed to help identify children victimized by physical abuse.[14] However, without clear signs of intentional injury, physical abuse reports are inherently difficult to substantiate.[11] Among professional reporters, less than 14% of physical abuse reports are confirmed and among nonprofessional reporters, less than 10% of physical abuse reports are confirmed (Grace W. K. Ho, written communication, December 2016). Nonprofessional reporters assume a comparatively smaller share of child maltreatment reporting, contributing only 37% of all maltreatment reports and only 16% of physical abuse reports (Grace W. K. Ho, written communication, December 2016).[2] The goal of UMR policies is to improve child maltreatment identification rates, particularly child physical abuse identification rates, by promoting child protection as a shared social responsibility and increasing the pool of mandated reporters.[14,19] However, it is unclear whether they have in fact achieved this goal. Of the few studies that have examined the effect of UMR, most have used aggregate data reported at the county or state level,[16–18] and we found no published studies on how UMR may have an impact on the outcomes of child physical abuse reports at the individual report level.

Investigating the impact of UMR at the individual level has several advantages. First, it allows us to control for a range of individual and family characteristics associated with greater child physical abuse risk (e.g., child age, gender, socioeconomic risks). Second, we can examine how UMR affects the outcomes of physical abuse reports when initiated by nonprofessional reporters, the focus of UMR policies. For example, does a physical abuse report made voluntarily by a nonprofessional have a different outcome than a report made by a nonprofessional under a legal mandate? Finally, it allows us to understand whether UMR affects the rate of physical abuse reporting among professionally mandated reporters. For example, are professionally mandated reporters less likely to initiate reports if nonprofessionals, who are presumably less knowledgeable about child physical abuse, are also mandated to report? Answering these questions is critical for making informed and evidence-based decisions on whether and how UMR should be implemented.

In this secondary analysis of data on child physical abuse reports made in federal fiscal year 2013, we examined the impact of UMR on total and confirmed reports of physical abuse. As the intent of UMR is to increase reporting among nonprofessionals, we first examined whether rates of total and confirmed physical abuse reports differed by UMR status. Then we described and compared characteristics of reports made in states or territories with and without UMR. Lastly, we estimated the odds and predicted probabilities of confirming a physical abuse report made by a professional versus a nonprofessional reporter, accounting for differing effects of UMR on reporter type. On the basis of evidence that child and caregiver characteristics can influence child physical abuse reports and confirmation, we controlled for a range of individual-level characteristics in the analyses.

METHODS

We obtained data from the National Data Archive on Child Abuse and Neglect. We used the National Child Abuse and Neglect Data System (NCANDS) Child File for 2013, and our final sample consisted of all child maltreatment reports that (1) had a sole allegation of child physical abuse, (2) had a known report source, (3) pertained to a child aged from birth to 17 years, and (4) received a response (i.e., investigation or assessment) and a report disposition from Child Protective Services. To examine UMR effects on child physical abuse only, children in reports that involved more than 1 child must all have sole allegations of physical abuse to be included. This avoids including children in reports that may have been initiated based on allegations of other maltreatment types. We used the most recent report if a child had multiple physical abuse reports in 2013. We excluded reports that were initiated by the alleged perpetrator or resulted in child fatality.

The final sample included 204 414 unique children from 43 states, the District of Columbia, and Puerto Rico. One state did not submit data on report source (OR) and 6 states did not submit data to NCANDS in 2013 (ID, MD, NC, OH, OK, VA).

Study Measures

The primary outcome of interest was recorded case disposition following a child physical abuse report. In this analysis, we dichotomized these dispositions into confirmed and unconfirmed physical abuse reports as defined by NCANDS.[2] Confirmed reports are defined as those cases that received a response by a child protective service agency and had sufficient evidence under state law or policy to conclude or suspect the child was a victim of maltreatment. Confirmed cases may receive 1 of 3 case dispositions: substantiated (i.e., allegation of maltreatment supported or founded under state law or policy), indicated (i.e., allegation of maltreatment could not be substantiated under state law or policy, but there was reason to suspect that the child was maltreated), or alternative response victim (i.e., there was sufficient evidence to warrant child protective agency or the courts to require the family to receive services and monitoring). All other disposition categories (e.g., unsubstantiated, intentionally false, and closed without finding) implied that the maltreatment allegation was not confirmed and that there was no evidence to support or suspect that the child was abused.

There were 10 known report sources, excluding alleged perpetrators, in the NCANDS data set. They were divided into 2 reporter types—professionals (i.e., health care provider, mental health personnel, social services, legal or law enforcement, educational personnel, and childcare provider) and nonprofessionals (i.e., alleged victim, parent, other relative, and friend or neighbor). Professionals are those who regularly interface with children as part of their occupation and are mandated across all states and territories to report suspected child maltreatment. Nonprofessionals, depending on the laws and policies within the state or territory in which

TABLE 1—Investigated and Confirmed Reports of Child Physical Abuse by State or Territory: National Child Abuse and Neglect Data System Child File, United States, 2013

State or Territory	All Reports, No.	Report Rate[a] (per 10 000 Children)	Unconfirmed, No. (%)	Confirmed, No. (%)	Victimization Rate[b] (per 10 000 Children)
Without UMR (n = 30)					
Alabama	9 775	87.95	6 732 (68.87)	3 043 (31.13)	27.38
Alaska	604	32.11	487 (80.63)	117 (19.37)	6.22
Arizona	2 103	13.01	1 948 (92.63)	155 (7.37)	0.96
Arkansas	2 590	36.49	2 193 (84.67)	397 (15.33)	5.59
California	15 710	17.12	14 660 (93.32)	1 050 (6.68)	1.14
Colorado	4 147	33.50	3 524 (84.98)	623 (15.02)	5.03
Connecticut	1 786	22.73	1 668 (93.39)	118 (6.61)	1.50
District of Columbia	644	57.77	588 (91.30)	56 (8.70)	5.02
Georgia	1 857	7.46	1 535 (82.66)	322 (17.34)	1.29
Hawaii	240	7.81	174 (72.50)	66 (27.50)	2.15
Illinois	7 649	25.30	6 100 (79.75)	1 549 (20.25)	5.12
Iowa	2 952	40.77	2 319 (78.56)	633 (21.44)	8.74
Kansas	4 758	65.71	4 546 (95.54)	212 (4.46)	2.93
Louisiana	3 114	27.98	2 332 (74.89)	782 (25.11)	7.03
Maine	258	9.87	209 (81.01)	49 (18.99)	1.87
Massachusetts	1 788	12.83	1 358 (75.95)	430 (24.05)	3.08
Michigan	17 390	77.45	15 735 (90.48)	1 655 (9.52)	7.37
Minnesota	5 014	39.20	4 561 (90.97)	453 (9.03)	3.54
Missouri	130	0.93	38 (29.23)	92 (70.77)	0.66
Montana	303	13.53	264 (87.13)	39 (12.87)	1.74
Nevada	2 941	44.45	2 230 (75.82)	711 (24.18)	10.75
New York	1 170	2.76	949 (81.11)	221 (18.89)	0.52
North Dakota	552	33.93	502 (90.94)	50 (9.06)	3.07
Pennsylvania	15 190	55.93	14 412 (94.88)	778 (5.12)	2.86
South Carolina	2 787	25.81	1 293 (46.39)	1 494 (53.61)	13.85
South Dakota	440	21.16	388 (88.18)	52 (11.82)	2.50
Vermont	1 965	160.14	1 744 (88.75)	221 (11.25)	18.01
Washington	5 248	32.89	4 669 (88.97)	579 (11.03)	3.63
West Virginia	1 716	44.96	1 419 (82.69)	297 (17.31)	7.78
Wisconsin	5 970	45.65	5 468 (91.59)	502 (8.41)	3.84
With UMR (n = 15)					
Delaware	2 518	123.70	2 434 (96.66)	84 (3.34)	4.13
Florida	8 190	20.34	7 482 (91.36)	708 (8.64)	1.76
Indiana	8 569	54.03	7 984 (93.17)	585 (6.83)	3.69
Kentucky	5 168	50.97	4 592 (88.85)	576 (11.15)	5.68
Mississippi	1 756	23.81	1 303 (74.20)	453 (25.80)	6.14
Nebraska	502	10.81	403 (80.28)	99 (19.72)	2.13
New Hampshire	942	34.74	925 (98.20)	17 (1.80)	0.63
New Jersey	10 937	54.09	10 340 (94.54)	597 (5.46)	2.95

Continued

they reside, may be permitted (i.e., voluntary and without being legally required to do so) or mandated under UMR to report suspected maltreatment. Of the 45 states and territories included in this analysis, 15 had UMR in place in 2013 (DE, FL, IN, KY, MS, NE, NH, NJ, NM, RI, TN, TX, UT, WY, and Puerto Rico).[20] This information was added into the original NCANDS data set.

We included 10 child and caregiver characteristics associated with likelihood of report substantiation[21] as covariates. Child characteristics included age, gender, race/ethnicity, and having a history of previous victimization. All caregiver risk factors were dichotomous variables that indicated whether the caregiver had a known history of domestic violence, drug abuse, alcohol abuse, inadequate housing, financial problem, or receipt of public assistance. This information was available as part of the NCANDS data set.

Data Analysis

We analyzed data with Stata SE version 14.1 (StataCorp LP, College Station, TX). We used descriptive statistics to summarize the characteristics of child physical abuse reports, report confirmation, and report and victimization rates per 10 000 children by US state or territory. We calculated report and victimization rates by number of total or confirmed reports over child population in 2013.[22] We calculated correlation between report and victimization rates by using Spearman's ρ; we also compared these rates between states and territories with and without UMR by using the Mann–Whitney U test. We assessed descriptive statistics and bivariate relations between UMR status and child, caregiver, and report characteristics with *t* test and χ^2.

We conducted hierarchical logistic regression analyses by using reporter type, UMR status, and child and caregiver characteristics to predict confirmed victimization, with 4 steps of variable entry. In step 1, we entered the control variables (i.e., child and caregiver characteristics) into the regression equation. In step 2, we added the first predictor variable (i.e., reporter type). In step 3, we added the second variable (UMR status). In step 4, we entered the interaction of reporter type x UMR status. Lastly, we calculated mean predicted probabilities and average marginal effects (AMEs) for each level of the interaction between reporter type and UMR status. We set α at 0.05 for all analyses.

RESULTS

The overall child physical abuse report and victimization rates per 10 000 children were

TABLE 1—*Continued*

State or Territory	All Reports, No.	Report Rate[a] (per 10 000 Children)	Unconfirmed, No. (%)	Confirmed, No. (%)	Victimization Rate[b] (per 10 000 Children)
New Mexico	845	16.65	684 (80.95)	161 (19.05)	3.17
Puerto Rico	1 272	15.62	828 (65.09)	444 (34.91)	5.45
Rhode Island	891	41.64	691 (77.55)	200 (22.45)	9.35
Tennessee	7 849	52.62	7 225 (92.05)	624 (7.95)	4.18
Texas	26 813	58.07	22 973 (85.68)	3 840 (14.32)	5.45
Utah	6 166	68.77	4 654 (75.48)	1 512 (24.52)	16.86
Wyoming	1 205	87.52	1 188 (98.59)	17 (1.41)	1.23
Total	204 414	31.93	177 751 (89.96)	26 663 (13.04)	4.16

Note. UMR = universal mandatory reporting.

[a]Calculation based on number of reports in reporting state divided by child population in reporting state in 2013 multiplied by 10 000.

[b]Calculation based on number of confirmed victims in reporting state divided by child population in reporting state in 2013 multiplied by 10 000.

31.93 and 4.16, respectively (Table 1). There was a significant correlation between report and victimization rates among states and territories; higher reporting rates were associated with higher confirmed victimization rates ($r_s = 0.54$; $P < .001$). However, states and territories with and without UMR did not differ in their rates of physical abuse reports ($U = 279$; $P = .19$) or confirmed victimization ($U = 232$; $P = .87$). Among the top-10 states or territories with the highest report rate, 4 had UMR in place (DE, NJ, UT, and WY). Among the top-10 states or territories with the highest victimization rate, only 2 had UMR in place (RI and UT).

Report Characteristics by Universal Mandatory Reporting Status

Of all child physical abuse reports (n = 204 414), only 13.04% were confirmed. Among confirmed cases, 16.25% were made by nonprofessional reporters and 83.75% were made by professional reporters (Table 2). Physical abuse reports made in UMR states and territories were less likely to be confirmed compared with those made in non-UMR states and territories (11.86% vs 13.86%; $\chi^2 = 175$; $P < .001$). Nonprofessionals were more likely to make reports in UMR states or territories compared with states and territories without UMR (19.51% vs 14.00%; $\chi^2 = 1100$; $P < .001$). Report sources also differed by UMR status ($\chi^2 = 3300$; $P < .001$). Higher proportions of reports were made by nonprofessional reporters across all sources (i.e., parents, other relatives, and friends or neighbors) in states or territories with UMR compared with states or territories without UMR. Among professionals, lower proportions of reports were initiated by mental health and social services personnel in states or territories with UMR compared with states or territories without UMR.

Child and caregiver characteristics were significantly different between states and territories with and without UMR. Compared with states and territories without UMR, reports made under UMR were more likely to involve children who were previously identified as maltreated (20.06% vs 14.79%; $\chi^2 = 974$; $P < .001$) and to have known caregiver risk factors (i.e., domestic violence, drug abuse, alcohol abuse, inadequate housing, and financial problems). One exception was receipt of public assistance; children of caregivers receiving public assistance were less likely to be found in reports made under UMR (11.39% vs 13.75%; $\chi^2 = 247$; $P < .001$).

Estimated Odds and Probabilities of Making a Confirmed Report

Hierarchical logistic regression predicting confirmation of child physical abuse reports (Table 3) showed that, after control for child and caregiver characteristics, reports made by professionals had 1.32 times greater odds ($P < .001$) of being confirmed compared with those made by nonprofessionals. Reports made in states and territories with UMR were less likely to be confirmed (adjusted odds ratio [AOR] = 0.50; $P < .001$) compared with those made in states and territories without UMR. There was a significant interaction effect between reporter type and UMR status (AOR = 1.52; $P < .001$; Figure 1). Analysis of marginal effects indicated the mean predicted probabilities of confirming reports made by professionals was lower (AME = 3.07%; $P < .001$) in states and territories with UMR (12.04%) than without UMR (15.11%). The probability of confirming physical abuse reports made by nonprofessionals was also lower (AME = 5.47%; $P < .001$) in states and territories with UMR (6.57%) than those without UMR (12.04%). Probabilities for making confirmed physical abuse reports for both reporter types were significantly lower when the reports were made under UMR, but this effect almost doubled for nonprofessional compared with professional reporters.

DISCUSSION

It is an ethical imperative to identify and protect maltreated children as they are among our most vulnerable and marginalized members of society.[23] For children who are physically abused, the results of this study suggest that UMR, a strategy intended to strengthen their protection, may not be the answer. Consistent with results from previous studies,[16,24] we found no difference in the rates of total or confirmed child physical abuse report across states and territories with and without UMR. In fact, the states and territories with the highest physical abuse report and victimization rates (i.e., VT and AL, respectively) did not have UMR in place. However, our findings show that, regardless of UMR status, states and territories that received more physical abuse reports were likely to identify more physically abused children. Therefore, beyond legally mandating reporting, strategies that actually encourage reporting (e.g., increasing public knowledge and training in abuse identification) are needed to effectively protect children from physical abuse. Otherwise, UMR may only increase reporting without achieving its goal of identifying more abused children. Indeed, one study found that the rate of physical abuse reports increased in a decade following UMR, but the rate of children identified as victims of physical abuse remained unchanged.[18]

TABLE 2—Characteristics of Reports Made in States and Territories With and Without Universal Mandatory Reporting: National Child Abuse and Neglect Data System Child File, United States, 2013

Characteristic	Total Reports (n = 204 414), No. (%) or Mean ±SD	Without UMR (n = 120 791), No. (%) or Mean ±SD	With UMR (n = 83 623), No. (%) or Mean ±SD
Child characteristics			
Child age at report	8.60 ±4.90	8.63 ±4.91	8.55 ±4.89
Aged ≤ 5 y	62 188 (30.42)	36 134 (29.91)	26 054 (31.16)
Child gender			
Male	111 040 (54.32)	65 212 (53.99)	45 828 (54.80)
Female	93 374 (45.68)	55 579 (46.01)	37 795 (45.20)
Child race/ethnicity			
White	81 729 (39.98)	49 195 (40.73)	32 534 (38.91)
Black/African American	41 169 (20.14)	23 739 (19.65)	17 430 (20.84)
Hispanic	7 778 (3.81)	6 542 (5.42)	1 236 (1.48)
Asian/Pacific Islander	3 403 (1.66)	2 402 (1.99)	1 001 (1.20)
American Indian/Alaska Native	1 237 (0.61)	1 013 (0.84)	224 (0.27)
Multiple	36 703 (17.96)	14 978 (12.40)	21 725 (25.98)
Unknown	32 395 (15.85)	22 922 (18.98)	9 473 (11.33)
Previous maltreatment victim	34 635 (16.94)	17 863 (14.79)	16 772 (20.06)
Caregiver characteristics			
Known reports of caregiver risks			
Domestic violence	10 464 (5.12)	4 632 (3.83)	5 832 (6.97)
Drug abuse	5 069 (2.48)	1 903 (1.58)	3 166 (3.79)
Alcohol abuse	2 697 (1.32)	1 471 (1.22)	1 226 (1.47)
Inadequate housing	9 683 (4.74)	681 (0.56)	9 002 (10.76)
Financial problem	13 129 (6.42)	2 526 (2.09)	10 603 (12.68)
Receive public assistance	26 132 (12.78)	16 609 (13.75)	9 523 (11.39)
Report characteristics			
Confirmed report	26 663 (13.04)	16 746 (13.86)	9 917 (11.86)
Reporter type			
Professionals	171 188 (83.75)	103 880 (86.00)	67 308 (80.49)
Nonprofessionals	33 226 (16.25)	16 911 (14.00)	16 315 (19.51)
Report source			
Health care provider	20 099 (9.83)	11 219 (9.29)	8 880 (10.62)
Mental health personnel	14 600 (7.14)	10 161 (8.41)	4 439 (5.31)
Social services	20 809 (10.18)	14 970 (12.39)	5 839 (6.98)
Legal or law enforcement	29 638 (14.50)	17 380 (14.39)	12 258 (14.66)
Educational personnel	81 055 (39.65)	47 106 (39.00)	33 949 (40.60)
Childcare provider	4 987 (2.44)	3 044 (2.52)	1 943 (2.32)
Alleged victim	1 196 (0.59)	689 (0.57)	507 (0.61)
Parent	14 467 (7.08)	7 695 (6.37)	6 772 (8.10)
Other relative	10 567 (5.17)	5 412 (4.48)	5 155 (6.16)
Friend or neighbor	6 996 (3.42)	3 115 (2.58)	3 881 (4.64)

Note. UMR = universal mandatory reporting. All bivariate relationships with UMR (*t* test or χ^2) were significant at $P < .001$.

When we examined child physical abuse reports on an individual level, we found that reports made under UMR were less likely to be confirmed compared with those made without UMR. Furthermore, certain professional groups (i.e., mental health providers and social service personnel) made a lower proportion of physical abuse reports under UMR, whereas parents, relatives, and friends or neighbors made more reports when mandated to do so. A plausible explanation is that nonprofessionals bound by law to report suspected abuse may be more likely to bring children to the attention of child protection agencies before reaching a crisis requiring intervention from mental health or social service professionals. However, because these reports are based on nonprofessionals' lay observation, they may not include sufficient evidence to substantiate abuse. An alternate hypothesis is that UMR has the unintended consequence of suppressing physical abuse reporting among some professionals, who may assume that others will initiate the report.[25]

Nonprofessionals made a greater proportion of physical abuse reports under UMR (i.e., 20% vs 14% of all reports), as intended by the law. However, their reports were less likely to be confirmed compared with those made by professionals. In this study, we estimated the probability of a physical abuse report being confirmed when initiated under different conditions (i.e., by UMR status and reporter type). After we controlled for child and caregiver characteristics, reports initiated by nonprofessionals had a 1 in 8 chance of being confirmed when made voluntarily (i.e., without UMR); this probability is comparable to professionals' reports made under UMR. However, the chance of making a confirmed report was less than 1 in 15 when nonprofessionals were legally mandated to do so under UMR. Thus, UMR is associated with a poorer rate of report confirmation among nonprofessional reporters, and a poorer rate of reporting among some professionals compared with those in non-UMR states and territories. Taken together, our results suggest that, at best, UMR does not appear to be achieving its intended goal of improving identification of children victimized by physical abuse. In fact, UMR can potentially lead to poorer outcomes. For example, more reports made but without sufficient evidence can divert valuable but limited resources from endangered children who are actually in need of protection.[12]

Changes in mandatory reporting laws often emerge out of emotionally charged cases. For example, in response to one high-profile case of child sexual abuse,[26,27] 8 states proposed bills to enact UMR within the

TABLE 3—Hierarchical Logistic Regression Estimates Using Child and Caregiver Characteristics, Report Source, and Universal Mandatory Reporting Status to Predict Likelihood of Confirmed Child Physical Abuse Reports: National Child Abuse and Neglect Data System Child File, United States, 2013

Variables	Step 1, AOR (95% CI)	Step 2, AOR (95% CI)	Step 3, AOR (95% CI)	Step 4, AOR (95% CI)
Child age at report	0.95 (0.95, 0.95)	0.95 (0.94, 0.95)	0.95 (0.94, 0.95)	0.95 (0.95, 0.95)
Child gender (Ref: male)	1.00 (0.98, 1.03)	1.00 (0.98, 1.03)	1.00 (0.97, 1.03)	1.00 (0.97, 1.03)
Child race/ethnicity (Ref: White)				
Black/African American	1.24 (1.20, 1.28)	1.21 (1.17, 1.26)	1.22 (1.18, 1.26)	1.22 (1.18, 1.26)
Hispanic	0.85 (0.79, 0.92)	0.81 (0.75, 0.88)	0.76 (0.71, 0.52)	0.78 (0.72, 0.84)
Asian/Pacific Islander	0.80 (0.71, 0.92)	0.75 (0.67, 0.84)	0.73 (0.66, 0.82)	0.74 (0.66, 0.83)
American Indian/Alaska Native	0.81 (0.69, 0.96)	0.78 (0.66, 0.93)	0.72 (0.61, 0.86)	0.72 (0.61, 0.86)
Multiple	0.87 (0.54, 0.90)	0.85 (0.82, 0.88)	0.91 (0.88, 0.94)	0.91 (0.88, 0.94)
Unknown	0.56 (0.53, 0.59)	0.55 (0.52, 0.58)	0.54 (0.51, 0.53)	0.54 (0.51, 0.56)
Prior maltreatment victim (Ref: No)	1.07 (1.03, 1.10)	1.07 (1.4, 1.11)	1.08 (1.05, 1.12)	1.09 (1.05, 1.13)
Known reports of caregiver risks (Ref: No)				
Domestic violence	2.65 (2.53, 2.78)	2.68 (2.55, 2.80)	2.79 (2.67, 2.93)	2.81 (2.68, 2.94)
Drug abuse	3.34 (3.13, 3.56)	3.33 (3.12, 3.56)	3.58 (3.35, 3.82)	3.58 (3.36, 3.83)
Alcohol abuse	1.31 (1.19, 1.44)	1.31 (1.19, 1.45)	1.26 (1.15, 1.39)	1.26 (1.14, 1.39)
Inadequate housing	0.74 (0.68, 0.81)	0.76 (0.69, 0.83)	0.87 (0.79, 0.95)	0.87 (0.79, 0.95)
Financial problem	1.33 (1.24, 1.43)	1.35 (1.25, 1.45)	1.40 (1.30, 1.50)	1.40 (1.30, 1.50)
Receive public assistance	0.94 (0.91, 0.98)	0.94 (0.90, 0.98)	0.91 (0.88, 0.95)	0.92 (0.88, 0.95)
Report made by professional reporter (Ref: No)	. . .	1.61 (1.54, 1.67)	1.57 (1.50, 1.63)	1.32 (1.25, 1.38)
Report made in state with UMR (Ref: No)	. . .	. . .	0.72 (0.70, 0.72)	0.50 (0.46, 0.54)
Professional reporter × UMR interaction	. . .	. . .	. . .	1.52 (1.40, 1.65)
Model summary				
df	15	16	17	18
X^2	6 627.23	7 224.80	7 728.40	7 831.34
Akaike information criterion	151 709.2	151 113.6	150 612.0	150 511.1
Model comparison				
Δdf	. . .	1	1	1
ΔX^2	. . .	597.56	503.60	102.94

Note. AOR = adjusted odds ratio; CI = confidence interval; UMR = universal mandatory reporting. The sample size was n = 204 414.

following legislative year.[14] However, on the basis of the data reported here, there is little evidence that UMR improves child physical abuse detection. Our results do suggest that UMR may be useful for identifying children at risk for other types of maltreatment. For example, reports made in states and territories with UMR were more likely to involve families at risk for maltreatment (e.g., those exposed to domestic violence, caregiver substance use, financial problems). It can be speculated that nonprofessional reporters, who have more opportunities to observe these risk factors within their communities, are more likely to initiate a maltreatment report when mandated to do so based on these concerns. This may explain why UMR has been linked to improved detection of child neglect.[16–18]

How UMR laws are designed and implemented also requires further examination. For example, Utah, one of the first states to implement UMR, does not enumerate which professional groups are mandated reporters but, rather, widely mandates all persons to report suspected maltreatment.[14] In our analyses, Utah was the only UMR state or territory among the top-10 states and territories with the highest physical abuse reporting and confirmation rates; 3 of the 4 other states that follow this UMR legislative format also showed comparatively high physical abuse report rates (NJ, TN, and WY). Delaware, with the highest physical abuse reporting rate among UMR states and territories (124 per 10 000 children), also legislates the strictest monetary penalties for failure to report. More research on whether and how these variations in policy design and implementation influence child physical abuse reporting and identification is needed to better understand the effectiveness of UMR laws.

Limitations

Several study limitations should be noted. First, we used a national administrative data set (NCANDS) that was aggregated from data independently provided by state agencies. Reporting agencies have different definitions of and standards for confirming abuse;

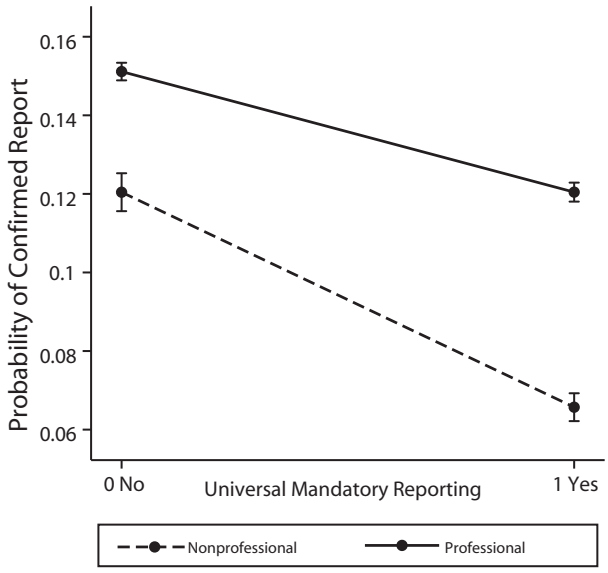

FIGURE 1—Mean Predicted Probabilities of Making a Confirmed Child Physical Abuse Report for Each Level of Interaction Between Reporter Type and Universal Mandatory Reporting Status: National Child Abuse and Neglect Data System Child File, United States, 2013

reporting practices (e.g., documentation of caregiver risk factors) can also differ across agencies. These differences may affect data quality, and we were not able to account for these differences in our analysis. We were also constrained by the variables available in this data set. Other variables that can affect report outcomes (e.g., reporter characteristics, level of evidence supporting the report, or resources available to support thorough investigations) were not available for inclusion in this analysis.

Second, there is wide variation in the types of professionals mandated to report in non-UMR states.[14] For example, in 12 states, Guam, and Puerto Rico, photograph processors are professionally mandated to report suspected maltreatment.[15] Furthermore, variations across response systems may also affect reporting and report outcomes (e.g., availability of differential response pathways). Reporting behaviors and outcomes of individual reports may be influenced by other factors operating at the state or territory level, and we did not use a nested design to account for these variations.

Lastly, the cross-sectional nature of these data, collected in 2013, precludes drawing conclusions about the causal effects of UMR on child physical abuse reporting and identification. Historical effects may also have skewed the results. For example, because of ongoing lawsuits challenging the validity of investigations that extended beyond 90 days, Missouri screened out all child maltreatment reports that did not lead to a complete investigation within 90 days in 2013. This may have contributed to the extremely low physical abuse reporting and victimization rates in Missouri (i.e., 0.93 and 0.66 per 10 000 children, respectively). Longitudinal studies investigating how UMR affects rates of total and confirmed reports before and after its implementation, over time, and across maltreatment types are needed to fully inform policymakers on whether and how UMR should be implemented in their jurisdiction.

Conclusions

In 2014, more than 700 000 children were found to be victims of maltreatment.[2] Understanding how best to protect children from maltreatment is a critical public health issue, and public policies such as mandatory reporting laws have formed an important tertiary prevention intervention to protect maltreated children. However, these policies must be implemented on the basis of evidence of their effectiveness. At a minimum, these policies should do no harm. Our findings suggest that, at least for children victimized by physical abuse, UMR is not achieving its original intent. Given our limited child protection resources, public health policies designed to protect children from physical abuse need to focus only on the most effective approaches. AJPH

CONTRIBUTORS

G. W. K. Ho conceptualized and designed the study, acquired the study data, carried out the analysis and interpretation of data, and drafted the initial article. D. A. Gross contributed to the design of the study and data interpretation, and reviewed and revised the article. A. Bettencourt contributed to data analysis and interpretation, and reviewed and revised the article. All authors approved the final article as submitted.

ACKNOWLEDGMENTS

G. W. K. Ho gratefully acknowledges support from the Morton K. and Jane Blaustein Post-Doctoral Fellowship in Mental Health and Psychiatric Nursing.

Note. The data utilized in this project were made available by the National Data Archive on Child Abuse and Neglect, Cornell University, Ithaca, NY. The collector of the National Child Abuse and Neglect Data System Child Files, the funder, the National Data Archive on Child Abuse and Neglect, Cornell University, and the agents or employees of these institutions bear no responsibility for the analyses or interpretations presented herein. The information and opinions expressed reflect solely the opinions of the authors.

HUMAN PARTICIPANT PROTECTION

This study was reviewed and approved by the Johns Hopkins institutional review boards.

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