Racial Bias in Child Protection? A Comparison of Competing Explanations Using National Data

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WHAT'S KNOWN ON THIS SUBJECT: Black children are involved in reported and substantiated cases of child abuse and neglect at approximately twice the rate of white children. It is unknown if this disproportionality is attributable to higher risk or to bias in reporting or assessment.

WHAT THIS STUDY ADDS: Results based on national child abuse and neglect and child health data indicated that racial disproportionality in black children is attributable to higher risk rather than reporting bias. Our findings also suggest that in Hispanic children cultural protective factors apply to child maltreatment (the "Hispanic Paradox").

abstract

OBJECTIVE: Cases of child abuse and neglect that involve black children are reported to and substantiated by public child welfare agencies at a rate approximately twice that of cases that involve white children. A range of studies have been performed to assess the degree to which this racial disproportionality is attributable to racial bias in physicians, nurses, and other professionals mandated to report suspected child victimization. The prevailing current explanation posits that the presence of bias among reporters and within the child welfare system has led to the current large overrepresentation of black children. A competing explanation is that over-representation of black children is mainly the consequence of increased exposure to risk factors such as poverty.

METHODS: We tested the competing models by using data drawn from national child welfare and public health sources. We compared racial disproportionality ratios on rates of victimization from official child welfare organizations to rates of key public health outcomes not subject to the same potential biases (eg, general infant mortality).

RESULTS: We found that racial differences in victimization rate data from the official child welfare system are consistent with known differences for other child outcomes. We also found evidence supporting the presence of cultural protective factors for Hispanic children, termed the "Hispanic paradox."

CONCLUSIONS: Although our findings do not preclude the possibility of racial bias, these findings suggest that racial bias in reporting and in the child welfare system are not large-scale drivers of racial disproportionality. Our data suggest that reduction of black/white racial disproportionality in the child welfare system can best be achieved by a public health approach to reducing underlying risk factors that affect black families. *Pediatrics* 2011;127:471–478

The American Academy of Pediatrics recommends "that physicians remain alert for the signs and symptoms of child abuse and neglect in the medical visit."[1] Seventy-one percent of surveyed nurses and physicians rated identification of child abuse and neglect (CA/N) as being rather difficult or difficult, and "few clinicians routinely screen patients who do not have apparent injuries."[1,2] Evidence-based protocols for reporting CA/N are sparse, and available screening tools lack specificity.[3–8] The complexity and subjectivity involved in assessing CA/N cases have contributed to concerns that the overrepresentation of black children among officially identified CA/N victims may be attributable to bias in reporting and in the handling of reported cases.[9–11] Results of case file studies have suggested that minority children, especially toddlers, may be more likely both to have skeletal surveys ordered and to be reported to child welfare.[12] Surveys that include vignettes and similar methods have been used with mixed results in attempts to determine race and class bias in reporting suspected CA/N. Results of 1 study showed some racial bias among physicians but not among nurses, whereas in another study racial disparities were found, but only among clients with private insurance.[13,14] If significant bias exists in reporting by medical professionals, the bias would suggest a need for training in cultural competency and oversight as a means to ensure that medical professionals use greater caution in reporting of children of color. It is therefore important to understand if such bias is common.

National data on disproportionality of reported child maltreatment come from 2 main sources. Official maltreatment victimization counts from the National Child Abuse and Neglect Data System (NCANDS) have revealed that black children are almost twice as likely as white children to be victims in verified reports of CA/N.[15] The 4 waves of the National Incidence Study of Child Abuse and Neglect (NIS) are the largest and most long-standing efforts to catalog rates of actual, as opposed to reported, CA/N. The results of the first 3 iterations of the NIS were interpreted to indicate similar CA/N rates for black, white, and Hispanic children.[16–18] This difference between known reported disproportionality and estimated actual disproportionality has been put forward as evidence that CA/N cases involving black children have been overreported, overscreened, and/or oversubstantiated. At least 11 states have already initiated task forces or polices intended to reduce this apparent imbalance, which is currently 1 of the most intensive areas of policy activity in child welfare.[19] Two theoretical models have been proposed that may explain the overrepresentation of black children in the child welfare system.[20,21] We used available national data to test these 2 competing models.

Theoretical Framework

In this analysis we avoided the variously defined term disparity, which is often used to connote racial bias.[11,22,23] Instead we used the term disproportionality to describe differences in event rates that may be attributable to race. We calculated the disproportionality ratio (DR), the rate of an event in a minority population divided by the rate in the white population. For example, for an event rate of 3 per 1000 in a black population and 2 per 1000 in a white population, the DR would be 3 divided by 2, or 1.5.

Barth et al[21] have suggested that 2 different pathways might account for the disproportionality in CA/N. We have termed these the risk model and the bias model.

Our risk model (Fig 1) has only 3 constructs. Increased exposure of individuals in minority groups to risk factors (especially poverty) associated with CA/N increases actual occurrence of CA/N, which causes higher reported occurrence rates.

In the bias model (Fig 2), 2 new constructs are introduced, unspecified moderating factors specific to minority groups and large systemic bias in reporting or in the child protective services (CPS) system. The risk and bias models both stipulate that individuals in minority groups have higher exposure to risk factors than white individuals, and that children who are members of minority groups have higher official CA/N rates than white children. We also tested 2 key differences in the models.

Testable Theoretical Assertion: Moderating Factors

If strong moderating factors exist (bias model), high DRs associated with risk will not be reflected by high DRs for actual CA/N. If strong moderating factors are not in effect (risk model), the high DRs associated with risk of CA/N will be mirrored by similar DRs for actual CA/N.

Testable Theoretical Assertion: Reporting/CPS Bias

Under the bias model, we would expect DRs for CPS-substantiated CA/N to be higher than DRs of actual CA/N. If no such bias is operative (risk model), we would anticipate similarity between DRs for CPS-substantiated CA/N and actual CA/N.

METHODS

In this study we performed an empirical test of the above theoretical assertions. The most direct test would be to compare actual observed CA/N and CPS-substantiated CA/N rates. Unfortunately we lacked reliable and valid data on rates of actual CA/N. Although
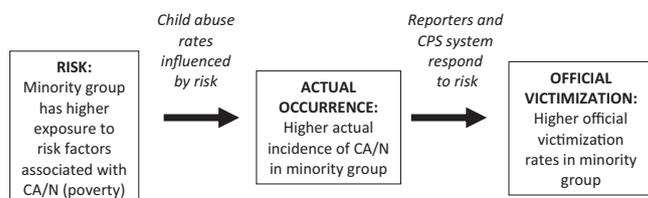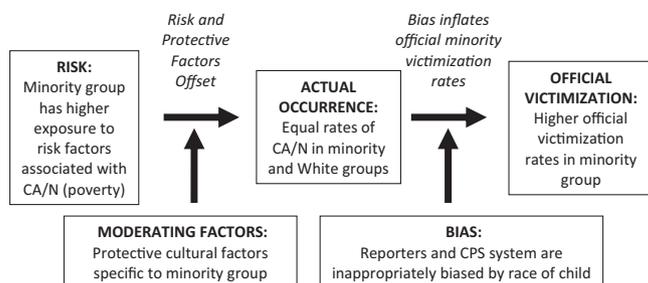
FIGURE 1
The risk model.

FIGURE 2
The bias model.

the investigators conducting NIS-1 through NIS-4 have attempted to provide such a nationally generalizable measure of actual maltreatment, bias in sampling and measurement error have occurred during the study waves, and large amounts of data are missing.[24] Published NIS estimates of actual CA/N rates according to race generally have large SEs and therefore large confidence intervals.[25] Another complication is that the reported findings of the NIS-3 and NIS-4 are divergent. The NIS-3 investigators reported "*no* race differences in maltreatment incidence" (italics in original), whereas the NIS-4 investigators did find a difference; according to their results black children are 73% more likely than white children to suffer CA/N as defined by the endangerment standard.[16,18,25]

Although we cannot measure actual CA/N with confidence, other measures of child well-being should be sensitive to the same risk factors but not sensitive to bias in reporting or decision making. At a national level, valid estimates of rates of infant mortality, low birth weight, and premature birth ac-cording to race are available. Racial DRs can be established for each of these conditions for black children compared with white children and Hispanic children compared with white children. It seems reasonable that culturally specific moderating factors that would protect against CA/N, especially the most common form, neglect, might also protect against infant mortality, prematurity, and low birth weight. For example, poverty is a risk factor for each of these outcomes, but extended family supports and/or cultural emphasis on the maternal role could plausibly help poor families in negotiating the many challenges involved in pregnancy and in appropriately caring for their children.

Demonstration that DRs of CPS-substantiated CA/N rates are substantially higher than DRs for known actual rates for negative child outcomes (infant mortality, low birth weight, and prematurity) would strongly support the bias model, which asserts that reporters and the child welfare system are biased toward overidentification of minority children as possible victims of CA/N.

On the other hand, demonstration that DRs from CPS-substantiated CA/N rates are consistent with DRs of similar known and unbiased negative child outcomes (mortality, low birth weight, prematurity) would lend support to the risk model. In the face of the latter results, and for the bias model to remain viable, one would have to argue that culturally specific moderating factors suppress CA/N (particularly neglect) but do not suppress infant mortality, low birth weight, and prematurity.

In this study we used full population counts. No sampled data were used, with the exceptions of the 2008 Census data and the NIS data. Yearly census estimates of poverty are not actual counts, but have been shown to be consistent with decennial census poverty counts. Sampling error is thus minimal, and external validity is evident. NIS-4 estimates, which are also not population counts, are provided for comparison purposes only. Some of our measures (general infant mortality, low birth weight, and prematurity) are subject to virtually no subjective interpretation. One can imagine some exceptions (eg, a child near 2.5 kg not seen at a hospital in the first week of life) but these are likely to be uncommon, and the focus is on large, not marginal, effects. Other measures (infant mortality subtypes, sudden infant death syndrome [SIDS]) may be subject to more classification error and thus provide a useful test for the presence of bias.

Variables

Poverty rates were used as a proxy for risk. They are the most powerful predictor for the occurrence of CA/N as well as infant health outcomes.[26–28] Poverty rate data were included for all persons of the indicated race/ethnicity and were taken from 2008 Census estimates.[29]

Mortality and birth status data included information on general infant mortality as well as the following causes for infant mortality: accidents (suffocation and strangulation only); homicide-maltreatment; homicide-other; and SIDS.[30–31] These data are taken from death certificates and represent more than 99% of all resident deaths in the United States. Among nonvehicular accident categories, only suffocation and strangulation had sufficient numbers to allow racial breakdown in reporting, and even then, disaggregation by Hispanic status was not available. Data that indicated low birth weight and low gestational age, representing >98% of all live births, were also included.[32] We restricted mortality data to infants so that extrafamilial influences could be minimized. For example, although it may be plausible that the rates of child accidental suffocation should be consistent with actual rates of neglect, it is less plausible that many common causes of death after infancy (eg, automotive accidents) would be.

Child maltreatment victimization rates were taken from *Child Maltreatment 2007*.[15] For these data breakdowns by race were available at the level of officially validated reports (those classified as "substantiated," "indicated," or "alternative response victim"). The 3 main types of maltreatment were disaggregated and are presented separately. NIS-4 estimates of actual maltreatment rates were included for reference. Other factors that could plausibly be associated with child maltreatment (childhood malnutrition, domestic violence) were not available in the form of universally reported national data. Because we report full population counts, not sampled estimates, tests of statistical difference between DRs were inappropriate. The focus was on the magnitude of the differences between known counts.

RESULTS

Results are reported in terms of DRs of black and Hispanic children compared with white children (Fig 3 and Table 1).

Risk

Incomes for black families (DR: 2.87) and Hispanic families (DR: 2.70) were both ~3 times more likely to be below the poverty level than white families.

Variables Not Subject to Substantial Classification Error

For black children compared to white children, DRs for infant mortality, low birth weight, and low gestational age were between 1.92 and 2.56. By contrast, there was no marked disproportionality between Hispanic children compared to white children for these measures (DRs between 0.96 and 1.13).

Variables With Higher Apparent Potential for Classification Error

Several mortality measures were available only for black and white children. The DR for infant accidental mortality (suffocation and strangulation) was 2.97, the DR for infant homicide (maltreatment) was 2.40, and the DR for infant homicide (other) was 2.51. SIDS rates showed disproportionality

TABLE 1 Disproportionality Ratios

Subject Matter	Source	Rate			Ratio	
		White	Black	Hispanic	Black/White	Hispanic/White
Risk						
Below poverty line (% of race/ethnicity) 2008[a]	DeNavas-Walt et al (2009),[29] Table 4	8.6	24.7	23.2	2.87	2.70
Mortality and birth outcomes not subject to substantial classification error						
Infant mortality (per 100 k LB) 2006	Heron et al (2009),[30] Table 5	564.20	1339.20	590.60	2.37	1.05
Birth weight <2.5 kg (% of LB) 2007	Hamilton et al (2009),[32] Table 8	7.20	13.80	6.9	1.92	0.96
Birth at <32 wk (% of LB) 2007	Hamilton et al (2009),[32] Table 8	1.60	4.10	1.8	2.56	1.13
Mortality measures with higher apparent potential for classification error						
Infant accidents (per 100 k LB) 2007**	Heron et al (2009),[30] Table 31	14.00	41.60	—	2.97	—
Infant homicide: maltreatment (per 100 k LB) 2007**	Heron et al (2009),[30] Table 31	1.50	3.60	—	2.40	—
Infant homicide: other (per 100 k LB) 2007**	Heron et al (2009),[30] Table 31	5.10	12.80	—	2.51	—
SIDS (per 100 k LB) 2005	Mathews et al (2008)[31]	55.40	99.40	28.10	1.79	0.51
Official child maltreatment victimization rates (National Child Abuse and Neglect Data System)						
CA/N: total (per 1 k children) 2007	DHHS (2009), Table 3–7	9.10	16.70	10.30	1.84	1.13
CA/N: neglect (per 1 k children) 2007	DHHS (2009), Table 3–7	5.49	9.99	6.23	1.82	1.13
CA/N: physical (per 1 k children) 2007	DHHS (2009), Table 3–7	0.92	2.25	0.92	2.46	1.01
CA/N: sexual (per 1 k children) 2007	DHHS (2009), Table 3–7	0.79	0.99	0.68	1.26	0.86
NIS-4 estimates under the endangerment standard						
CA/N: total	Sedlak et al (2010)[17]	28.6	49.6	32	1.73	1.12

LB indicates live births; DHHS, US Department of Health and Human Services. Dates given in the leftmost column indicate timeframe of data collection, not publication dates.
[a] White (non-Hispanic), black (including Hispanic), and Hispanic categories;
[b] White (including Hispanic) and black (including Hispanic) categories. All other data are white (non-Hispanic), black (non-Hispanic), and Hispanic categories.

FIGURE 3

Black/white and Hispanic/white disproportionality ratios. *White (non-Hispanic), black (including Hispanic), and Hispanic categories. **White (including Hispanic) and black (including Hispanic) categories. All other date are white (non-Hispanic), black (non-Hispanic) and Hispanic categories.
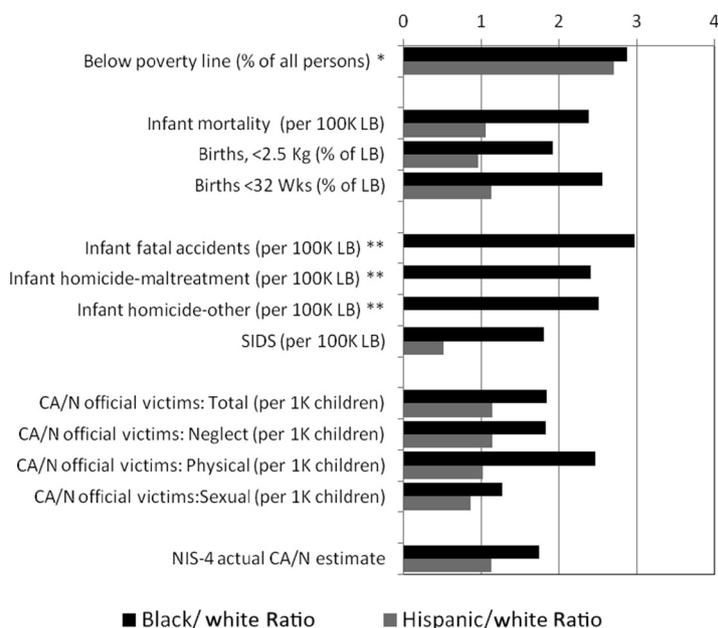
for both black children (DR: 1.79) and Hispanic children (DR: 0.51), although valence was inverted.

Child Welfare Official Victimization

The DR for total CA/N for black children compared with white children was 1.84, and for Hispanic children compared with white children it was 1.13. Hispanic DRs for subtypes of CA/N ranged somewhat narrowly from 0.86 (sexual abuse) to 1.13 (neglect). DRs for black children compared with white children were higher, with physical abuse having a DR of 2.46, neglect having a DR of 1.82, and sexual abuse having a DR of 1.26.

NIS-4 Estimates

The NIS-4 endangerment standard estimates for actual maltreatment are 49.6 per 1000 for black children, 32.0 per 1000 for Hispanic children, and 28.6 per 1000 for white children, which yielded DRs of 1.73 for black children compared with white children and 1.12 for Hispanic children compared with white children.[25]

DISCUSSION

In discussing our results, we first review the findings with respect to the bias and risk models, then the study's strengths, limitations and implications are covered.

The Presence of Unspecified Moderating Factors in Hispanic Families

Our data are unequivocally consistent with the presence of protective moderating factors that offset the relationship between poverty and poor outcomes for Hispanic children. The DR for poverty for Hispanic children compared with white children (2.70) was similar to that for black children compared with white children, and yet the DRs for negative health outcomes for Hispanic children were similar to those for white children. Our findings reflect the "Hispanic Paradox," an effect commonly reported in the health literature. Hispanic families have relatively good child health profiles despite high poverty rates and poor ac-

cess to health care.[33] This paradox may be driven by a combination of protective social and cultural factors.[34–35] Similarly, perinatal outcomes such as lower infant mortality and higher birth weight in Hispanic infants have been attributed to "strong cultural support for maternity, healthy traditional dietary practices, and the norm of selfless devotion to the maternal role (marianismo)," termed the "Latina Paradox."[36]

The Presence of Unspecified Moderating Factors in Black Families

DRs for black children compared with white children were 1.79 to 2.97 for negative outcomes and 2.87 for poverty. Some DRs for black children compared with white children, particularly those associated with SIDS and low birth weight, seemed to be slightly lower than the DR for poverty. However, unlike the DRs for Hispanic children compared with white children, DRs for negative outcomes for black children compared with white children were consistently >1, a result that indicates that any moderating factors, if present, do not fully offset the much higher levels of risk encountered by black families.

Evidence Regarding the Presence of Reporter and System Bias

A systematic overidentification of children of color should have been evidenced by higher DRs in measures with higher apparent potential for classification error (eg, infant mortality attributable to homicide or maltreatment) compared with measures not subject to substantial classification error (eg, infant mortality). No such relationship was found in the data.

For Hispanics children, DRs for variables that could not plausibly be subject to bias (mortality, low birth

weight, prematurity) were consistent with DRs for validated child maltreatment reports and NIS-4 estimates of actual maltreatment rates. For black children, the official CA/N victimization DR of 1.84 was consistent with or slightly lower than mortality and birth status DRs, 5 of 7 of which were >2.3. This result is the opposite of what should have manifested if reporters and the CPS system were strongly biased toward unwarranted overrepresentation of black children. These data are clearly inconsistent with the bias model.

Strengths and Limitations

This analysis has a number of methodologic strengths, including firm theoretical grounding, the use of generally accepted national data, and the use of a novel approach, which enhances the utility of the findings in triangulating with other sources. Confidence in this study depends on 2 points. First, variables which we claim to represent actual occurrence (eg, general infant mortality) must plausibly succeed in very closely approximating the actual rate of occurrence (eg, actual infant mortality, and not only reported infant mortality); that is, these data must be almost completely unbiased. Second, we assume that bias and risk models will function similarly for 2 domains of negative child outcomes (health and child maltreatment). Although this assumption may seem a leap to some readers, we believe it is a leap worth taking. There are sound reasons to presume that the models will function similarly with regard to child maltreatment, mortality and birth status outcomes. Both are strongly associated with poverty. In addition, many potentially protective cultural factors, such as a strong emphasis on the family, large extended families, or marianismo would theoretically be protective for birth outcomes and child maltreatment, particularly neglect, the most

common subtype. Furthermore, some of the mortality and child welfare system measures have substantial overlap. It is interesting to note that 2 of our most similar categories, CA/N physical abuse and infant homicide caused by maltreatment, had almost identical DRs of 2.46 and 2.40, respectively, for black children compared with white children. Finally, child maltreatment DRs were generally in close agreement with the mortality and birth status DRs for both black children compared with white children and Hispanic children compared with white children, despite completely different dynamics between risk factor and outcome DRs for black children and Hispanic children.

CONCLUSION

Our data generally support the risk model over the bias model, the exception being our findings that support the presence of strong unspecified moderating factors for Hispanics. We do not deny the importance of uncovering bias in reporting or the need to understand culturally specific factors that may help buffer risk.[37] Racial bias is an abhorrent form of misconduct in our society. No reasonable person would argue that a single black person refused service at a restaurant would comprise a trivial or unimportant event that should be overlooked. The same is true of reporting or child welfare system behavior that might underserve or overserve children and families on the basis of race. Our concern is that too strong an adherence to a pure bias model for medical professionals may result in underreporting of suspected CA/N, which would put black children at risk.

We make the following recommendations: First, the use of an unelaborated bias model to characterize the general functioning of reporters and the child protection system should be abandoned. Second, any future versions of

a bias model should include constructs and relationships that have been empirically demonstrated or are theoretically plausible. Third, the policy goal of reducing disproportionality in reporting, screening, and validation should be reevaluated. If current DRs for black children compared with white children accurately reflect risk, then the adoption of a policy goal to change these DRs makes little sense. Finally, any policies intended to redress disproportionality should not be general in nature (eg, general cultural competence training, efforts to get medical professionals to reduce presumed overreporting of minority children), but should be specifically tailored to those forms of bias for which solid empirical evidence can be found. Even more desirable are policies that target the causes of disproportionate negative outcomes, such as risk factors (eg, concentrated poverty) and lack of availability of resources.

In this article we report additional evidence of the important role that risk factors (particularly poverty) play in driving the occurrence of child maltreatment as well as disparities in maltreatment rates among different racial/ethnic groups. The results of this analysis are especially pertinent to pediatricians, who must decide when to report suspected cases of maltreatment in situations in which obvious evidence of CA/N is not present.[1] We found no evidence that racial bias among reporters is a powerful driver of racial disproportionality. Alternative explanations for variability in pediatricians' reporting practices include physicians' beliefs regarding (a) their abilities to identify and manage maltreatment cases and (b) the beneficial effects of screening for and reporting maltreatment.[12,14,38] In fact, Lane and Dubowitz noted the low levels of competence reported by pediatricians who

were required to render a definite opinion regarding the occurrence of abuse and neglect.[12] The recently established subspecialty of Child Abuse Pediatrics is a possible resource that may assist pediatricians in accurately and more confidently reporting suspected cases of maltreatment.[12,39]

This area of pediatrics requires substantial empirical exploration so that evidence-informed training can be provided.

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STRESS IN COLLEGE: *My office is adjacent to the main campus of the University of Vermont, so each day I see the undergraduates shuffling between classes, throwing Frisbees, or just hanging out. On the outside, it appears all is well. However, according to a report in* The New York Times *(January 26, 2011: Education), college freshmen are under an enormous amount of stress. In a survey of 200 000 incoming full-time students at four-year colleges, the percentage of students who reported that their emotional health was above average fell from a high of 64 percent in 1985 to a low of 52 percent in 2010; while the percentage who reported feeling overwhelmed during senior year in high school rose from approximately 20 percent to 29 percent. Every year since the survey began, women have reported worse emotional health than men and in recent years, the gap has widened. In the most recent survey, 18 percent of men reported being frequently overwhelmed compared with 39 percent of women. According to the article, college counselors are not surprised by the results of the survey as each day they see stressed or depressed students many of whom are already on medications. The reason for the increased stress may be multifactorial, but many feel that the current economic situation could be contributing. Students may recognize the bind that college tuition can put on their parents. Education costs continue to climb while paternal unemployment is at an all time high. With large debt load and uncertain job prospects after graduation, students are stressed and feel pressure to succeed. However, while freshmen students report worse emotional health, more than ever before report both an above average drive to achieve and academic ability. For now, experts recommend that stressed students find more time for leisure and activities that relieve stress. Maybe there is a reason to chase a Frisbee after all.*

Noted by WVR, MD

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