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Induced Abortion, Mortality, and the Conduct of Science

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Abstract

There is no credible scientific opposition to the fact that a genetically distinct human life begins at conception and that an induced abortion is a death. Yet, abortion is not reported as a cause of death in the U.S. vital statistics system. Mortality patterns have profound implications for public policy. As a cause of death, we found abortion to be highly consequential, with large racial and ethnic disparities. Abortion represented 16.4% of non-Hispanic White deaths, but 61.1% and 64.0% of non-Hispanic Black and Hispanic deaths respectively. For Years of Potential Life Lost (YPLL), the ubiquitous measure of premature death, abortion accumulated 63.1% of non-Hispanic White YPLL and 86.5% and 87.4% of non-Hispanic Black and Hispanic YPLL respectively. Further, as measured by the availability of valid data and resources allocated for research, there is evidence that the science community is not appropriately engaged on this crucial public health problem.

Keywords

Induced Abortion, Mortality, Demography

1. Introduction

There is no credible scientific opposition to the fact that a new genetically distinct human organism begins with fertilization and that, simply stated, human life begins at conception. Nor is there dispute that, in the absence of induced abortion and with the exception of natural fetal losses, conception usually results in a live birth. A very recent statement from the White House clearly affirms "… the critical importance of a child's first 1000 days after conception in determining a healthy and productive life trajectory, …" [1]. Further, while abortion remains a controversial and contentious issue in the United States, its staunchest advocates acknowledge that it results in

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a human death which must, nonetheless, be defined as morally permissible at any developmental stage [2]. Even the recent history of abortion related legal decisions has been consistent with science in affirming the unchanging identity of the child before and after the birth [3]. Many states now have laws protecting the life of the unborn without impeding the right to abortion [4]. The issue of legal abortion as a human death is, therefore, affirmed by science and accepted by partisans on all sides of the abortion debate.

Yet, despite the universal acknowledgement that the act of abortion results in a death, abortion is not reported as a cause of death in the vital statistics system in the United States. Nor is this exclusion limited to the United States. Although there are nearly 200 nations where the procedure is legal, and a conservatively estimated 45 - 50 million are performed annually worldwide, there is no country which considers induced abortion as a reportable death [5] [6]. This exclusion is especially critical in that fertility, mortality and migration are the principal determinants of population increases, decreases, and demographic composition in any nation [7]. Further, the influence of fertility has been mediated by improvements in contraceptive techniques and the increasing acceptance of abortion. In the United States, this combination of increased fertility rates and migration has resulted in the Hispanic ethnic group becoming the largest ethnic minority in the country, doubling the size of the Latino population between 1980 and 2000, and accounting for nearly half of the increase in the US population by 2006 [8]. Large racial and ethnic differences have been consistently observed in abortion rates for a number of years, and the overall incidence of the abortion procedure suggests that it is, in fact, a consequential influence on the size and composition of the U.S. population. Patterns of cause-specific mortality remain a major influence on public policy and resource allocation in the United States; and important previous research suggests that less attention is paid to causes of death which disproportionately affect racial and ethnic minorities [9]. Indeed, we already know that notions of changing mortality often reflect political ideologies and deeply held assumptions about the nature of society [10]. The exclusion of a major cause of death from the vital statistics system, especially one with large racial and ethnic disparities, should be a major concern to the scientific community and society as a whole. Therefore, we considered abortion as a cause of death in order to: 1) assess its magnitude against other major causes of death; 2) assess its contribution to years of potential life lost; and 3) compare its relative impact on these outcomes for the three major racial and ethnic groups in the United States: Hispanics and non-Hispanic Blacks (NHB) and Whites (NHW).

2. Methods

We employed a retrospective cross-sectional analysis which integrated data on pregnancy outcomes, including induced abortions, and deaths from all causes in the U.S. in 2009. We determined the relative magnitude of abortion as a cause of death compared to the other top ten ranked causes. We also calculated the years of potential life lost before the age 75 (YPLL 75) due to abortion and compared it to the other major causes of death. We considered induced abortion as the proximate cause of death and we subtracted the estimated number of natural fetal losses from the number of abortions to arrive at births averted by abortion. We used 2009 data because it was the most current year for which official group-specific fetal loss estimates were available from government sources. (Four Supplementary Data Tables follow the References and provide detail of the calculations and results, **Tables S1-S4**).

Counts of live births are provided by every state in the U.S. to the Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), through the Vital Statistics Cooperative Program of the National Vital Statistics System [11]. Estimates of induced abortions are collected by the CDC's National Center for Chronic Disease Prevention and Heath Promotion (NCCDPHP) from most states. These estimates are used to adjust the national totals from surveys of all known abortion providers administered by the Guttmacher Institute [12]. In order to accurately reflect fetal losses (intrauterine deaths) in the absence of induced abortion, our definition of fetal losses excluded those that occur prior to implantation and included all of those that might occur at all gestational ages; *i.e.*, miscarriages and stillbirths. Intrauterine death estimates are derived from the pregnancy history data collected by the National Survey of Family Growth (NSFG), NCHS. The NSFG data include losses at all gestational points. Currently, there is no systematic reporting of natural fetal losses which precluded their inclusion as a cause of death in our analysis.

Death data is first reported on death certificates which are completed by funeral directors, attending physicians, medical examiners or coroners. Original records are filed in state registration offices and then compiled in a national database by the Vital Statistics Cooperative Program, CDC-NCHS. Causes of death are processed in

accordance with the International Classification of Disease (ICD), Tenth Revision [13].

The statistical construct of YPLL accumulates all the years between age at death and an index year (75 in our application) and aggregates them by cause of death. While YPLL is the most widely applied method for characterizing the burden of premature death, and has been included in the standard reports of the CDC since 1982, it has never been used to measure the burden of premature death from abortion for the entire U.S. [14]. Unadjusted YPLL rates are calculated using the resident population estimates of our three comparison groups as of July 2009 provided by the U.S. Census Bureau. In 2009, the NCHS replaced YPLL 65 with YPLL 75 to better represent average U.S. longevity.

3. Results

In the U.S. in 2009, there were 6,369,000 pregnancies among women of all racial and ethnic origins. Hispanics, NHB and NHW together accounted for 93.2% of all pregnancies. Abortions terminated 11.9% of NHW pregnancies, 17.1% of Hispanic pregnancies, and 35.5% of NHB pregnancies. The ratio of live births to a single abortion for each group was: 5.8 for NHW; 3.9 for Hispanics; and 1.4 for NHB.

For all racial and ethnic origins, there were 3,589,163 deaths (**Figure 1**). Abortions accounted for only 16.4% of NHW deaths, but 61.1% and 64.0% of NHB and Hispanic deaths respectively. For NHW, diseases of the heart (20.8%) and malignant neoplasms (19.6%) each account for a higher percentage of deaths than do abortions. For Hispanics and NH Blacks, deaths from abortions are 4.2 and 3.5 times, respectively, the number of deaths from diseases of the heart and malignant neoplasms combined. Homicide was ranked in the top ten causes of death for Hispanics and NHB, but abortion deaths were 79.3 and 57.5 times, respectively, the number of homicides. Suicide was ranked in the top ten causes for NHW, but abortion deaths were 12.4 times the number of suicides.

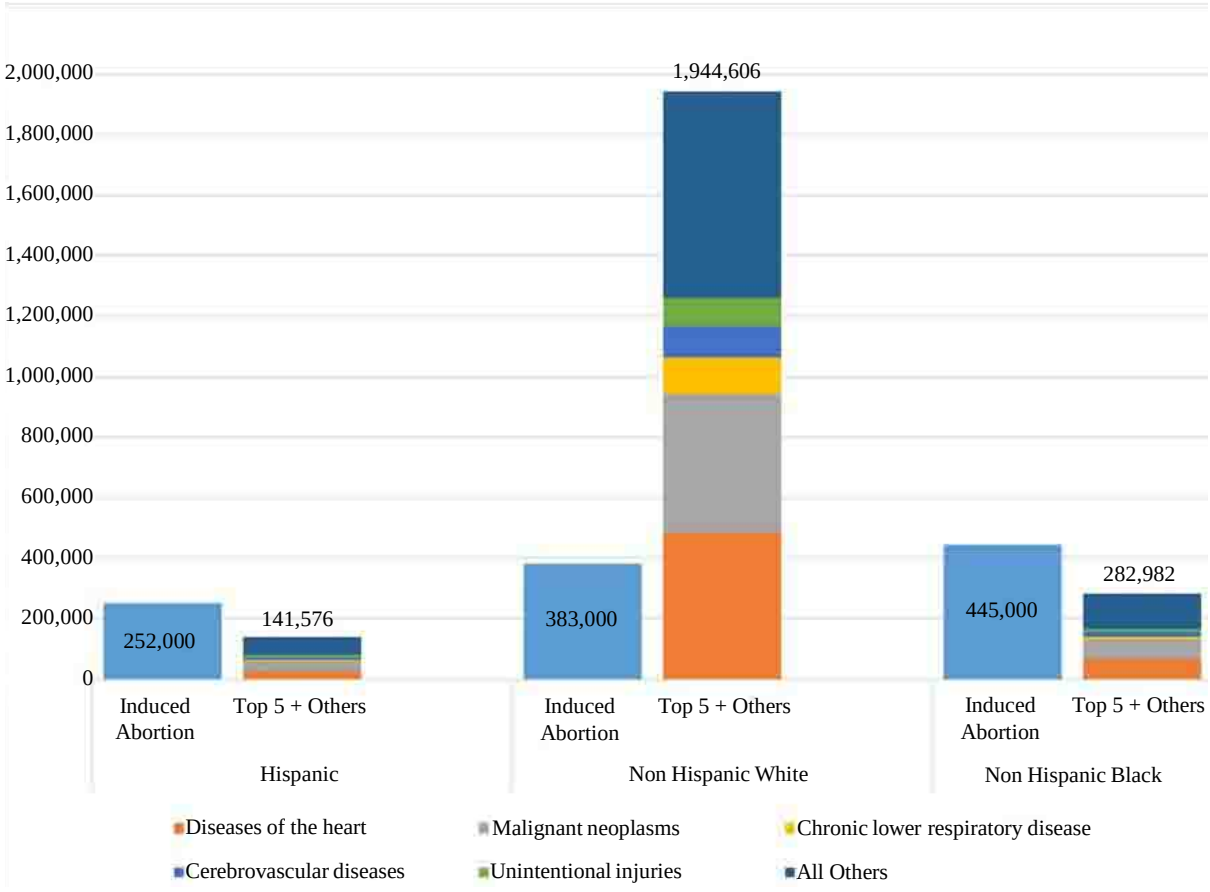

Figure 1. Total deaths by cause, United States, 2009.

For NHW abortion represents 63.1% of YPLL 75 and a rate of 11,369 YPLL 75 per 100,000 population. For Hispanics and NHB respectively, the values were 87.4% and 31,969/100,000 and 86.5% and 67,490/100,000 (**Figure 2**). The all cause premature death rate for NHB is 4.3 times that of NHW and 2.1 times that of Hispanics. The abortion premature death rate for NHB is 5.9 times that of NHW and 2.1 times that of Hispanics.

4. Discussion

Abortion is undoubtedly the most demographically consequential cause of death for Hispanics and NHB. Yet, there is evidence that the scientific community is minimally engaged in informing effective public policy on the topic of abortion. Two important ways of gauging scientific engagement in any subject are the availability of consistently reported valid data and the allocation of sufficient resources for research. In the most recent CDC abortion surveillance report (2011 data published in 2014) three states (California, Maryland and New Hampshire) did not report, and the quality and timeliness of the reporting was uneven among states that did. The Guttmacher Institute, a private entity, has periodically surveyed all known abortion providers (16 times since 1973) and its abortion incidence data is widely considered the most reliable. For comparison purposes, the state reports compiled by the CDC capture only about 68% of the abortions reported by the Guttmacher surveys [15]. A recent Guttmacher policy review emphasizes the importance of valid data in addressing abortion as a public health problem with research into unintended pregnancies and the effectiveness of contraceptive methods. The same report calls for a coordinated federal and state effort to create and maintain a robust abortion reporting system that is "similar to the existing systems for other vital statistics, such as births and deaths" [16]. Of course, the logical and most cost-effective way to achieve that goal is to formally consider abortion as a reportable death.

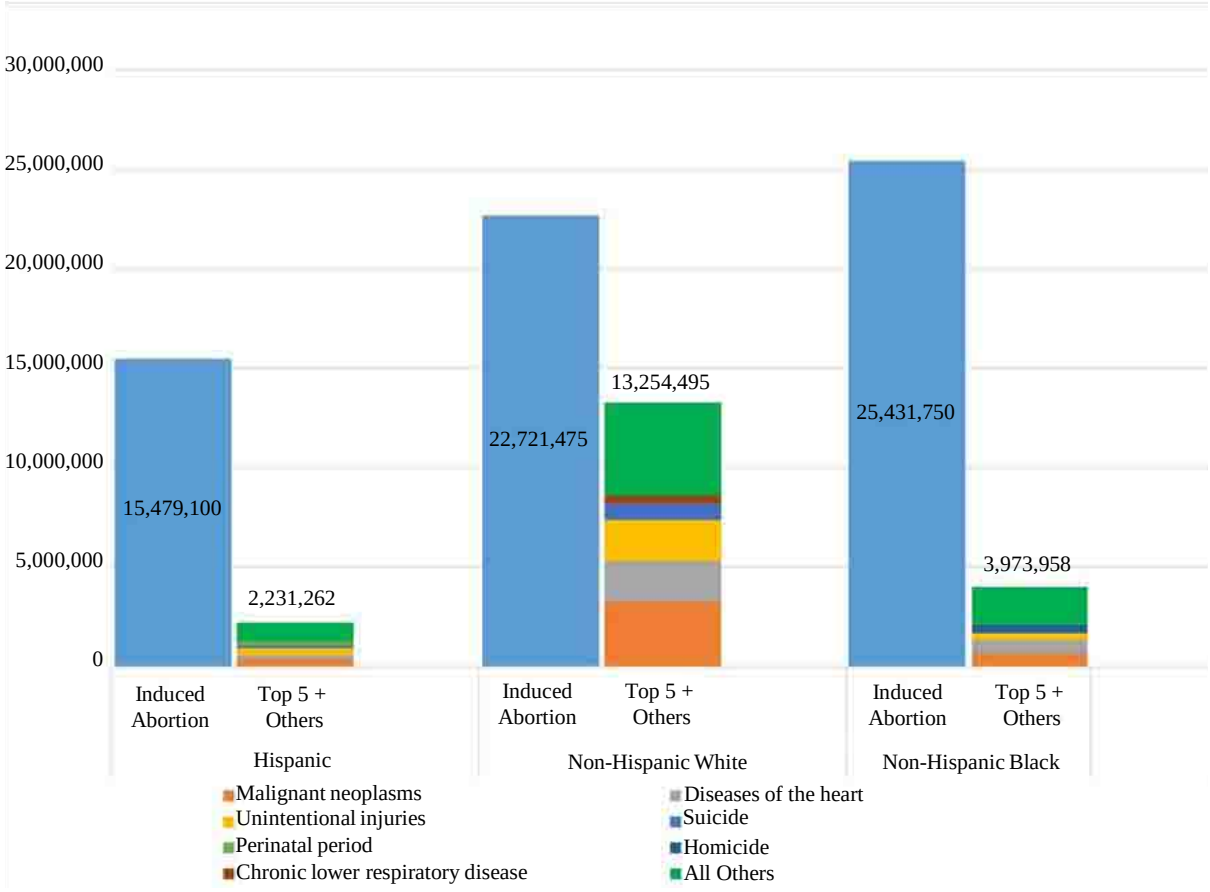

Figure 2. YPLL by cause of death, United States, 2009.

Requested by the US Congress, and implemented in 2008, the Research, Condition and Disease Categorization (RCDC) system was developed by the National Institutes of Health (NIH) to provide consistency and transparency in the reporting of its funded research. The system uses text data mining to cluster words or phrases, in conjunction with NIH expert definitions, to identify categories of funded research. A query of the system on November 6, 2015 returned a table with 244 Research/Disease Areas and their actual NIH funding for the fiscal years of 2011-2014, and estimated funding for years 2015 and 2016. Among these categories were all major diseases and causes of death and many others such as: Ataxia-Telangiectasia, Batten Disease, Charcot-Marie Tooth Disease, Climate Change, Human Fetal Tissue, Rural Heath, Stem Cell Research (Embryonic-Human), Vulvodynia, and Woman's Health. Abortion is not one of the 244 categories. A second query specifically identifying abortion as the "Search Research/Disease Areas" term returned the following statement: "no estimates of funding information found which matched the criteria you specified." In a related analysis utilizing data from the RCDC system, NIH researchers plotted the correlation between the number of deaths in 2010 attributed to a disease or condition category and the amount of NIH funding that it received. The objective of the analysis was to test the congruency between the societal burden of the disease/condition as measured by the number of deaths and the research resources allocated to it. As previously stated, abortion is not among the categories included in the analysis. However, the following categories were included: Malaria, Migraine, Depression, Autism, Infertility, Attention Deficit Disorder (ADD), Psoriasis, Macular Degeneration, Dental/Oral and Craniofacial Disease, and Headaches. For all US deaths in 2010, not a single death was attributed to any of these categories [17].

5. Conclusion

The exclusion of abortion as a cause of death, in spite of conclusive science to contrary, and the relative paucity of information and funded research on a topic of demonstrated consequence to the demographic composition of the society, may be the ultimate example of science denial. An abortion death is deemed necessary and performed by other humans in a purposeful and completely legal process. In these respects an abortion is similar to capital punishment and subject to the same clash of varying religious, political and ideological values. The appropriate role of science is to inform this societal dialogue with objective information. Labeling abortion as a preventable death is not an argument for restricting access to a legal abortion. However, refusing to acknowledge abortion as a death undermines the role of science and the value of transparency so fundamental to a free society.

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Supplementary

Table S1. Pregnancy outcomes: United States 2009, all, Hispanic, non-Hispanic Blacks and Whites, other.

	Pregnancies	Live births	Abortions	Fetal losses	Fetal loss rate[a]
All origins	6,369,000	4,131,000	1,152,000	1,087,000	20.8%
Hispanic	1,474,000	1,000,000	252,000	222,000	18.1%
Non-Hispanic Black	1,253,000	615,000	445,000	192,000	23.8%
Non-Hispanic White	3,207,000	2,232,000	383,000	591,000	20.9%
Other	435,000	284,000	72,000	82,000	22.4%

[a]Fetal loss rate = fetal losses/(live births + fetal losses).

Table S2. Calculation of years of potential lives lost (YPLL 75) due to abortion: United States 2009, all, Hispanic, non-Hispanic Blacks and Whites, other.

	Abortions	Estimated fetal losses	Estimated births averted	YPLL 75
All origins	1,152,000	239,616	912,384	68,428,800
Hispanic	252,000	45,612	206,388	15,479,100
Non-Hispanic Black	445,000	105,910	339,090	25,431,750
Non-Hispanic White	383,000	80,047	302,953	22,721,475
Other	72,000	16,128	55,872	4,190,400

Table S3. Deaths (%): United States 2009, by major cause, all origins, Hispanic, and non-Hispanic Blacks and Whites.

Cause of death	All Origins	Hispanic	NH Black	NH White
All	3,589,163 (100)	393,576 (100)	727,982 (100)	2,327,606 (100)
Induced abortion	1,152,000 (32.1)	252,000 (64.0)	445,000 (61.1)	383,000 (16.4)
Diseases of the heart	599,413 (16.7)	29,611 (7.5)	68,811 (9.4)	485,779 (20.8)
Malignant neoplasms	567,628 (15.8)	29,935 (7.6)	63,967 (8.8)	457,189 (19.6)
Chronic lower respiratory disease	137,353 (3.8)	4,026 (1.0)	8,444 (1.1)	122,605 (5.3)
Cerebrovascular diseases	128,842 (3.6)	7,065 (1.8)	15,718 (2.1)	101,703 (4.4)
Unintentional injuries	118,021 (3.3)	10,654 (2.7)	11,810 (1.6)	91,416 (3.9)
Alzheimer's disease	79,003 (2.2)			69,695 (3.0)
Diabetes mellitus	68,705 (1.9)	6,311 (1.6)	11,833 (1.6)	47,851 (2.0)
Influenza and pneumonia	53,692 (1.5)	3,679 (0.9)		42,752 (1.8)
Nephritis, nephrotic syndrome, and nephrosis	48,935 (1.4)	3,107 (0.8)	8,727 (1.2)	35,670 (1.5)
Suicide	36,909 (1.0)			30,813 (1.3)
Liver diseases		4,303 (1.1)		
Homicide		3,179 (0.8)	7,733 (1.1)	
Septicemia			6,131 (0.8)	
HIV			5,307 (0.7)	

Table S4. Years of potential life lost (YPLL) before age 75 (%): United States 2009, by major cause of death, all origins, Hispanic, and non-Hispanic Blacks and Whites.

	All origins		Hispanic		NH Black		NH White	
Cause of death	YPLL	Rate[a]	YPLL	Rate	YPLL	Rate	YPLL	Rate
All	88,690,205 (100)	28,888	17,710,362 (100)	36,577	29,405,708 (100)	78,036	35,975,970 (100)	18,001
Induced abortion	68,428,800 (77.1)	22,289	15,479,100 (87.4)	31,969	25,431,750 (86.5)	67,490	22,721,475 (63.1)	11,369
Malignant neoplasms	4,397,332 (4.9)	1,432	343,017 (1.9)	708	667,956 (2.3)	1,772	3,223,417 (8.9)	1,612
Diseases of the heart	3,038,728 (3.4)	664	219,814 (1.2)	454	646,031 (2.2)	1,714	2,069,806 (5.7)	1,035
Unintentional injuries	2,928,868 (3.3)	954	382,274 (2.1)	789	370,955 (1.2)	984	2,056,507 (5.7)	1,209
Suicide	1,063,300 (1.2)	346	94,971 (0.5)	196	74,733 (0.2)	198	843,198 (2.3)	422
Perinatal period	982,263 (1.1)	320	196,197 (1.1)	405	333,917 (1.1)	886	401,240 (1.1)	201
Homicide	702,725 (0.8)	229	144,928 (0.8)	299	348,023 (1.2)	923		
Congenital anomalies	548,362 (0.7)	195	125,537 (0.7)	259	102,287 (0.3)	271	289,549 (0.8)	145
Chronic lower respiratory diseases	543,247 (0.6)	177					440,717 (1.2)	220
Cerebrovascular diseases	518,952 (0.6)	169	56,278 (0.3)	116	131,994 (0.4)	350	303,933 (0.8)	152
Diabetes mellitus	494,484 (0.5)	161	53,730 (0.3)	111	114,546 (0.4)	303	305,585 (0.8)	153
Liver diseases			75,370 (0.4)	155			347,618 (1.0)	174
HIV					146,262 (0.5)	388		
All others	5,043,144 (5.7)	1,642	539,146 (3.0)	1,113	1,037,254 (3.5)	2,752	2,972,925 (8.2)	1,487

[a]Per 100,000.