

NATIONAL CENTER FOR THE REVIEW AND PREVENTION OF CHILD DEATHS
CASE REPORTING SYSTEM
Application for De-identified Dataset

I. Data

A. For what year or years of the NCRPCD Case Reporting System are data requested?

2005 x
2006 x
2007 x
2008 x
2009 x
2010 x
2011 x
2012 x

Note: States have different timeframes for when cases are reviewed and entered into the CDR Case Reporting System. Only cases that have been identified and approved by the states as being complete and clean will be included in the de-identified dataset. NCRPCD will survey states on an annual basis to make this determination.

Cases migrated from previous child death review reporting systems into the CDR Case Reporting System will not be included in a standard dataset, but may be provided upon further consultation between the researcher and NCRPCD.

II. Investigator/researchers

A. Identify the Principal Investigator who will carry out the duties described in the Guidelines and provide his/her curriculum vitae as an attachment:

Name: [REDACTED]
Title: [REDACTED]
Institution: [REDACTED]
Department: [REDACTED]
Street address: [REDACTED]
City: [REDACTED]
State: [REDACTED]
Zip: [REDACTED]
Phone: [REDACTED]
Email address: [REDACTED]

- B. Identify each additional researcher/collaborator/co-investigator that will have access to the dataset and provide the curriculum vitae for each:**

Investigator #2

Name: [REDACTED]
Title: [REDACTED]
Institution: [REDACTED]
Department: [REDACTED]
Street address: [REDACTED]
City: [REDACTED]
State: [REDACTED]
Zip: [REDACTED]
Phone: [REDACTED]
Email address: [REDACTED]

Investigator #3

Name: [REDACTED]
Title: [REDACTED]
Institution: [REDACTED]
Department: [REDACTED]
Street address: [REDACTED]
City: [REDACTED]
State: [REDACTED]
Zip: [REDACTED]
Phone: [REDACTED]
Email address: [REDACTED]

- C. Describe the specific responsibilities the PI and other investigator(s) will have in conducting and completing the proposed research:**

PI role: Supervise and oversee process of data collection and assist with journal article

Investigator 2: Collection and interpretation of data from database, preparation of article

Investigator 3: Collection and interpretation of data from database, preparation of article

III. Description of proposed research project

In no more than five pages (excluding the list of variables), provide a detailed study protocol that includes the following:

A. Title of project.

Retrospective Review of Factors Contributing to Pediatric Suicide

B. Describe the research question(s) and objectives for the study.

The impact of bullying and cyberbullying on completed suicide rates is poorly described. We aim to use the NCRPCD database to better understand these rates across participating states in the United States. Our belief is that both cyberbullying and traditional bullying lead to increased incidence of depression and completed suicides. We hope to examine other concurrent factors, such as gender, age, sexual orientation, transitions to new school/career stage, excessive video game/internet usage, presence of mental illness, as well as other socioeconomic factors which may contribute to suicidality. Our main objective is to be able to recognize which individuals are at high risk for depression and suicide. We hope to use this information to guide future preventative strategies to target these high risk groups and protect them from suicidal behavior.

C. Describe the significance and rationale for the research.

Adolescent suicide represents an important public health problem. In 2010, suicide remained the third leading cause of death in youths aged 10 to 19 years in the United States (1). By identifying risk factors that contribute to suicidal behavior, clinicians can be in a better position at assessing youths who are at risk of harming themselves. Although mental illness remains an important risk factor for influencing suicidal behavior, youths often die by suicide without any history of mental illness (2; 3; 4). This emphasizes the need of identifying risk factors beyond the scope of psychiatric risk factors.

The growing concern for bullying, and more recently cyberbullying, remains at the forefront of factors contributing to teen suicidality. There is evidence to suggest that victims of cyberbullying may be at increased risk for suicide, even more so than victims of traditional bullying (5; 6). Cyberbullying provides the opportunity for the perpetrator to harass his/her victim by electronic means. Compared to traditional bullying, this allows for a decreased sense of responsibility and accountability, as well as the opportunity to target a wider audience (7; 8; 9). Further data suggests that there is significant overlap in youths victimized by both school and cyber bullying (7; 11; 12). Schneider KS, et al. performed a cross-sectional analysis on 20,000 high school students in the Boston metropolitan area and found that nearly two thirds of all cyberbullying victims reported they were also bullied at school (9). In the same study, victims of both cyber and school bullying were more than 4 times as likely to experience depressive symptoms and more than 5 times as likely to attempt suicide when compared with nonvictims (9). This highlights the importance of assuring cyberbullying awareness is heightened and that schools are well-informed on anti-bullying prevention strategies (12).

Excess video game and internet usage remains another important factor in contributing to mental health problems (13). The consensus is that there are many clinical similarities between pathological gambling and excessive video game/internet-use (14; 15). This has led to the notion

that, given the association of pathological gambling and suicide, adolescents with high amounts of video game/Internet-usage are at higher risk of depression, suicidal ideation and subsequently attempting suicide (16). Messias E, et al. found that 5 hours or more of daily video games or Internet use was associated with an increased risk of reporting sadness, suicidal ideation/planning in comparison to no video game or internet use (16). Although the data does not examine the subject matter of the video games involved, it highlights the need to recognize pathological gaming among youths.

To date there are few studies in the United States examining the impact of modern technology on adolescent completed suicide rates. The National Center for Child Death Review is a resource center which provides detailed data on state-based child death reporting (17). By examining this database, we hope to gauge the impact of cyberbullying and traditional bullying on completed suicide rates among participating states. We hope to examine other concurrent factors, such as gender, age, sexual orientation, transitions to new school/career stage, presence of mental illness, as well as other socioeconomic factors which may contribute to suicidality. We also aim to explore the impact of excessive video game and internet-usage and its influence on completed suicide rates. Our anticipation is that the database will help determine which groups are at increased risk for completed suicide and would guide future preventative strategies to target these high risk groups.

References:

1. Web-based injury statistics query and reporting system (WISQARS). Centers for Disease Control and Prevention National Center for Injury Prevention and Control. [Online] [Cited: 09 06, 2013.] <http://www.cdc.gov/injury/wisqars/index.html>.
2. Self-Reported Recent Life Stressors and Risk of Suicide in Pediatric Emergency Department Patients. Stanley, IH, et. al. s.l. : Clin Pediatr Emerg Med, 2013, Vols. 14(1):35-40.
3. Adolescent Suicide and Suicidal Behavior. Bridge JA, Goldstein TR, Brent DA. s.l. : J Child Psychol Psychiatr, 2006, Vols. 47:372-94.
4. Age- and Sex-Related Risk Factors for Adolescent Suicide. Brent DA, Baugher M, Bridge J, et al. s.l. : J Am Acad Child Adolesc Psychiatr, 1999, Vols. 38:1497-505.
5. Associations among bullying, cyberbullying, and suicide in high school students. Bauman S, Toomey RB, Walker JL. s.l. : J Adolesc, 2013, Vols. 36(2):341-50.
6. Bullying, Cyberbullying, and Suicide. Hinduja S, Patchin JW. s.l. : Archives of Suicide Research, 2010, Vols. 14:206-21.
7. Extending the School Grounds?—Bullying Experiences in Cyberspace. Juvonen J, Gross EF. s.l. : J Sch Health, 2008, Vols. 78(9):496-505.
8. Ongoing and Online: Children and Youth's Perceptions of Cyber Bullying. Mishna F, Saini M, Solomon S. s.l. : Child Youth Serv Rev, 2009, Vols. 31(12):1222-8.
9. Cyberbullying, School Bullying, and Psychological Distress: A Regional Census of High School Students. Schneider SK, O'Donnell L, Stueve A, Coulter R. s.l. : American Journal of Public Health, 2012, Vols. 102(1):171-7.

10. Electronic Bullying Among Middle School Students. Kowalski RM, Limber SP. s.l. : *J Adolesc Health*, 2007, Vols. 41(6 suppl.1):S22-S30.
11. Comparing Children and Adolescents Engaged in Cyberbullying to Matched Peers. Twyman K, Saylor C, Taylor LA, Comeaux C. s.l. : *Cyberpsychol Behav Soc Netw*, 2010, Vols. 13(2):195-99.
12. Examining the Overlap in Internet Harassment and School Bullying: Implications for School Intervention. Ybarra ML, Diener-West M, Leaf PJ. s.l. : *J Adolescence Health*, 2007, Vols. 41(6 suppl 1):S42-S50.
13. *Video and Computer Games: Effect on Children and Implications for Health Education*. SM, **Dorman**. s.l. : *Journal of School Health*, 1997, Vols. 69:133-38.
14. *Internet Addiction: The Emergence of a New Clinical Disorder*. **KS, Young**. s.l. : *Cyber-Psychology and Behavior*, 1998, Vols. 1:237-44.
15. *Internet and Videogame Addiction: A Review*. **Abreu CN, et al**. s.l. : *Revista Brasileira de Psiquiatria*, 2008, Vols. 30:156-67.
16. *Sadness, Suicide, and the Association with Video Game and Internet Overuse Among Teens: Results from the Youth Risk Behavior Survey 2007 and 2009*. **Messias E, et al**. s.l. : *Suicide and Life-Threatening Behavior*, 2011, Vols. 41(3):307-15.
17. Child Death Review Case Reporting System. *National Center for Child Death Review*. [Online] [Cited:] http://www.childdeathreview.org/Reports/PrintCaseVersion2_2.pdf.

D. Describe the funding source(s) for the research.

Funding for the project will be provided by the University of Maryland's Department of Pediatric Emergency Medicine budget for educational activities.

E. Describe the study design and methods.

The response should be a coherent narrative that links the sample, the variables requested, and the analysis plan to the research questions. The response is expected to be at least one page long, and it must include the following:

1. Description of the sample set requested using the Case Report form as a guide (for example, "infants only," or "children ages 0-4 with motor vehicle as cause of death").
2. List of variables needed to carry out the study using the Case Report form (attached to Application Packet) as the guide.
3. Analysis plan and software that will be used.
4. Discussion of how limitations of the data and data quality issues will be addressed and will likely impact the study and your conclusions. **The NCRPCD database is a unique set of information, and researchers are urged to read the attached article from *Injury Prevention*, in particular the sections that describe in**

detail the “Limitations” and “Strengths” of the data.

We aim to perform a retrospective analysis of suicide victims using the NCRPCD dataset. We are particularly interested in the role of bullying in contributing to completed suicides. We hope to examine the relationship between this target population and other risk factors. Inclusion criteria will include all child fatalities resulting from suicide in children aged 5-9, 10-14, 15-17, over 17 years old. We are interested in obtaining all demographic data in these individuals, including age at death (A4), gender (A7), race (A5), highest level of education (A16), work status (A17), type of residence (A9), presence of problems at school (A18), concomitant chronic illness (A20), mental health status (A21), history of maltreatment (A23), history of intimate partner violence (A27), criminal history (A28), whether parent is first generation immigrant (A31), sexual orientation (A33), place of incident (D4), and official manner/primary cause of death (F1, F2). We would like all details and factors pertaining to the suicide of these victims in Section I-27 and I-28 obtained. Any narrative from these latter sections, particularly involving bullying/cyberbullying/involvement with Internet/involvement with computer or video games, should be extracted. Additionally, we are interested in knowing the preventative initiatives resulting from the review (Section K-1, 2, 3) both at the time of death and retroactively.

We will focus on the population of suicide victims who were involved in some form of bullying (whether as victim or perpetrator). Data-permitting, we will group these individuals based on the type of bullying they were involved in (traditional bullying, cyberbullying or both). Our primary analysis will include a comparison of proportion of suicide victims who were bullied (divided based on type of bullying) compared to victims with no history of bullying. We will use the above-mentioned variables to observe whether concurrent factors such as sexual orientation or problems with school contribute further to trends in bullying and suicide. We will use chi-squared and other multivariate analysis to help trend the data. We will use Microsoft Excel as our initial statistical engine and explore other resources if needed. We will test for statistical significance and organize all significant data in summative tables using Microsoft Word and Excel. We anticipate this will help us identify individuals at highest risk of suicidal behavior. Our project will then look at the preventative initiatives resulting from the review and whether these high-risk individuals are receiving the most attention.

There are a number of limitations to the Case Reporting System which we feel will hinder the final product of the project. Firstly, the case reporting system will not reflect accurate vital statistics data and thus will not provide us with a true representation of suicide-related deaths. Secondly, we will be limited by the detail of data inputted by each team using the CDR reporting system. We anticipate that many of the data fields we feel will be important to the project will be left blank in many of the cases. This will limit our effectiveness in gauging the role of bullying and cyberbullying in suicide victims. If this is the case, we will focus on examining other factors contributing to suicide from Section I-27/I-28 which are more thoroughly reported. If the data obtained from the NCRPCD is insufficient for the scope of the project, we will consider pooling information from other databases. These databases may include the Center for Disease Control and Prevention's National Violent Death Reporting System (NVDRS) or Wide-ranging Online Data for Epidemiologic Research (WONDER) databases. Despite these limitations, we feel like the CDR reporting system will provide a detailed overview of all the factors contributing to each suicide case and thus help us understand the circumstances leading up to each of these tragic deaths.

F. Estimated timeframe for study start and completion.

January 2014 – March 2015

G. Anticipated presentations, publications, or other dissemination of results. Please be as specific as possible. (Reminder: Per the Guidelines for Use of Data, all oral and written presentations or other distribution of information resulting from the use of the requested data must be submitted to NCRPCD for review at least two weeks prior to presentation or submission to a journal or other source of publication to determine whether the research was completed in the manner specified in the Application, whether the analysis is in the spirit of Child Death Review and the NCRPCD mission, and to permit NCRPCD to have advance notice of potential issues pertaining to the analysis and/or results.)

Our goal is to use the NCRPCD data to help target individuals at high risk of suicide and to help raise awareness of tailoring preventative strategies towards these individuals. Preliminary data will be presented at the [REDACTED] Pediatrics Annual Poster Day presentation (2014). We aim to use the data to produce a journal article which can be submitted for publication at a number of potential preventative medicine peer-reviewed journals (eg: *American Journal of Preventative Medicine, Injury Prevention, Suicide and Life Threatening Behavior*). Details of submission for publication will be sent to the NCRPCD well in advance to obtain approval.

IV. Data Security

All users of the NCRPCD dataset must have electronic security measures in place to prevent access to the confidential dataset from unauthorized individuals.

A. Where will the data reside and how will data be shared among researchers? Describe the physical transmission.

Data will reside on password protected office desktop computer of the principal investigators. Only summative data organized in tables/figures will be transferred from investigator to investigator. This summative data will be transferred using external hard drives.

B. Security details: In the table below, provide a comprehensive list of all devices on which the dataset will be installed and indicate the electronic security measures that will be applied to each device. For those devices that have access to the Internet, all four of the electronic security measures must be in place for this data request to be approved. For non-Internet devices, firewall protection is not required.

If co-investigators at different institutions from the PI will also have physical control of the data, complete a table for each such co-investigator's institution.

ID	Device Type Indicate workstation, laptop, server, portable media, or other device	Internet Does the device have access to the Internet? (Y/N)	Electronic security measures			
			Password login	Restricted directory	Virus protection	Firewall protection

E. Describe your plans to obtain IRB approval for this study using the NCRPCD data.
IRB approval has already been obtained for this study
IRB approval has already been obtained for this study.

F. Describe your Institution's experience in overseeing the use of sensitive research data by its staff. Please give specific examples.

The [redacted] has a robust Quality Management program that includes an auditing function. As part of both an HRPO or IRB directed audit and an Investigator Quality Improvement Self-assessment, the Investigator's adherence to the IRB approved protocol with respect to the use, storage and access to sensitive data would be reviewed. Any deficiencies identified would be handled according to the HRP Sop 024 Reportable New Information or HRP SOP 043 Investigations.

G. Describe any known breaches of sensitive research data by your organization and the steps taken to remedy the breach.

[redacted] has experienced no breaches of sensitive research data in the last 12 months. See above for measures to remedy breach or other deficiencies.

Application signatures:

[redacted] _____ 12/18/13
Signature of Principal Investigator Date

[redacted] _____ 12/18/13
Signature of Representative of Receiving Institution Date

[redacted] _____
Title

			The device requires a login ID and password at startup and after a period of inactivity. (Y/N)	access The directories containing the data are restricted to authorized users who have logged in to the device. (Y/N)	Anti-virus software is installed on the device. (Y/N)	Firewall technology is in place for devices that are connected to the internet. (Y/N)
RL			Y	Y	Y	Y

V. Receiving Institution

A. Identify the Receiving Institution, as that term is described in the Guidelines.

The [REDACTED] is an institution of higher education that employs the principal investigator and co-investigators. The [REDACTED] is registered with the U.S. Office for Human Research Protections.

B. Provide the IRB assurance number. [REDACTED]

C. Describe your institution in detail. What kind of work does it do? Include the type of organization, its profit/non-profit status, and primary sources of revenue.

The [REDACTED] is the state's public health, law, and human services university devoted to excellence in professional and graduate education, research, patient care, and public service. Primary sources of funding include Grants and Contracts, State Appropriations, Tuition and Fees, Physician and Dental Service Plans, and Hospital contracts

D. Provide evidence in an attachment that your institution is registered with the U.S. Office for Human Research Protections.

See attached above.

Steve Wirtz, PhD
Chief, Violent Injury Surveillance Unit
California Child Death Review
CA Department of Public Health
Steve.wirtz@cdph.ca.gov
916-552-9831

Vick Zittle
Program Director
Pennsylvania Child Death Review
PA Chapter AAP
vzittle@paaap.org
484-446-3034

NCRPCD Staff
Teri Covington, MPH
Executive Director
NCRPCD
tcovingt@mphi.org
517-324-7332

Esther Shaw
Senior Data Analyst
NCRPCD
eshaw@mphi.org
517-324-7333

Heather Dykstra
Senior Data Analyst
NCRPCD
hdykstra@mphi.org
517-324-7358

Linda Potter
Associate Program Director
NCRPCD
lpotter@mphi.org
517-324-7342