

U.S. Department of Health and Human Services

Informational Materials and Resources to Prevent Addiction Related to Youth Sports Injuries

November 2018

EXECUTIVE SUMMARY

The Comprehensive Addiction and Recovery Act of 2016 (Public Law 114-198), Section 104, requires the Secretary of Health and Human Services to publish on HHS's website a report on the extent to which informational materials and resources with respect to youth sports injuries for which opioids are potentially prescribed are available to teenagers and adolescents who play youth sports, families of such teenagers and adolescents, nurses, youth sports groups, and relevant health care provider groups.

The opioid epidemic is negatively impacting families and communities across the nation. Over the past decade, the prevalence of opioid use disorders and overdose deaths related to prescription and illegal opioids has increased across virtually all demographic categories, and youth are a subset of particular concern. Exposure to prescription opioids among youth can begin with legitimate prescriptions for dental, surgical, or other pain management purposes, such as treatment of a sports injury. It is imperative to ensure that youth, their families, and health care providers are fully aware of the risks of prescription opioid use and are informed about the appropriate use of opioids and non-opioid alternatives, when appropriate. Doing so can help prevent opioid misuse and avoid a potential path to addiction such as opioid use disorder which can lead to devastating consequences.

While there are few resources that address the specific intersection of youth, sports injuries, and opioid use and misuse, there is a wide array of available information and resources focused on youth and opioids that can be used by youth, families, nurses, youth sports groups, and relevant health care provider groups to help prevent opioid use disorder related to youth sports injuries. Because youth encompasses a wide age-range, beginning in adolescence and ending in young adulthood, developmentally appropriate substance abuse prevention strategies are needed. Thus, this report highlights informational materials and resources available from federal and non-federal entities that can be used to help educate individuals about the opioids, prevent the development of opioid use disorder, and find help for youth and their families who are seeking treatment for substance or opioid use disorders.

INTRODUCTION

The Comprehensive Addiction and Recovery Act of 2016 (Public Law 114-198), Section 104, requires the Secretary of Health and Human Services (HHS) to publish on HHS's website a report on the extent to which informational materials and resources with respect to youth sports injuries for which opioids are potentially prescribed are available to teenagers and adolescents who play youth sports, families of such teenagers and adolescents, nurses, youth sports groups, and relevant health care provider groups.

Youth

The United Nations Educational, Scientific and Cultural Organization states that youth is a more fluid category as opposed to a fixed age-group.¹ Moreover, it is best understood as a transitional period from being a dependent child to an independent adult with awareness of being an interdependent member of a community. Research has shown that brain development continues through the early twenties—a time that encompasses many important developmental and social changes in a young person's life. According to Healthy People 2020, adolescents are ages 10 to 17, while young adults are ages 18 to 25.² In addition, the National Library of Medicine's Consumer Health Informatics Research Resource states that the age range for youth is from 10 to 24.³ Given this understanding, in this report, youth will be considered as adolescents and young adults ranging in age from 10 to 25.

Exposure to Opioids

Opioid misuse, addiction such as opioid use disorder, and overdose continue to have a devastating impact on American families and communities, across all race/ethnicity, gender, urbanization level, and age groups. According to the Centers for Disease Control and Prevention, overdoses involving prescription and illegal opioids killed more than 42,000 people in 2016 and 40 percent of those deaths were from prescription opioids. Young adults ages 15 to 24 accounted for 5,376 deaths from drug overdoses in 2016, with over half involving some type of opioid, including heroin. ⁴

Data from the National Survey on Drug Use and Health (NSDUH) indicate that in 2017, about 3.1 percent of youth aged 12 to 17 reported misusing opioids in the past year, and that 2.5 million or 7.3 percent of adolescents aged 18 to 25 reported misusing opioids in the past year. Plus, older youth ages 18 to 25 are more likely to abuse prescription opioid pain relievers than any other group of people in the United States.⁵ In addition, in 2017, the American Academy of Pediatrics highlighted a study that found the number of emergency department visits, for any reason, by patients age 21 and younger who were diagnosed with opioid use disorders – which include prescription opioid pain relievers as well as illicit drugs such as heroin – rose from 32,235 in 2008 to 49,626 in 2013.⁶

On the other hand, there are trends that show decreases in opioid misuse among youth. For example, the Monitoring the Future survey showed that misuse of prescription opioids, defined as narcotics other than heroin, dropped significantly for 12th graders (the only grade surveyed concerning opioids) over the last five years. Furthermore, teens from this survey also felt that opioids are not as easy to obtain as in the past.⁷ In addition, NSDUH data from 2002-2014 show consistent declines in past year nonmedical use of opioids, overall, for youth ages 12 to 25.⁸

New data from the Youth Risk Behavior Survey (YRBS) show that the percentage of students who reported using select illicit drugs one or more times during their life was down from 23 percent in 2007 to 14 percent in 2017. In 2017, a new measure also was introduced in the YBRS to assess the percentage of high school students who ever misused prescription opioids. The survey found that nearly 1 in 7 U.S. high school students reported misusing prescription opioids.⁹

It is imperative to continue addressing opioid use among youth given the susceptibility of youth to potentially develop behaviors that can follow into adulthood.¹⁰

Youth Sports

Young athletes are a subset of youth who may have higher exposure to prescription opioids due to sports-related injuries. These youth may, in turn, be at greater risk for opioid misuse or addiction such as opioid use disorder.¹¹

It is estimated that over 1.4 million injuries occur annually across nine sports at the secondary school level and about 209,000 injuries occur annually at the collegiate level spanning 25 National Collegiate Athletic Association sports. According to the National Institutes of Health, common youth sports injuries include sprains and strains, overuse, repetitive motion, and traumatic injuries. 13

While there may be increased risk of exposure to opioids due to injury, participation in sports and exercise may also serve as a protective factor against substance misuse. One study found that adolescents who play sports and exercise are less likely to report lifetime nonmedical prescription opioid use and heroin use compared to adolescents who do not participate in sports or exercise. ¹⁴ Given this complex interplay, educational materials to help youth, their health care providers, and their parents fully understand the risks and benefits of using opioid analgesics and available non-opioid or non-pharmacologic alternatives to treat youth sports injuries may be particularly helpful.

INFORMATIONAL MATERIALS AND RESOURCES

There are a variety of information materials and resources available to help prevent and support treatment and recovery from substance use disorders related to youth sports injuries. Resources from federal and non-federal entities aim to educate youth and families about opioids, their risks, and how to support prevention, treatment, and recovery from opioid use disorders among youth.

Federal Resources

The White House

• Opioids: The Crisis Next Door

Viewers can share a story by uploading a video about overcoming addiction, volunteering at a recovery center, or working as a family to help a loved one get on the path to recovery. https://www.crisisnextdoor.gov/

Opioids|truth

The Trump Administration 'Truth about Opioids' Campaign. https://opioids.thetruth.com/o/home

U.S. Department of Education

• Combating the Opioid Crisis: Schools, Students, Families

https://www.ed.gov/opioids/?utm_source=Youth.gov&utm_medium=Announcements&utm_campaign=Resources

U.S. Department of Health and Human Services

• Help, Resources and Information: National Opioids Crisis https://www.hhs.gov/opioids/

Office of the Assistant Secretary for Health

• Pain Management Best Practices Inter-Agency Task Force (Task Force)

The Task Force is developing a report of proposed recommendations that address gaps or inconsistences in best practice clinical guidelines for managing chronic and acute pain. The Task Force is authorized by section 101 of the Comprehensive Addiction and Recovery Act (CARA) of 2016. It is led by HHS, in cooperation with the U.S. Department of Veterans Affairs and U.S. Department of Defense, and includes a broad spectrum of representatives such as experts in the fields of pain research and addiction research, including adolescent and youth adult addiction research. It is also considering pharmacological, non-pharmacological, and medical device alternatives to opioids to reduce opioid monotherapy in appropriate cases, among other factors as required by CARA. At its conclusion, the Task Force will make widely available a report of its findings and recommendations.

https://www.hhs.gov/ash/advisory-committees/pain/index.html

National Pain Strategy

The federal government's first coordinated plan for reducing the burden of chronic pain that affects millions of Americans.

https://www.hhs.gov/ash/about-ash/news/2016/national-pain-strategy-outlines-actions-improving-pain-care/index.html

• Opioids and Adolescents

This website includes general facts, stats, risks, prevention, and treatment information. https://www.hhs.gov/ash/oah/adolescent-development/substance-use/drugs/opioids/index.html

o Adolescents and Substance Abuse Fact Sheets

National level and state-level data are available on pain reliever drug abuse. (https://www.hhs.gov/ash/oah/facts-and-stats/national-and-state-data-sheets/adolescents-and-substance-abuse/index.html)

Office of the Surgeon General

• Surgeon General's Advisory on Naloxone and Opioid Overdose https://www.surgeongeneral.gov/priorities/opioid-overdose-prevention/naloxone-advisory.html

• Turn the Tide

Information is available on responsible opioid prescriptions, and alternative treatments. https://turnthetiderx.org/treatment/#

Office for Civil Rights

 How HIPAA Allows Doctors to Respond to the Opioid Crisis https://www.hhs.gov/sites/default/files/hipaa-opioid-crisis.pdf

- When Your Child, Teenager, or Adult Son or Daughter has a Mental Illness or Substance Use Disorder, Including Opioid Addiction: What Parents Need to Know about HIPAA https://www.hhs.gov/sites/default/files/when-your-child.pdf
- Am I my child's "personal representative" under HIPAA? https://www.hhs.gov/sites/default/files/am-i-my-childs.pdf
- When may a mental health professional use professional judgment to decide whether to share a minor patient's treatment information with a parent?

 https://www.hhs.gov/sites/default/files/minor-professional-judgment-infographic-12122017.pdf
- When can parents access information about their minor child's mental health treatment? https://www.hhs.gov/sites/default/files/minors-hipaa-decision-tool.pdf

Centers for Disease Control and Prevention (CDC)

 CDC Guideline on the Diagnosis and Management of Mild Traumatic Brain Injury Among Children

CDC released new clinical recommendations for health care providers treating children with mild traumatic brain injury (mTBI), often referred to as concussion. The CDC Pediatric mTBI Guideline consists of 19 sets of clinical recommendations that cover diagnosis, prognosis, and management and treatment. These recommendations are for health care providers working in: inpatient, emergency, primary, and outpatient care settings. The guideline can help health care providers take action to improve the health of their patients, including youth with sports injuries. https://www.cdc.gov/traumaticbraininjury/PediatricmTBIGuideline.html

- CDC also has developed three fact sheets regarding opioid use and acute pain.
 - Opioids for Acute Pain: What You Need to Know https://www.cdc.gov/drugoverdose/pdf/patients/Opioids-for-Acute-Pain-a.pdf
 - Opioids for Acute Pain: Get the Facts
 https://www.cdc.gov/drugoverdose/pdf/patients/Get-the-Facts-a.pdf
 - Preventing an Opioid Overdose
 https://www.cdc.gov/drugoverdose/pdf/patients/Preventing-an-Opioid-Overdose-Tip-Card-a.pdf

Centers for Medicare & Medicaid Services

• Best Practices for Addressing Prescription Opioid Overdoses, Misuse and Addiction
This informational bulletin provides background information on overdose deaths involving prescription opioids, describes several Medicaid pharmacy benefit management strategies for mitigating prescription drug abuse and discusses strategies to increase the provision of naloxone to reverse opioid overdose.

https://www.medicaid.gov/federal-policy-guidance/downloads/cib-02-02-16.pdf

Medication Assisted Treatment for Substance Use Disorders

This informational bulletin highlights the use of medications approved by the Food and Drug Administration, in combination with evidence-based behavioral therapies, commonly referred to as "Medication Assisted Treatment", to help persons with substance use disorders recover. https://www.medicaid.gov/Federal-Policy-Guidance/downloads/CIB-07-11-2014.pdf

Coverage of Behavioral Health Services for Youth with Substance Use Disorders

This informational bulletin aims to assist states to design a benefit that will meet the needs of youth with substance use disorders and their families and help states comply with their obligations under Medicaid's Early and Periodic Screening, Diagnostic, and Treatment requirements. https://www.medicaid.gov/federal-policy-guidance/downloads/cib-01-26-2015.pdf

Health Resources and Services Administration

• A Model for Adolescent Substance Use Prevention

 $\frac{http://www.sbh4all.org/wp-content/uploads/2015/07/SBIRT-in-SBHCs-A-Model-for-Adolescent-Substance-Use-Prevention.pdf}{}$

National Institutes of Health (NIH)

• NIH HEAL Initiative

HEAL (Helping to End Addiction Long-term) Initiative is a trans-agency effort to speed scientific solutions to stem the national opioid public health crisis. https://www.nih.gov/research-training/medical-research-initiatives/heal-initiative

Pain Information for Health Professionals

Information available on general pain management. https://nccih.nih.gov/health/pain/professional?nav=tw

• Drugs—Shatter the Myths

https://www.drugabuse.gov/sites/default/files/nida shatterthemyths 508 final.pdf

Mind Over Matter Series: The Brain's Response to Opioids/ Mind Over Matter: Prescription Pain Medications

https://teens.drugabuse.gov/teachers/mind-over-matter

Booklets part of the Mind Over Matter Series for middle schoolers

- The Brain's Response to Opioids https://teens.drugabuse.gov/teachers/mind-over-matter/opioids
- The Brain's Response to Prescription
 https://teens.drugabuse.gov/teachers/mind-over-matter/prescription-drugs

National Drugs and Alcohol Facts Week (NDAFW)

https://teens.drugabuse.gov/national-drug-alcohol-facts-week

• National Drug and Alcohol Chat Day

https://teens.drugabuse.gov/national-drug-alcohol-facts-week/chat-with-scientists

• National Drug and Alcohol IQ Challenge

https://teens.drugabuse.gov/quiz/national-drug-alcohol-facts-week/take-iq-challenge/2018

• Drugs That People Abuse

https://easyread.drugabuse.gov/content/drugs-people-abuse

• Teens: Drug Use and the Brain https://www.teens.drugabuse.gov

Sample articles related to sports

 Crossing the Line: Athletes Risk Their Health When Using Performance-Enhancing Drugs

https://teens.drugabuse.gov/blog/post/athletes-risk-their-health-when-using-performance-enhancing-drugs

How Does Pro Football Tackle Players' Drug Use?

https://teens.drugabuse.gov/blog/post/how-does-pro-football-tackle-players-drug-use

 Student Athletics: The "Anti-Opioid" https://teens.drugabuse.gov/blog/post/student-athletics-anti-opioid

Traumatic Brain Injury and Drug Use: A Closer Look
https://teens.drugabuse.gov/blog/post/traumatic-brain-injury-and-drug-use-closer-look

Wired to Win? Drug Testing Comes to eSports
 https://teens.drugabuse.gov/blog/post/wired-win-drug-testing-comes-esports

• Other educational materials from the NIDA for Teens website

Opioid Facts for Teens: Letter to Teens
https://www.drugabuse.gov/publications/opioid-facts-teens/letter-to-teens

Drug Facts for Teens: Opioids
 https://teens.drugabuse.gov/drug-facts/prescription-pain-medications-opioids

Out of Control: Opioids and the Brain
https://teens.drugabuse.gov/blog/post/out-control-opioids-and-brain

Drug Facts for Teens: Brain and Addiction https://teens.drugabuse.gov/drug-facts/brain-and-addiction

• What Is an Opioid?

https://teens.drugabuse.gov/blog/post/what-opioid

Prescription Pain Medications (Opioids)
 https://teens.drugabuse.gov/drug-facts/prescription-pain-medications-opioids

 Drug Facts for other drugs (alcohol, marijuana, MDMA, cocaine, other Rx drugs, cough and cold medicines, bath salts, inhalants and more) https://teens.drugabuse.gov/drug-facts

Prevention materials for Parents
 https://teens.drugabuse.gov/parents/drugs-and-your-kids

Lesson Plans for Teachers
 https://teens.drugabuse.gov/teachers

Monitoring the Future Survey: High School and Youth Trends <u>https://www.drugabuse.gov/publications/drugfacts/monitoring-future-survey-high-school-youth-trends</u>

• Heads Up: Real News About Drugs and Your Body – For Teachers

Scholastic Inc. partners with NIDA to develop a science-based education series that provides teachers and students with innovative materials about the effects of drugs and drug abuse on the brain and body. Annual compilations of all magazine materials, as well as posters, some with teaching guides, and some in Spanish, are available for ordering or downloading, free

of charge.

http://headsup.scholastic.com/teachers/

• Frequently Asked Questions About Drug Testing in Schools
https://www.drugabuse.gov/related-topics/drug-testing/faq-drug-testing-in-schools

• Seeking Drug Abuse Treatment: Know What to Ask https://www.drugabuse.gov/publications/seeking-drug-abuse-treatment-know-what-to-ask/introduction

- What to Do If You Have a Problem with Drugs: For Teens and Young Adults https://www.drugabuse.gov/related-topics/treatment/what-to-do-if-you-have-problem-drugs-teens-young-adults
- What to Do If Your Teen or Young Adult Has a Problem with Drugs
 https://www.drugabuse.gov/related-topics/treatment/what-to-do-if-you-have-problem-drugs-teens-young-adults

Substance Abuse and Mental Health Services Administration (SAMHSA)

• SAMHSA's National Helpline – 1-800-662-HELP (4357) https://www.samhsa.gov/find-help/national-helpline

Buprenorphine Treatment Practitioner Locator
 https://www.samhsa.gov/medication-assisted-treatment/physician-program-data/treatment-physician-locator
 locator

 Medication Assisted Treatment for Opioid Use Disorder https://www.samhsa.gov/medication-assisted-treatment

Opioid Treatment Program Directory
 http://dpt2.samhsa.gov/treatment/directory.aspx

• Opioid Overdose Prevention Toolkit

Provides strategies for communities, health care providers, and local governments to help develop practices and policies that aid in preventing opioid-related overdoses and deaths. The toolkit allows users to access reports for patients and families, community members, prescribers, and those recovering from opioid overdose.

https://store.samhsa.gov/product/Opioid-Overdose-Prevention-Toolkit/SMA18-4742

- Preventing Prescription Drug Misuse: Understanding Who Is at Risk
 Individual Level Factors discusses participation in organized sports (page 28)

 https://www.samhsa.gov/capt/sites/default/files/resources/preventing-prescription-drug-misuse-understanding.pdf
- Prescription Drugs: They Can Help But Also Hurt: Not Worth the Risk (for teens)
 https://store.samhsa.gov/product/Prescription-Drugs-They-Can-Help-But-Also-Hurt-Not-Worth-the-Risk-for-Teens-/SMA12-4677B2
- Rx Pain Medications. Know the Options. Get the Facts.

 Series of 13 fact sheets designed to increase awareness of the risks associated with prescription

opioid use and misuse, as well as to educate patients who are prescribed opioids for pain about the risks and to provide resources on methods for alternative pain management. https://store.samhsa.gov/list/series?name=Rx-Pain-Medications&pageNumber=1

• Talk. They Hear You

Campaign to reduce underage drinking among youth ages 9 to 15 by providing their parents and caregivers with the resources and skills they need to initiate a conversation with their children early.

- Discussion-starter video https://www.youtube.com/watch?v=S0xTq15pzJU
- Discussion guide https://www.samhsa.gov/sites/default/files/tthy-2017-discussion-starter-guide-r8.pdf
- Talking to Your Kids About Prescription Drug Abuse: Not Worth the Risk (for Parents)
 https://store.samhsa.gov/product/Talking-to-Your-Kids-About-Prescription-Drug-Abuse-Not-Worth-the-Risk-for-Parents-/SMA12-4676B1
- Tips for Teens: The Truth About Heroin https://store.samhsa.gov/product/Tips-for-Teens-The-Truth-About-Heroin/PEP18-02
- Treatment Improvement Protocol 63: Medications for Opioid Use Disorder https://store.samhsa.gov/product/SMA18-5063FULLDOC

Non-federal Resources

The purpose for listing non-federal resources is to inform stakeholders that resources beyond the federal government exist and may be considered in efforts aimed at preventing opioid use disorder. The resources listed below are only examples of sources that address opioid use and that provide hyperlinks to additional relevant resources. Listing a resource does not mean it has been evaluated by the U.S. Federal Government.

- Above the Influence https://abovetheinfluence.com/
- American Academy of Addiction Psychiatry
 https://www.aaap.org/patient-resources/find-a-specialist/
- Association of Recovery in Higher Education https://collegiaterecovery.org/
- Association of Recovery Schools https://recoveryschools.org/
- Community Anti-Drug Coalitions of America https://www.cadca.org/webform/join-existing-coalition
- **Drug Free Youth DC** https://drugfreeyouthdc.com/youth-opioids
- EPISCenter
 http://www.episcenter.psu.edu/OpioidResourcesParents

• Healing Addictions in Our Community

http://healingaddictionnm.org/

https://www.youthsportssafetyalliance.org/sites/default/files/Opiate%20Abuse%201.pdf

National Association of State Alcohol and Drug Abuse Directors - State Adolescent Substance Use Disorder Treatment and Recovery Practice Guide

http://nasadad.org/wp-content/uploads/2014/09/State-Adolescent-Substance-Use-Disorder-Treatment-and-Recovery-Practice-Guide-9-24-14.pdf

• National Athletic Trainers' Association

https://www.nata.org/practice-patient-care/health-issues/opiod-abuse https://www.nata.org/NR05172017

• National Council of Youth Sports

http://ncys.org/advocacy/call-to-action.php

• New Jersey State Interscholastic Athletic Association

http://www.njsiaa.org/opioid-information

• Operation Prevention

https://www.operationprevention.com/

• Partnership for Drug-Free Kids

https://drugfree.org/article/prevention-tips-for-every-age/

• Prescription Drug Abuse Policy System

http://www.pdaps.org/

• Prevention First

https://www.prevention.org/Professional-Resources/Opioid-Education-Resources/

• ProjectKnow.com

https://www.projectknow.com/

• Young People in Recovery

http://youngpeopleinrecovery.org/

CITATIONS

- ⁵ Substance Abuse and Mental Health Services Administration (SAMHSA) (2017) Key substance use and mental health indicators in the United States: Results from the 2016 National Survey on Drug Use and Health (HHS Publication No. SMA 17-5044, NSDUH Series H-52) Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from https://www.samhsa.gov/data/.
- ⁶ American Academy of Pediatrics [AAP]. (2017) Study finds increasing number of children arrive at emergency departments addicted to opioids. Retrieved from https://www.aap.org/en-us/about-the-aap/aap-press-room/Pages/Study-Finds-Increasing-Number-of-Children-Arrive-at-ED-Addicted-to-Opioids.aspx
- ⁷ Monitoring the future survey: High school and youth trends. Retrieved from

https://www.drugabuse.gov/publications/drugfacts/monitoring-future-survey-high-school-youth-trends.

- ⁸ Center for Behavioral Health Statistics and Quality. (2015) 2014 National Survey on Drug Use and Health: Detailed Tables. Substance Abuse and Mental Health Services Administration, Rockville, MD.
- ⁹ Centers for Disease Control and Prevention. (2018) Youth Risk Behavior Survey Data Summary & Trends Report 2007–2017. Retrieved from https://www.cdc.gov/healthyyouth/data/yrbs/pdf/trendsreport.pdf
- ¹⁰ Miech R, Johnston L, O'Malley PM, Keyes KM, & Heard K. (2015) Prescription Opioids in Adolescence and Future Opioid Misuse. Pediatrics. Nov;136(5):e1169-77.
- ¹¹ Schepis, T.S. (2010) Nonmedical use of prescription opioids by adolescents: A review of the literature. Retrieved from https://www.futuremedicine.com/doi/10.2217/pmt.10.4
- ¹² Courson, R., Goldenberg, M., Adams, K. G., Anderson, S. A., Colgate, B., Cooper, L., ... & Klossner, D. (2014) Interassociation consensus statement on best practices for sports medicine management for secondary schools and colleges. Journal of athletic training, 49(1), 128-137.
- ¹³ National Institutes of Health [NIH]. (2018) Sports injuries in youth: A guide for parents. Retrieved from https://www.niams.nih.gov/health-topics/sports-injuries-in-youth
- ¹⁴ Veliz, P., Boyd, C. J., & McCabe, S. E. (2016) Nonmedical prescription opioid and heroin use among adolescents who engage in sports and exercise. Pediatrics, e20160677.

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¹ United Nations Educational, Scientific and Cultural Organization [UNESCO]. (2017) What do we mean by "youth"? Retrieved from http://www.unesco.org/new/en/social-and-human-sciences/themes/youth/youth-definition.

² Healthy People 2020. (2018) Adolescent health. Retrieved from https://www.healthypeople.gov/2020/topics-objectives/topic/Adolescent-Health.

³ Consumer Health Informatics Research Resource [CHIRr]. (2018) Age. Retrieved from https://chirr.nlm.nih.gov/age.php.

⁴ Centers for Disease Control and Prevention, National Center for Health Statistics. (2018) Underlying Cause of Death 1999-2016 on CDC WONDER Online Database, released December 2017. Retrieved from http://wonder.cdc.gov/ucd-icd10.html.