Pregnancy-Associated Deaths From Drug Overdose in Virginia, 1999-2007

A Report from the Virginia Maternal Mortality Review Team

Virginia Department of Health
Office of the Chief Medical Examiner

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PREGNANCY-ASSOCIATED DEATHS FROM DRUG OVERDOSE IN VIRGINIA, 1999-2007

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Mission Statement

Virginia's Maternal Mortality Review Team is dedicated to the identification and review of all pregnancy-associated deaths in the Commonwealth and the development of interventions that reduce preventable deaths.

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Table of Contents

List of Tables

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Executive Summary

Drug overdoses are a leading cause of death among women and are now considered an epidemic within the United States. According to the Centers for Disease Control and Prevention, a fivefold increase in women's deaths from prescription painkillers occurred between 1999 and 2010.

Virginia's Maternal Mortality Review Team reviewed nearly 400 cases of pregnancy-associated deaths to Virginia residents occurring between 1999 and 2007. These deaths are those that happen during pregnancy or within one year of the end of pregnancy. Findings indicate substance misuse is a contributing factor in nearly one-quarter of all pregnancy-associated deaths in Virginia regardless of the actual cause or manner of death. Slightly more than 10% (41) of the deaths reviewed were the direct result of drug overdoses, mostly from accidents or suicides. In light of the magnitude and urgency of this public health problem, the Team has undertaken an in-depth review of deaths that were the direct result of drug overdoses. This multidisciplinary Team examined the circumstances leading up to the fatal event to identify where reasonable changes could be made in the systems that served women to improve outcomes in similar circumstances.

Key findings from the Virginia Maternal Mortality Review Team's review of these 41 pregnancy-associated overdose deaths include the following:

- Toxicology results in 44% of cases indicated death was due to combined substances with up to five substances identified.
- Prescription medications contributed to the majority of deaths.
- Decedents often sought treatment for chronic pain disorders and mental health conditions such as anxiety and depression. Numerous encounters with healthcare providers were documented.
- Healthcare providers did not adequately assess for or identify the complexity of problems and life circumstances experienced by their patients.
- A fragmented health care system and the need for care coordination, consultation services and training for providers were identified as major gaps in services among the women who deaths were reviewed.

Deaths among Virginia's pregnant and recently pregnant women call for our immediate action and attention. The Virginia Maternal Mortality Review Team urges a public health focus promoting the health of both mother and infant when developing policies to address these issues. Beginning on page 18 of this report, the Team offers its recommendations to address the needs of substance misusing women of reproductive age in Virginia.

I. Preface

Background on Virginia's Maternal Mortality Review Team

Virginia's Maternal Mortality Review Team (the Team) was established in 2002 as a partnership between the Virginia Department of Health's Offices of the Chief Medical Examiner and Family Health Services in response to a call for state level review of maternal deaths by the Centers for Disease Control and Prevention (CDC) and the American College of Obstetricians and Gynecologists (ACOG). National surveillance of deaths of childbearing women showed no reduction and possible increases in numbers of deaths in recent years. Recommended efforts to improve identification of these deaths included changing the standard certificate of death to include a check-off box indicating whether a decedent had been pregnant in the year prior to her death. States were also encouraged to institute matching of death certificates of women of childbearing age to birth and fetal death certificates. These strategies, along with examination of causes of death that relate directly to pregnancy and childbirth, have led to improved recognition of the magnitude of the loss of women during or within one year of pregnancy. Detailed review of the circumstances surrounding each death by a multidisciplinary team provides the foundation for understanding populations at risk and what can be done to prevent these tragic losses.[1]

Overview of Pregnancy-Associated Deaths in Virginia, 1999-2007

The Team reviews deaths of all Virginia residents who was pregnant at death or who died within one year of pregnancy regardless of the outcome of the pregnancy or the cause and manner of death. These deaths are called "pregnancy-associated deaths." The Team has completed review of all such cases that occurred between 1999 and 2007 (N=397). The pregnancy-associated maternal mortality ratio is 43.3 deaths per 100,000 live births in Virginia. Table 1 shows natural pregnancy-associated deaths for the nine year period and Table 2 shows manner and fatal agency for pregnancy-associated deaths from violence. The causes and manners presented are based on the Maternal Mortality Review Team's determinations.

[1]For a detailed description of the Team's processes and methods, visit: http://www.vdh.virginia.gov/medExam/MaternalMortality.htm. The Team's previous reports, which include recommendations for improvement, are available on the website as well.

Table 1. Number, Percent, and Ratio[2] of Natural Pregnancy-Associated Deaths in Virginia By Cause of Death, 1999-2007, n=207			
	Number	**Percent**	**Ratio**
Amniotic Fluid Embolism	7	3.4	0.8
Cancer	35	16.9	3.8
Cardiac	45	21.7	4.9
Cardiomyopathy	14	6.8	1.5
Disorders of the Central Nervous System	21	10.1	2.3
Ectopic Pregnancy	3	1.4	0.3
Exacerbation of Chronic Disease	14	6.8	1.5
Hemorrhage	13	6.3	2.3
Infection	17	8.2	1.8
Pregnancy Induced Hypertension	10	4.8	1.1
Pulmonary Embolism	20	9.7	2.2
Other	8	3.9	0.9

Virginia's pregnant and recently pregnant women are almost equally likely to die from violence as from natural causes. Almost 46% of all deaths were related to violence – motor vehicle collisions, homicides, accidental overdoses, suicides, and other accidents. This finding has remained consistent over time.

Table 2. Number, Percent, and Ratio* of Violent Pregnancy-Associated Deaths in Virginia By Manner of Death and Fatal Agency, 1999-2007, n=190			
	Number	**Percent**	**Ratio**
Accident			
Fire/Burn	4	2.2	0.4
Motor Vehicle Collision – Driver and Passenger	58	30.5	6.3
Motor Vehicle Collision – Pedestrian	3	1.6	0.3
Poisoning	34	17.9	3.7
Other	4	2.2	0.4
Homicide			
Blunt Instrument	3	1.6	0.3
Fire/Burn	--	--	--
Firearm	31	16.3	3.4
Hanging/Strangulation/Suffocation	10	5.3	1.1
Motor Vehicle Collision – Driver and Passenger	--	--	--
Motor Vehicle Collision – Pedestrian	2	1.0	0.2
Personal Weapon	1	0.5	0.1
Poisoning	--	--	--
Sharp Instrument	5	2.6	0.5

[2] Throughout this report, ratios reflect the number of deaths per 100,000 live births, which is calculated by dividing the number of deaths by the number of live births and multiplying by 100,000.

Table 2. Number, Percent, and Ratio* of Violent Pregnancy-Associated Deaths in Virginia By Manner of Death and Fatal Agency, 1999-2007, n=190			
	Number	**Percent**	**Ratio**
Suicide			
Blunt Instrument	--	--	--
Fire/Burn	--	--	--
Firearm	9	4.7	0.9
Hanging/Strangulation/Suffocation	8	4.2	0.8
Motor Vehicle Collision – Drivers or Passengers	1	0.5	0.1
Motor Vehicle Collision – Pedestrians	2	1.0	0.2
Personal Weapon	--	--	--
Poisoning	6	3.1	0.6
Sharp Instrument	1	0.5	0.1
Undetermined			
Firearm	1	0.5	0.1
Motor Vehicle Collision – Drivers or Passengers	1	0.5	0.1
Poisoning	1	0.5	0.1
Unknown	5	2.6	0.5

*Ratio reflects the number of deaths per 100,000 live births.

The Significance of Substance Misuse in Maternal Deaths

The Team identified substance abuse as a major contributing factor among women dying within one year of pregnancy in their first report of findings.[3] Drug and alcohol use is now recognized as a major risk factor for pregnancy-associated death by maternal mortality review teams in many states including Alaska,[4] California,[5] Florida,[6] Massachusetts,[7] and North Carolina.[8] Many of the recommendations made by Virginia's

[3] Pregnancy-Associated Maternal Death in Virginia, 1999-2001. Virginia Department of Health, Office of the Chief Medical Examiner. Retrieved on March 9, 2015 at: http://www.vdh.virginia.gov/medExam/pdfs/MMRT9901-FINAL.pdf

[4] Pregnancy-Associated Mortality in Alaska, 2000-2011. Department of Health and Social Services, http://www.epi.alaska.gov/bulletins/docs/b2013_17.pdf
Division of Public Health. State of Alaska Epidemiology Bulletin (17); July 9, 2013. Retrieved on March 9, 2015 at: http://www.epi.alaska.gov/bulletins/docs/b2013_17.pdf

[5] Wolfe EL, Davis T, Guydish J, Delucchi KL. Mortality risk associated with perinatal drug and alcohol use in California. Journal of Perinatology 2005;25:93-100.

[6] Hardt N, Wong TD, Burt MJ, Harrison R, Winter W, Roth J. Prevalence of prescription and illicit drugs in pregnancy-associated non-natural deaths of Florida Mothers, 1999-2005. Journal of Forensic Sciences 2013;58:1536-1541.

[7] Maternal Mortality and Morbidity Review in Massachusetts, In Brief: A Guide for Safe Motherhood. Massachusetts Department of Public Health. May 2002. Retrieved on March 9, 2015 at: http://www.mass.gov/eohhs/docs/dph/com-health/prego-newborn/safe-mom-preg02rg.pdf

[8] Meyer, RE, Ha5per, MA. Maternal deaths attributable to violence and injury in North Carolina. NC Med J 2010;71(6):581-583. Retrieved on March 9, 2015 at: http://www.ncmedicaljournal.com/archives/?maternal-deaths-attributable-to-violence-and-injury-in-north-carolina

Team in 2007 to reduce substance abuse as a contributor to pregnancy-associated death have been implemented. Among them, the Virginia Department of Behavioral Health and Developmental Services has developed a statewide universal substance abuse and mental health screening program protocol for women of childbearing age. Guidance documents on gender-specific screening tools have also been developed and promoted. Virginia has a Prescription Monitoring Program that operates cooperatively with other states. This program provides training in proper prescribing to manage pain, in caring for the patient with addictions, identification of "doctor shoppers" and many other topics. Virginia law requires the reporting of substance exposed newborns for child protective services[9] and referral of substance abusing mothers for assessment for treatment needs.[10] In spite of these and other efforts, substance abuse continues to be a major contributor to death among pregnant and recently pregnant women.

Of the 397 cases reviewed to date by the Team, 96 cases (24.2%) were determined to have substance abuse as a contributor to death. Substance abuse contributed to deaths resulting from violence as well as those due to natural causes, including motor vehicle collisions, infections, cardiac disorders and cardiomyopathies, homicides and suicides.

This report will focus on those women who died as a result of drug toxicity during or soon after pregnancy. These deaths were ruled unintentional (accidental) in some cases and as intentional (suicide) in others. In one case, intent could not be determined. The purpose of this report is to examine the circumstances of these deaths, describe populations most at risk, identify where gaps in services continue to exist, and make recommendations to close those gaps and reduce the numbers of women whose lives are lost prematurely. The final section of the report presents the Virginia Maternal Mortality Review Team's consensus recommendations to address pregnancy-associated deaths due to drug overdose. These recommendations are made in the spirit of public health to the Governor, the legislature, health care providers, national and state organizations dedicated to maternal health, and all citizens of the Commonwealth of Virginia.

[9]Code of Virginia: §63.2 – 1509 B. Requirement that certain injuries to children be reported by physicians, nurses, teachers, etc.; penalty for failure to report. Retrieved on March 17, 2015 at: http://law.lis.virginia.gov/vacode/title63.2/chapter15/section63.2-1509/

[10]Code of Virginia: §32.1-127 B6. Regulations of medical care facilities and services. Retrieved on March 17, 2015 at: http://law.lis.virginia.gov/vacode/title32.1/chapter5/section32.1-127/

II. Introduction

Scope of the Problem of Drug Overdoses

Drug overdose deaths among women in the United States are on the rise. The number of deaths to women from overdoses overall has surpassed deaths from motor vehicle collisions each year since 2007.[11] Prescription drugs such as opioid pain relievers and benzodiazepines are among the drugs frequently involved in overdose deaths.[12] Deaths from prescription painkillers have reached epidemic proportions with a fivefold increase among women between 1999 and 2010. Prescription drug abuse and overdose were ranked second of the top five health threats for 2014.[13] Healthy People 2020 includes reducing substance abuse as a priority to protect the health, safety, and quality of life for all among its goals.[14]

Alcohol and drug use among women of reproductive age are also on the rise. Results from a 2010 national survey found 4.4 percent of pregnant women reported illicit drug use in the past month while 11% of nonpregnant women of reproductive age (15-44 years) reported illicit drug use. Nearly 11% of pregnant women reported using alcohol in the past month compared to 54.7% of nonpregnant women. Across the United States, numbers of pregnant women seeking substance abuse treatment remained stable between 2000 and 2010. Changes were noted, however, in types of substances reportedly used. Alcohol abuse decreased from 46% to 35% while drug abuse increased from 51% to 64%. Nonpregnant women entering treatment showed similar patterns of use. [15]

According to the Virginia Department of Behavioral Health and Developmental Services, more than 10.0% of the 104,990 babies born in Virginia in 2008 were exposed to alcohol and/or drugs in utero.[16] The Virginia Department of Health's Pregnancy Risk Assessment Monitoring System found 8.6% of women surveyed shortly after delivery

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[11] Deaths from Prescription Painkiller Overdoses Rise Sharply among Women. CDC online news room press release. Centers for Disease Control and Prevention. Retrieved on March 18, 2015 at: http://www.cdc.gov/media/releases/2013/p0702-drug-overdose.html

[12] Vital Signs: Overdoses of Prescription Opioid Pain Relievers and Other Drugs among Women – United States, 1999-2010. Centers for Disease Control and Prevention. MMWR 2013;62:537-542. Retrieved on March 10, 2015 at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6226a3.htm

[13] CDC's Top Ten: 5 Health Achievements in 2013 and 5 Health Threats in 2014. Centers for Disease Control and Prevention. Retrieved on November 18, 2014 at: http://blogs.cdc.gov/cdcworksforyou24-7/2013/12/cdc%E2%80%99s-top-ten-5-health-achievements-in-2013-and-5-health-threats-in-2014/

[14] Healthy People 2020 Topics and Objectives – Substance Abuse. Retrieved on January 16, 2014 at: https://www.healthypeople.gov/2020/topics-objectives/topic/substance-abuse

[15] 2010 National Survey on Drug Use and Health. Health and Human Services publication No. SMA11-4658. Retrieved on February 3, 2015 at: http://oas.samhsa.gov/NSDUH/2k10NSDUH/2k10Results.pdf

[16] Substance Use During Pregnancy: The Facts. Virginia Department of Behavioral Health and Developmental Services. Retrieved on March 3, 2015 at: http://www.dbhds.virginia.gov/library/document-library/scrn-pw-subst-use-during-preg-facts.pdf

reported drinking alcohol during their most recent pregnancy.[17] The Virginia Office of the Chief Medical Examiner reported 155 of Virginia's women between the ages of 15 and 44 died from drug poisoning in 2009.[18]

III. Characteristics of Pregnancy-Associated Deaths from Drug Overdose

Who is at Risk?

Of the 397 cases of pregnancy-associated death reviewed by the Team for this report, death was attributed to drug overdose in 41 cases (10.3% of all cases reviewed). In this report, "drug overdose deaths" refer to cases in which the mechanism or cause of death was poisoning or toxicity resulting from ingestion of lethal amounts of one or more substances. Manner of death is determined through consideration of the circumstances of death and is certified by a forensic pathologist. In this report, all deaths were determined by a forensic pathologist to be suicides, accidents, or undetermined at the time of the death investigation. The Team agreed with the manners of death listed on the death certificate in all cases after they reviewed the death. Suicide was defined as death due to injury that occurred with the intent to induce self-harm or cause one's own death. Accident was defined as death due to injury when there was no evidence of intent to harm. Undetermined was used when there was no evidence to determine intent.

Table 3. Number and Ratio* of Pregnancy-Associated Deaths from Drug Overdose in Virginia By Year of Death, 1999-2007, n=41

	Number	Ratio
1999	2	2.1
2000	3	3.0
2001	3	3.0
2002	2	2.0
2003	6	5.9
2004	5	4.8
2005	4	3.8
2006	5	4.7
2007	11	10.1

*Ratio reflects the number of deaths per 100,000 live births.

[17] Alcohol Use During Pregnancy by Selected Maternal Characteristics, 2007-08. Virginia Department of Health, Pregnancy Risk Assessment Monitoring System. Retrieved on April 3, 2015 at: http://www.vdh.virginia.gov/ofhs/prams/documents/pdf/Alcohol%20Use%20During%20Pregnancy%202007-11.pdf

[18] Virginia Department of Health, Office of the Chief Medical Examiner. Annual Report, 2009. Retrieved on April 3, 2015 at: http://www.vdh.virginia.gov/medExam/documents/2011/pdfs/AnnualReport09.pdf

There were 34 deaths that were accidental, six attributed to suicide, and one undetermined death. The pregnancy-associated maternal mortality ratio for deaths due to drug overdoses in Virginia for the nine year period was 4.5 deaths for every 100,000 live births. As shown in Table 3 above, the highest ratio of pregnancy-associated deaths due to overdoses occurred in 2007 with 10.1 deaths for every 100,000 live births.

Most women who died from drug overdoses were white (n= 36, 87.8%) and under 30 years of age (n=24, 58.5%). The largest group of women were high school graduates (n=19, 46.3%) and most were married (n=28, 68.3%). Over half (n=22, 53.7%) were covered by Medicaid during their pregnancies.

Table 4. Number and Percent of Women Dying Pregnancy-Associated Deaths from Drug Overdose in Virginia, Selected Characteristics, 1999-2007, n=41

	Number	Percent
Race		
Black	3	7.3
White	36	87.8
Other	2	4.8
Age		
24 and younger	12	29.3
25-29	12	29.3
30-34	11	26.8
35 and older	6	14.6
Marital Status		
Divorced	6	14.6
Married	28	68.3
Never Married	7	17.1
Education		
Less Than High School	10	24.4
Completed High School	19	46.3
More than High School	12	29.3
Payment for Care		
No care/self pay	4	9.7
Private	11	26.8
Public	22	53.7
Unknown	4	9.8

*Ratio reflects the number of deaths per 100,000 live births.

Location of Risk by Health Planning Regions

Virginia has five Health Planning Regions which are shown in graphic form in Appendix A. The highest numbers of deaths occurred in the Southwest and Central regions of Virginia. Examination of numbers of deaths to live births by region revealed a slightly higher ratio in the Southwest than that found in the Central region. The Northern, Northwestern, and Eastern regions had much lower ratios of pregnancy-associated deaths (Table 5).

Table 5. Number, Percent, and Ratio* of Pregnancy-Associated Deaths from Drug Overdose in Virginia By Health Planning Region of Residence, 1999-2007, n=41

	Number	Percent	Ratio
Central	11	26.8	7.5
Eastern	9	22.0	3.9
Northern	6	14.6	2.1
Northwest	3	7.3	2.3
Southwest	12	29.3	9.3

*Ratio reflects the number of deaths per 100,000 live births.

Type and Source of Substances Used

Slightly more than half (53.6%) of the women died from an overdose of a single substance. These included acetaminophen, cocaine, oxycodone, methadone, and morphine. The remaining 46.3% of the deaths were attributable to combined substances, with up to five substances being present on toxicology reports. Cocaine and heroin (both illegal substances) were listed among the causes of death in 16 cases (39.0%). Prescription drugs were listed in 27 cases (65.8%) as causing death. The Team knew that the decedent used drugs that were illegally obtained or used prescription drugs not as prescribed while they were pregnant in nearly half, 48.8% of cases.

Table 6. Number and Percent of Pregnancy-Associated Deaths from Drug Overdose in Virginia By Type and Source of Drug, 1999-2007, n=41

	Number	Percent
Combined Toxicity with at Least One Prescription	**19**	**46.3**
Single Prescription Drug	**8**	**19.5**
Over-the-counter or Alcohol or Illegal Substance	**14**	**34.1**

More than half (56.1%) of the decedents were treated for a mental health condition in the year prior to death. Most of these women were prescribed medications for their mental health problems. They were most often treated for depression or anxiety. More than one in five of the decedents were treated for pain. Nine women (21.9%) suffered with migraine headaches or other chronic pain conditions. Six (14.6%) were treated for substance use in the year before death.

IV. Factors Contributing to Pregnancy-Associated Deaths due to Overdose

Systems Factors

The Maternal Mortality Review Team used a systems analysis approach to identify areas of needed change so that organizational improvements can be recommended. A system is defined as an organizational structure or collection of elements needed to carry out a vital function. For this review, systems examined were broadly categorized as community, patient, facility, and healthcare professional. It is by examining the interactions of these systems that features influencing an outcome can be determined. Interactions among systems are bi-directional with each influencing the other. This conceptualization allows for the identification of barriers and supportive factors present in the particular case so that recommendations to address obstacles to a more positive outcome can be developed. The Team considers factors associated with the decedent's life circumstances, the context of her family and community, and medical institutions in which she received care. For example, when considering the interaction between the patient and facility, the Team would decide if the policies and procedures in place in the facility were conducive to a positive outcome for the unique needs of the patient at that particular time under those circumstances. If not, the Team would discuss what changes in policies and procedures could be recommended to improve the outcome.

Community Factors

The Team noted that there was a general "accepted culture" of drug use most pronounced in the southwest region of the State. This acceptance may have resulted in delays in recognizing signs of drug abuse and in seeking treatment. Decedents used numerous medications for a variety of ailments at the same time. They may have had several different prescriptions for a single problem. They sometimes used medications that were prescribed for someone else. Decedents were found to use over-the-counter sleep aids and cold medications along with prescribed medications.

Healthcare Facility Factors

Healthcare facility factors that were identified by the Team included lack of knowledge and training by emergency room personnel in management of drug seeking patients and in dealing appropriately with mental health problems. Prescribing of opiates in emergency departments was evaluated as inappropriate in some circumstance. Some decedents were seen over and over in the same emergency department and prescribed numerous pain relieving medications with no screening for addiction or mental health conditions. Team members noted as common problems inadequate discharge planning and lack of referrals for continued care and treatment after discharge. Women were advised to contact services themselves once discharged rather than obtaining immediate help or at least further assessment at the time of presentation for emergency care.

Patient Factors

Identification of factors associated with the decedent provide an opportunity to think about where systems changes are needed to address those factors that contributed to the death. The Team identified substance misuse, mental illness, lack of follow-up or adherence to medical advice, intimate partner violence, multiple stressors, delay or failure to seek care, and lack of a family support system as contributing patient factors. The Team noted that women presented with complex problems and difficult life circumstances that had fatal outcomes.

Healthcare Professional Factors

Assessment of risk by healthcare professionals was often deemed inadequate by the Team. In other cases no documented assessment was apparent. When addiction was suspected, providers sometimes attempted to manage the addiction by tapering dosages without adequate substance abuse assessment, referral, and treatment. Mental health problems such as depression and anxiety were treated with medications without thorough psychiatric evaluations. Providers did not refer these women to specialists nor did they seek consultations or communicate adequately with other care providers. The Team concluded that providers lacked knowledge of where to turn for appropriate assistance in managing these complex patients. Improved coordination of care and support for providers in managing patients with difficult presentations were routinely noted as critical needs. In addition, the Team concluded that treatment providers must learn to recognize, respond, and resolve the connection between substance abuse, mental health problems, and intimate partner violence to be effective with their patients.

V. Summary and Conclusions

The Team believes that comprehensive prenatal care includes assessment and treatment and/or referral for any condition that may compromise the health of the mother or the fetus. Substance misuse during pregnancy is associated with a myriad of adverse outcomes for both the mother and the infant. The Team's review revealed profound challenges for providers of care. These patients were described as demanding, frustrating, noncompliant, and difficult for doctors, office staff, and hospital personnel. The Team noted that many of these women experienced chronic pain, some from established and diagnosable physical ailments and others that were unable to be confirmed despite thorough and intensive diagnostic studies. Pain is recognized as a subjective experience and requires diligent and responsible management. Providers of care were often unable to find support for managing the pregnant woman with chronic pain who was exhibiting drug seeking behaviors. At the same time, pain management specialists were reluctant to manage women who were pregnant and turned prescribing responsibility over to the obstetrician during pregnancy. Obstetricians were not equipped to manage these patients. An overall lack of coordination of care among these specialists led to much frustration on the part of the providers and patients alike.

The Team places a high priority on filling the need for providers who can prioritize pregnant women in medically assisted treatment for addiction and substance abuse, chronic pain, and behavioral health needs. Comprehensive management requires a multidisciplinary approach that combines a full range of perinatal care, psychiatry, substance abuse treatment, and pain management that optimizes the health and well-being of both mother and infant. The current fragmented system of care does not adequately meet the treatment needs of these women and families or the physicians currently providing their care. The Team advocates the establishment of care coordination and consultation services for providers of care to help manage the many needs of substance misusing pregnant women and pregnant women with chronic pain disorders.

The Team supports the Virginia State Child Fatality Review Team's recommendation that the Virginia Department of Behavioral Health and Developmental Services should convene a workgroup to review Virginia law, policy, and practice with regard to infants and children who are exposed to and/or endangered by the drug use of their caregiver; and to develop a set of policies and procedures for ensuring that Virginia has a response to this problem. The Team encourages thoughtful consideration be given to the treatment and coordination of care for the substance abusing mother that is most likely to promote continued involvement in the healthcare system and requests representation from the Virginia Maternal Mortality Review Team be included in the workgroup. The Team is committed to its belief that substance abuse is a chronic disease which can be prevented,

treated, and from which recovery can be attained. The Team also holds firm that reporting policies and drug enforcement regulations that deter women from seeking and continuing prenatal care are not conducive to improving the health of the mother or the fetus. Finally, the Team urges a public health approach, one that provides alternatives to coercive measures, as important when considering policies to protect both substance misusing women and their infants.

The following recommendations are offered from the Virginia Maternal Mortality Review Team in fulfillment of its mission and in honor of the women who died and from whom the Team are privileged to have learned these lessons.

VI. Recommendations to Address Pregnancy-Associated Deaths from Drug Overdose

Resources and Guidance for Providers

1. The American College of Obstetricians and Gynecologists should develop a Practice Bulletin[19] on Pain Management in Pregnancy to serve as a resource for all providers of care to pregnant women.

2. The Virginia Board of Health Professions and the Virginia Department of Behavioral Health and Developmental Services should develop a web-based resource guide for all licensed health care providers to assist them with referring substance misusing pregnant women to services. This document should reference evidence informed and promising practices for this population, the ASAM Placement Criteria[20] for determining appropriate levels of treatment and include a region by region description of available resources.

Provider and Public Education

3. The Virginia Board of Pharmacy and the Virginia Department of Health should continue to develop tools to educate prescribers and dispensers on best practices for mitigating substance abuse and in routinely using the Prescription Monitoring Program to identify signs of potential abuse prior to issuing or dispensing a prescription.

[19] Practice Bulletins summarize current information on techniques and clinical management issues for the practice of obstetrics and gynecology. Practice Bulletins are evidence-based documents, and recommendations are based on the evidence.

[20] ASAM Criteria is the American Society of Addiction Medicine's national set of criteria for providing outcome-oriented and results based care in the treatment of addiction using six dimensions to create a holistic, biopsychosocial assessment used for service planning and treatment across all services and levels of care. Retrieved on January 12, 2015 at: www.asam.org/publications/the-asam-criteria/about/

4. All professional organizations serving practitioners providing prenatal care such as the Virginia Section of the American College of Obstetricians and Gynecologists; Virginia Affiliate of the American College of Nurse Midwives; Virginia Academy of Family Physicians; the Virginia Council of Nurse Practitioners; and the Virginia Chapter of the Association of Women's Health, Obstetric and Neonatal Nurses should encourage and train their membership to screen women before, during, and after pregnancy for substance use, mental health problems, and intimate partner violence using a standardized screening tool that is appropriate for pregnant women and connect them to appropriate services. Providers should also follow a standardized protocol such as Screening, Brief Intervention, and Referral to Treatment (SBIRT). A list of screening tools recommended by the Virginia Department of Behavioral Health and Developmental Services for use with pregnant women is available at: http://www.dbhds.virginia.gov/library/document-library/scrn-perinatal-instrumentschart101514.pdf

5. The Virginia Department of Health should work with home visiting programs to ensure they screen enrolled women beginning in pregnancy for substance use, mental health problems, and intimate partner violence using a standardized screening tool that is appropriate for pregnant women and connect them to appropriate services. Programs should also follow a standardized protocol such as Screening, Brief Intervention, and Referral to Treatment (SBIRT). A list of screening tools recommended by the Virginia Department of Behavioral Health and Developmental Services for use with pregnant women is available at: http://www.dbhds.virginia.gov/library/document-library/scrn-perinatal-instrumentschart101514.pdf

6. The Virginia Section of the American College of Obstetricians and Gynecologists; Virginia Chapter of the Association of Women's Health, Obstetric and Neonatal Nurses; Virginia Affiliate of the American College of Nurse Midwives; and the National Association of Social Workers, Virginia Chapter should hold a joint statewide summit biennially to educate providers on screening, referral and treatment of substance using women.

7. The Virginia College of Emergency Physicians and the Virginia Academy of Family Physicians should train Emergency Department staff and Urgent Care Center staff in use of the Prescription Monitoring Program; best practices for opioid prescribing; pain management; use of medically assisted treatment in pregnancy; management of drug seeking patients; and screening, identification, and referral of individuals at risk for substance abuse.

8. The March of Dimes should expand their education campaign targeting the dangers of opioid misuse in pregnancy to include misuse of alcohol, tobacco, mood altering substances and other prescription medications.

Further Study

9. The Virginia Section of the American College of Obstetricians and Gynecologists should provide a grant for a multicenter research project for obstetric/gynecology residents to identify treatment needs and barriers among Virginia's pregnant women who misuse substances and develop innovative strategies to provide care. The results should be widely distributed to their membership and participating institutions.

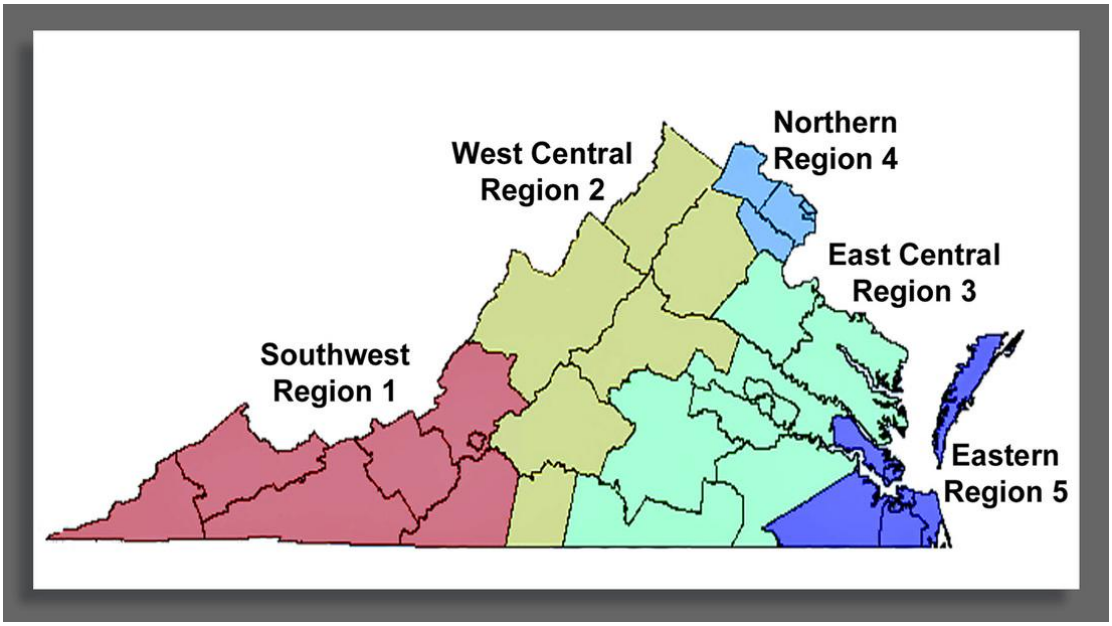
10. The Handle with C.A.R.E. Workgroup[21] being lead by the Virginia Department of Behavioral Health and Developmental Services should assess the needs of medical providers throughout the state who provide care to pregnant women who use or may require a mood altering substance and develop a strategic plan to improve providers' access to information, consultation and care coordination.

11. The Virginia Departments of Medical Assistance Services and Behavioral Health and Developmental Services should develop a workgroup to identify and address barriers that prevent Methadone Clinics from enrolling as Medicaid/FAMIS providers. The Department of Medical Assistance Services should work with its Behavioral Health Services Administrator and Department of Behavioral Health and Developmental Services to identify potential clinics willing to participate in a pilot project to decrease network barriers. The goal of this project would be to decrease the administrative burdens on providers by simplifying the billing process for medically assisted treatment services for Medicaid and FAMIS MOMS eligible pregnant women who are opioid dependent. The workgroup should also identify barriers eligible women may encounter accessing care and identify steps to eliminate these barriers.

12. The Maternal Mortality Review Team supports the proposed recommendations of the Governor's Prescription Drug and Heroin Abuse Task Force for action and/or study relating to providing additional clinical information in the Prescription Monitoring Program to prescribers and dispensers. These recommendations relate to improving logistics regarding use of Prescription Monitoring Program data which includes daily reporting of dispensed prescriptions and reviewing how drug overdose, dispensing and Prescription Monitoring Program information is available to law enforcement and regulatory boards.

[21] The full title for this Initiative is "Coordinating Access – Responding Effectively to Maternal Substance Use and the Needs of Substance Exposed/Endangered Children."

Appendix A. Virginia Health Planning Regions



This report is available at the following website:

http://www.vdh.virginia.gov/medExam/MaternalMortality.htm

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