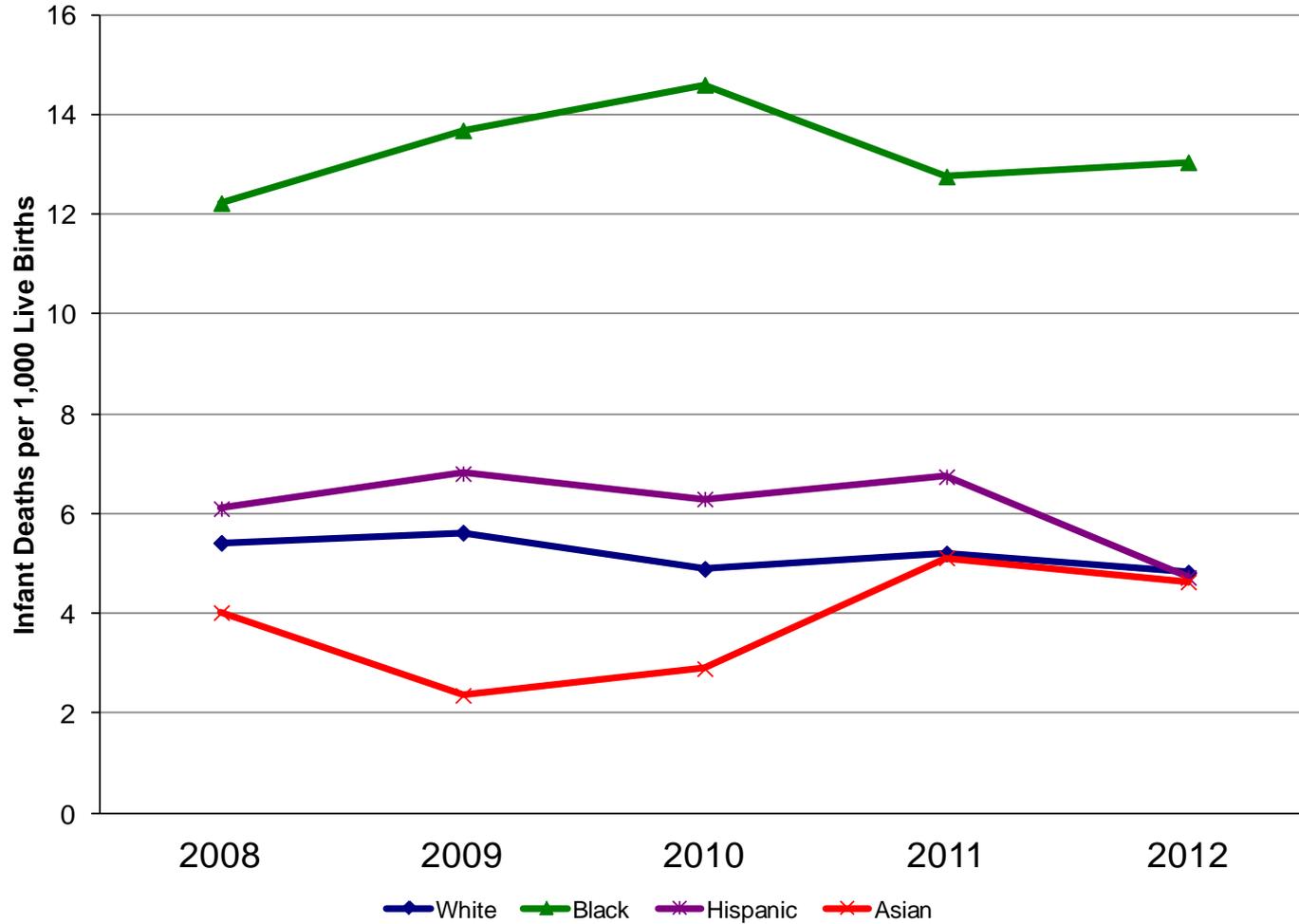


# Virginia's Infant ~~Mortality~~ Strategic Plan THRIVING



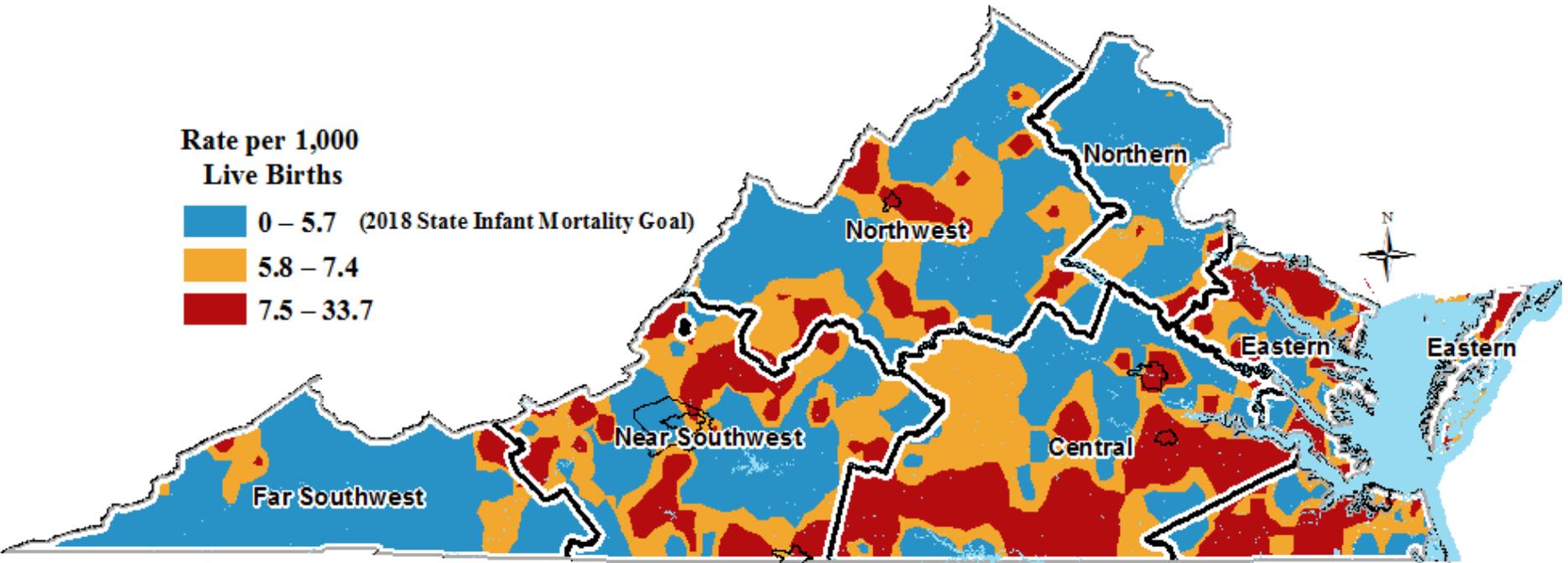
Marissa J. Levine, MD MPH  
Interim State Health Commissioner

## Resident Infant (>1 year of age) Death Rates By Race/Ethnicity, Virginia 2008-2018

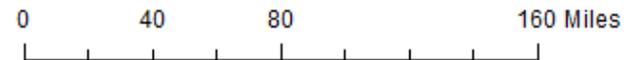


# Infant Mortality Rate, Virginia, 2002-2011

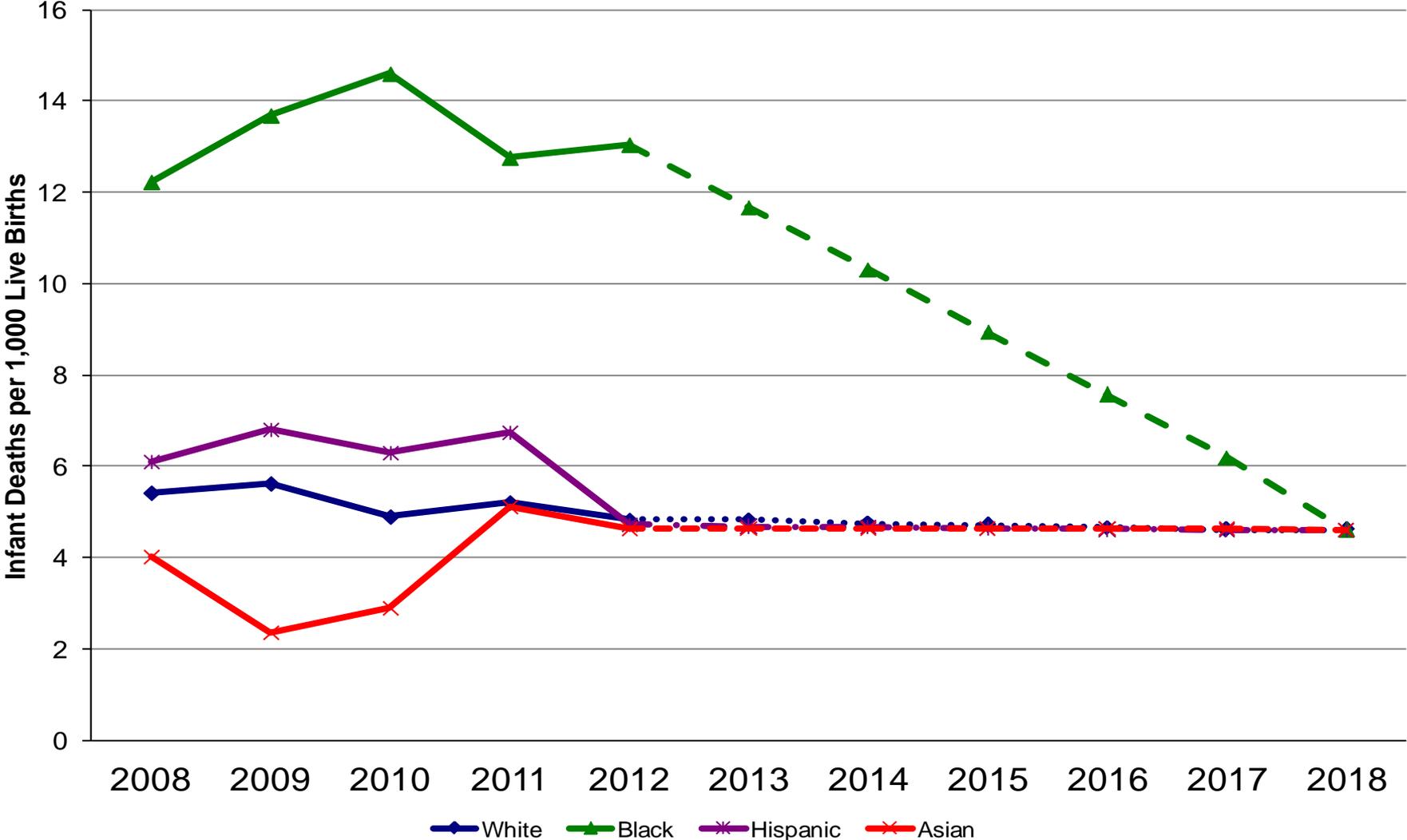
Rate per 1,000  
Live Births



Data Source: Virginia Health Statistics, 2002-2011  
Map was smoothed using GIS statistical technique (Inverse Distance Weighting)

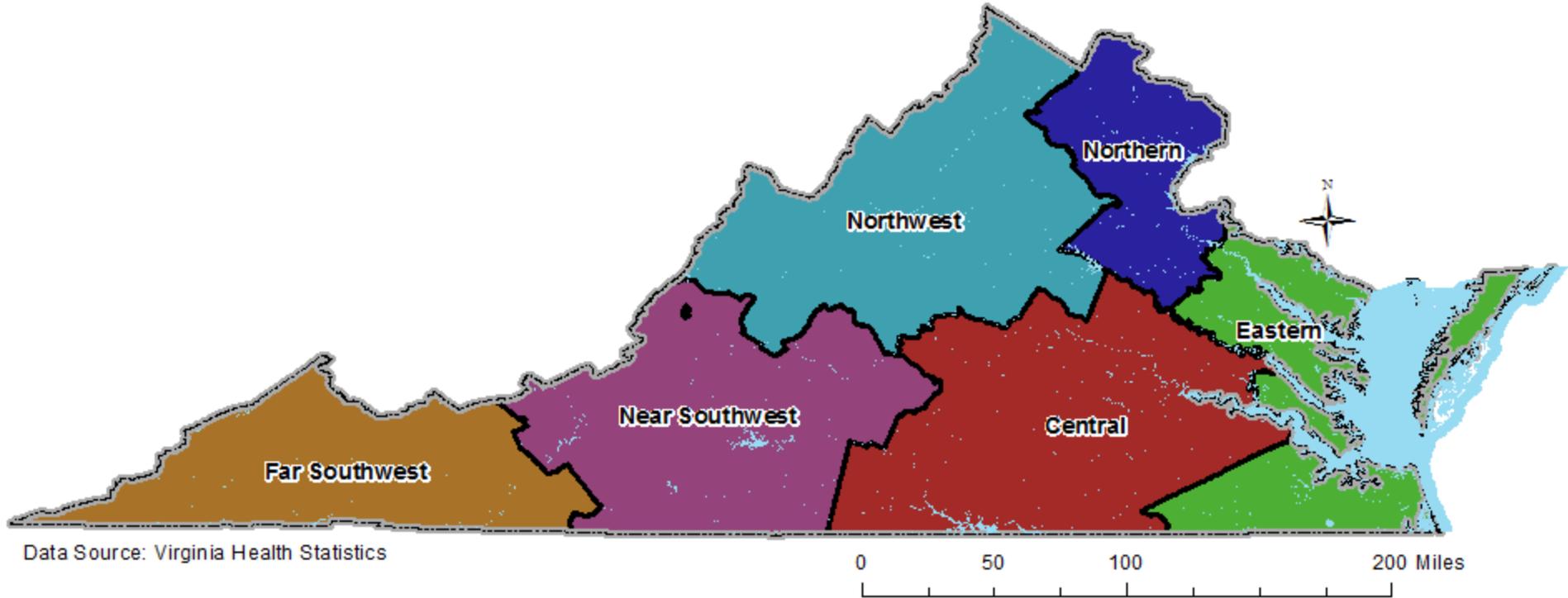


# Resident Infant (>1 year of age) Death Rates By Race/Ethnicity, Virginia 2008-2018

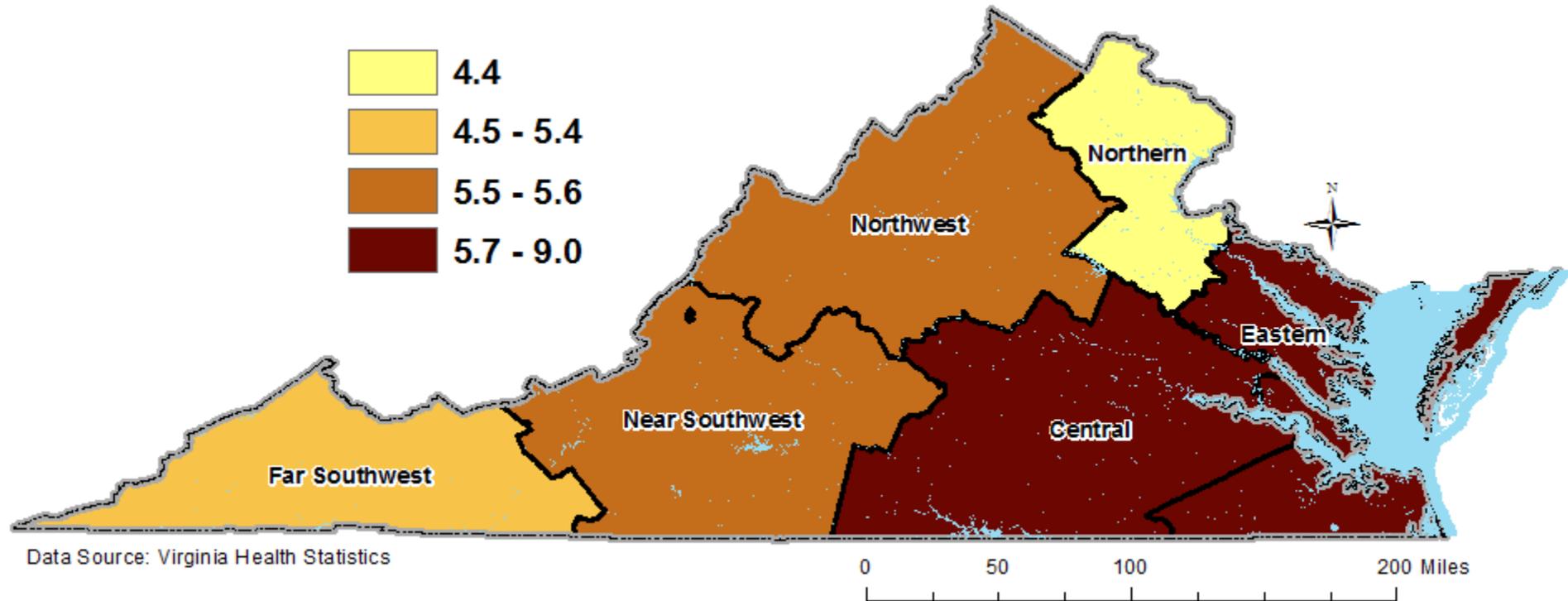


Source: VDH Division of Health Statistics, compiled by the Division of Policy & Evaluation, Office of Family Health Services

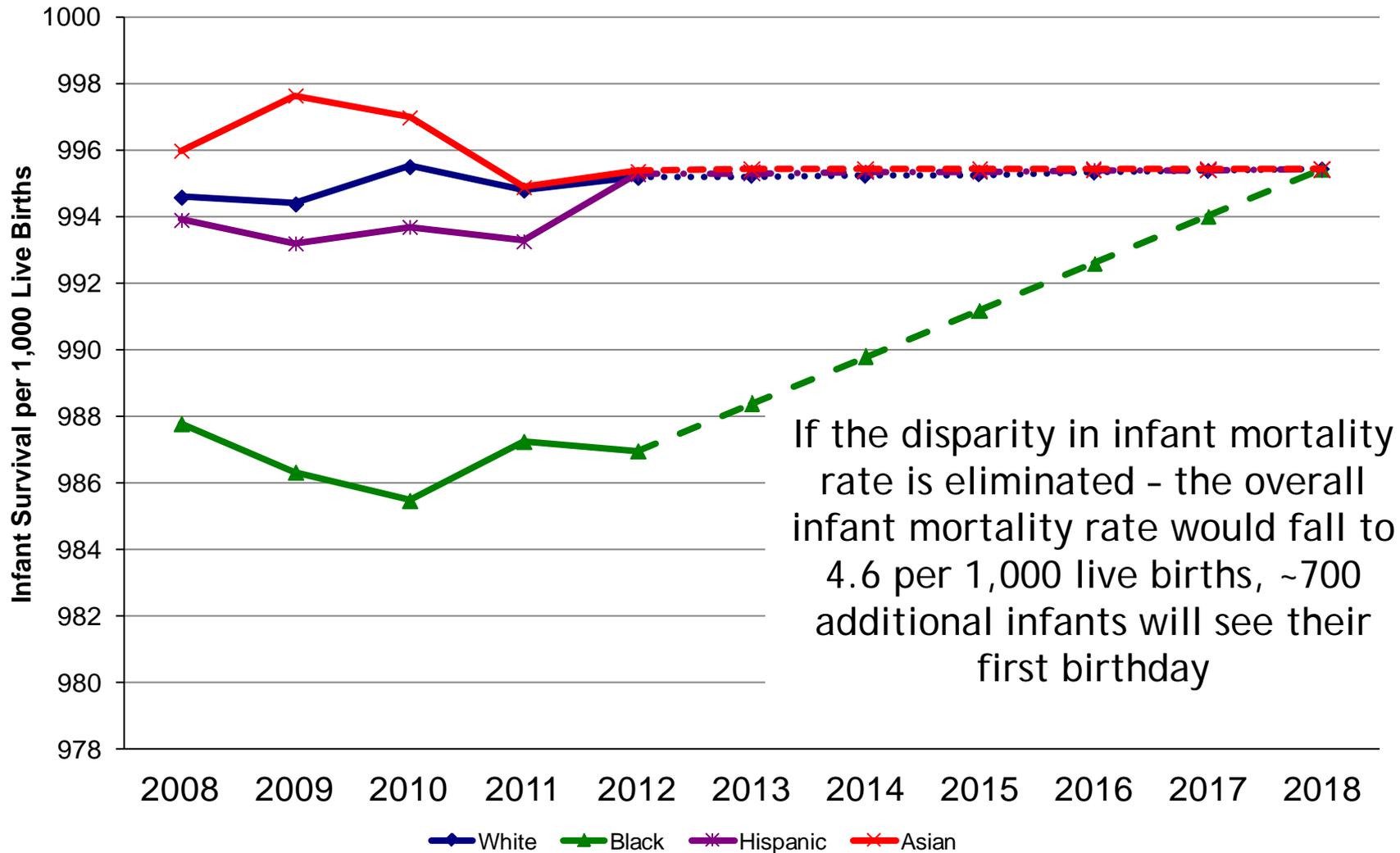
# Virginia Regional Hospital Map



# Virginia's Infant Mortality Rate by Hospital Region, 2012



## Resident Infant (>1 year of age) Survival Rates By Race/Ethnicity, Virginia 2008-2018



2013

2014

2015

2016

2017

2018

Tier One--2013-2015 (ALL TEAMS ACTIVE)

- ✓Breastfeeding (Goal 4)
- ✓LARCs (Goal 3)
- ✓Tobacco cessation (Goal 2)
- ✓EED (Goal 2)
- ✓Oral Health for Pregnant Women (Goal 1)
- ✓Text4baby (Goal 3)



Tier Two--2014-2016

- ✓Infant Safe Sleep Environment (Goal 4) (Mar 2014)
- ✓Shaken Baby (Goal 4) (May 2014)
- ✓Prematurity Prevention (Goal 2) (Sep 2014)
- ✓Obesity and Nutrition (Goal 1 & 3) (Dec 2014)
- ✓Maternal mental health (Goal 4) (2015)
- ✓Pregnancy Medical Home (Goal 1 & 2) (2015)



Tentative Tier Three--2015-2017

- ✓Father Involvement (Goal 2)
- ✓Positive Parenting & Life Skills (Goal 4)
- ✓Perinatal Data Plan (Goal 5)
- ✓Homevisiting (Goal 4)
- ✓Data, Evaluation & Policy (Goal 5)
- ✓Interconception Care & Family Planning (Goal 3)



# Health Commissioner's Infant Mortality Workgroup

Post-Partum Use of Long Acting  
Reversible Contraceptives (LARCs):

March 14, 2014

# LARC's

- **Goal 3: To improve interconception care and family planning across the Commonwealth.**
- **Objective 1:** Reduce the rate of unintended pregnancies among women of reproductive age, from 42% to 35.7% (15%) by 2018.
- *Strategy 3:* Promote the use of long acting birth control devices (long acting reversible contraceptive (LARC), such as an intrauterine device (IUD) and contraceptive implants) among women of reproductive age to reduce the risk of an unplanned pregnancy or facilitate a healthy spaced pregnancy.
  
- **External Co-Chairs:** Dr. Jerry Strauss and Dr. Frances Casey
- **Internal Chair (with email):** Nancy Keohane [nancy.keohane@vdh.virginia.gov](mailto:nancy.keohane@vdh.virginia.gov)
- **Number of team members:** 18
- **How many meetings have you had:** two thus far, next one to be the end of March 2014

# What is the group's “*end point*”

- This group is focused on increasing placement of a LARC device immediately postpartum among the Medicaid population.

# Accomplishments

- Held a meeting with VDH Epidemiology department to discuss data needed and developed a plan on how to obtain and break-down the data specific to the addressed needs for the LARC implementation team.
- Reached out to three other states to discuss their promising practices on immediate post-partum use of LARC and identified their challenges, success and recommendations.

# Challenges

- 1. Possible reimbursement through pharmacy based on other institutes examples
  - Currently DMAS fee for service won't reimburse through pharmacy for the device—need legislative support the change
  - Currently MCOs won't cover if device is placed during in-patient stay
- 2. Mom may deliver 1<sup>st</sup> baby under MCO A and then next baby under MCO B, hard to determine birth interval in this case
- 3. Limited personnel resources at DMAS to help provide data analysis of key data needed to move this group forward.

# Action Steps for March-May 2014

- Regional and state wide break down of birth intervals:
  - Need to gain access to data bases/merge available data
  - Without violating HIPPA need the data at granular level to understand scope of problem and need of services
  - Slice data by age, interval of birth and regionally
  - Current data exchange agreement with DMAS will need to be modified to gain additional data

## DMAS specific data:

- Billing codes will need to be identified, bundle codes broken down and determine who billed based on care provided.
  - Need to determine what encounter data covers vs. fee for services.
- 
- Discuss the development of a work plan to begin capturing our action steps, timeframe, leads and success indicators for this group.

Please write your questions down  
on the index card at your table,  
there will be time for Q&A after all  
presentations!



# Health Commissioner's Infant Mortality Workgroup

Tobacco Cessation among Pregnant  
Women:

March 14, 2014

# Tobacco Cessation among Pregnant Women

- **Strategic Goal 2: To reduce premature births across the Commonwealth.**
- **Objective 3:** Increase abstinence from tobacco among pregnant women from 91% to 96% (5%) by 2018.
- *Strategy 1:* Promote awareness the Quit Now Virginia hotline to pregnant women across the Commonwealth.
- *Strategy 2:* Promote smoking cessation specific to the Medicaid population within Virginia.
  
- External Chair: Janis Dauer
- Internal Chair: Shannon Pursell, [shannon.pursell@vdh.virginia.gov](mailto:shannon.pursell@vdh.virginia.gov)
- Number of team members: 23
- How many meeting have you had: 2, next meeting Mar 25 at 10:00am

# What is the group's “*end point*”

- To increase enrollment of pregnant women in the Quitline.
- The percent of increase hasn't been determined as currently there are approximately only 20 women/month that enroll. This group would like to have a much greater impact on enrollment.

# Accomplishments

- Excellent discussions on possible action steps for the workplan
- Identified the goal for the group
- Shared among the group:
  - Research articles
  - Best practices
  - Webinars

# Challenges

- Need to identify new areas across the Commonwealth with limited reach in place.
- Need to anticipate use on the Quitline and the impact on management and funding of the Quitline.

# Action Steps for March-May 2014

- Develop two workplans, one for each strategy
- Identify the best approach (based on other states success and research) to move forward with promoting Quit Now quitline

Please write your questions down  
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# Health Commissioner's Infant Mortality Workgroup

text4baby:

March 14, 2014

# text4baby

- **Strategic Goal 3: To improve interconception care and family planning across the Commonwealth**
- **Objective 2:** Increase the percentage of women who have an interval from birth to subsequent birth of at least 24 months from 23.3% to 25.5% (10%) by 2018
- *Strategy 2:* Promote the utilization of text4baby and 2-1-1 Virginia by reproductive age families
- External Chair: CaSaundra Swain; [SwainC2@AETNA.com](mailto:SwainC2@AETNA.com)
- Internal Chair: Joan Corder-Mabe; [joan.cordermabe@vdh.virginia.gov](mailto:joan.cordermabe@vdh.virginia.gov)
- Number of team members: 22
- How many meeting have you had: 4, next meeting is Mar 18, 2014

# What is the group's “*end point*”

- Annually, increase text4baby enrollment by 15%. As of February 2014, there were 24,500 enrollees within Virginia.
- Goal for February 2015, to increase enrollment by 3,675 to a total of 28,175 enrollees.

# Accomplishments

- Developed a workplan that is reviewed at each meeting and assignments have been given to members
- Reached out to new stakeholders and organizations willing to promote text4baby, such as, Women's Health Clinic at McGuire Veteran's Home, Home Visiting Consortium, Breastfeeding Summit, and the Oral Health Coalition
- MCOs working to add text4baby into the electronic medical records (EMR) screening questions patients at appointments.

# Challenges

- Spreading the message and promotion of text4baby across Virginia with limited funding and resources.
- Limited rural partners to promote text4baby in remote areas within Virginia.

# Action Steps for March-May 2014

- Develop a contact list of all the public libraries with infant to preschool programs
- Develop a contact list of all the Mothers of Preschooler (MOPS) programs
- Using data, identify 2 target locations and develop an outreach group to promote text4baby within the specific location
- Continue to identify opportunities to promote text4baby

Please write your questions down  
on the index card at your table,  
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presentations!



# Health Commissioner's Infant Mortality Workgroup

Breastfeeding Implementation Team

March 14, 2014

# Breastfeeding Implementation Team

- **Strategic Goal 4: To improve injury prevention and positive parenting efforts within Virginia.**
- Objective 3: Increase the proportion of infant's breastfeeding at six months of age from 48% to 52% (8%) by 2018.
- *Strategy 1:* Support the efforts of maternity care facilities in Virginia that are implementing part or all of the 10 Steps to Successful Breastfeeding as part of the Baby-Friendly Hospital Initiative.
- *Strategy 2:* Develop programs to increase the continuity of care available to educate and support breastfeeding families (U.S. Surgeon General's Call to Action to Support Breastfeeding, 2011) by 2015.
  
- External Chair: Senecca Kirkhart: [skillyboo@hotmail.com](mailto:skillyboo@hotmail.com)
- Internal Chair: Lisa Akers [lisa.akers@vdh.virginia.gov](mailto:lisa.akers@vdh.virginia.gov)
- Number of team members: 30
- How many meeting have you had: Meet Quarterly

# What is the group's “*end point*”

- By the end of five years and as proposed by VDH's CDC Enhanced 1305 grant,
  - The number of Baby-Friendly designated facilities in Virginia will increase from 1 to 2; and
  - Virginia's total composite quality score from CDC's Maternity Practices in Infant Nutrition and Care Survey (mPINC) will increase from 67 out of 100 to 68-72 out of 100.

# Accomplishments

- Partnership with the Virginia Chapter of AAP and UVA Office of Continuing Medical Education to help accomplish goals.
- Successfully received \$5,000 from CDC's Enhanced 1305 grant and \$2,500 from the Virginia Chapter of AAP to host Virginia's first Maternity Care Quality Improvement Collaborative event (May 16, 2014).
  - Three key stakeholders from each of Virginia's maternity care facilities will be invited
- Began development of website/platform to collect data related to the 10 Steps to Successful Breastfeeding from maternity care facilities in Virginia

# Challenges

- A continued challenge is in the ability to engage high level stakeholders from each of Virginia's maternity care facilities and to garner buy-in on the implementation of the 10 Steps to Successful Breastfeeding.

# Action Steps for March-May 2014

- Continue planning of the Virginia Maternity Care Quality Improvement Collaborative event.
  - Invite stakeholders from maternity care facilities
  - Develop agenda
- Continue to develop website/platform to collect data from maternity care facilities.

Please write your questions down  
on the index card at your table,  
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presentations!



# State Child Fatality Review Team: Infant Sleep-Related Deaths

Virginia Powell, Ph.D.  
Program Manager  
Fatality Review and Surveillance  
Office of the Chief Medical Examiner  
Virginia Department of Health

March 14, 2014

What did the Team review?

# **BASIC REVIEW INFORMATION**

# Basic Review Information

- How data was obtained
  - State CFRT is entitled to certain records on decedent child and his/her mother's perinatal records for that child
  - Records are read and organized and data is extracted from these records
  - Data is only as good as the documentation in the records
- Records Team read:
  - Birth/Death Certificates
  - EMS
  - Hospital Death
  - OCME
  - Law Enforcement
  - Mother's Prenatal and Labor & Delivery
  - Child's Birth
  - Pediatric
  - Health Department
  - Any other health records
  - CPS/Social Services
  - Juvenile and Domestic Relations Court

# Basic Review Information

- Case review
  - Began July 2010
  - Ended May 2013
- Parameters for inclusion
  - Age: < 1 year
    - Range: 3-308 days
  - DOD between 01/01/2009-12/31/2009
  - COD potentially sleep-related
- 119 Cases
  - All 119 fully reviewed
- Causes of death
  - SUID: 59 (50%)
  - SIDS: 23 (19%)
  - Asphyxia: 20 (17%)
    - Wedging: 6
    - Entrapment/Suffocation in soft bedding: 5
    - Mech/Pos: 4
    - Overlay by co-sleeper: 4
    - Other sleep-related: 1
  - Undetermined: 17 (14%)
- Manners of death
  - Undetermined: 72 (61%)
  - Natural: 27 (23%)
  - Accident: 20 (17%)

# Basic Review Information: The Diagnostic Shift

Around 2007, shift in diagnoses:

- From *Sudden Infant Death Syndrome (SIDS)*
  - Natural manner
- Toward *Sudden Unexpected Infant Death (SUID)*
  - Undetermined manner

- Overall infant mortality numbers have stayed constant in this area:
  - Decline in SIDS
  - Increase in SUID, asphyxia, undetermined

# Basic Review Information: The Diagnostic Shift

- SIDS
  - Natural manner
  - Diagnosis of exclusion
  - No abuse, neglect or crime occurred if death is due to SIDS
- SUID
  - Undetermined manner
  - Acknowledges presence of risk factors in the infant's environment
  - Product of more thorough clinical history, death scene investigations and autopsy practices
  - Could involve child abuse and/or neglect

# Basic Review Information: The Diagnostic Shift in Numbers

Year	SIDS	SUID	Asphyxia	Undetermined	Total
2003	77	--	11	7	95
2004	83	--	14	17	114
2005	88	--	7	6	101
2006	64	--	20	13	97
2007	41	41	14	12	108
2008	22	54	24	8	108
2009	23	65	25	11	124
2010	14	60	18	2	94
2011	16	58	22	6	102
2012	8	55	15	12	90

What national risk factors were present in these cases?

**ESTABLISHED RISK FACTORS**

# Established Risk Factors

- Nationally-recognized risk factors for SIDS/SUID
- In how many cases were these risk factors present
  - Does Virginia mirror national data?

# Established Risk Factors

- Male sex
- Black race
- Native American ethnicity\*
- Prematurity/LBW
- Young maternal age
- Late or no prenatal care
- Maternal smoking during pregnancy
- Maternal drug use during pregnancy
- Environmental tobacco smoke
- Prone/side sleep
- Soft sleep surface
- Bed-sharing
- Overheating

# Established Risk Factors: Child

- Race and ethnicity in rates
  - White: 90.3
  - Black: 195.5
  - Asian: 13.8
  - Hispanic: 45.7
- Sex in rates
  - Male: 135.4
  - Female: 86.1
- Premature: 33 (28%)
  - State: 11.2%
- Low Birth Weight: 29 (24%)
- Exposed to environmental tobacco smoke: 85 (71%)

# Established Risk Factors: Maternal

- Young Maternal Age: 20 (17%)
- Maternal smoking during pregnancy: 60 (50%)
- Late/No Prenatal Care
  - Entered PNC in 3<sup>rd</sup> trimester: 10 (9%)
  - No PNC: 3 (3%)
  - 55% had 9 or fewer prenatal visits
- Maternal substance use during pregnancy: 24 (20%)
  - 8% showed evidence of using alcohol
  - 14% showed evidence of using illegal drugs
  - 8% showed evidence of possible abuse of prescription drugs

# Established Risk Factors: Sleep Environment

- Sleep position
  - Put to sleep supine/on the back: 55 (46%)
  - Found prone/on the stomach or side: 71 (60%)
- Sleep location
  - Surface not intended for infant sleep: 87 (73%)
    - Adult bed: 60 (50%)
    - Other locations included couch, chair, pillow, Boppy, car seat, etc.
  - Crib/Bassinet/Pack N Play: 32 (27%)
    - Available: 89 (75%)
    - Soft bedding present: 30 (94%)

# Established Risk Factors: Sleep Environment

- Bed-sharing: 68 (57%)
  - At least one co-sleeper impaired: 18 (26%)
  - Number of co-sleepers: 1-4
- Soft bedding present: 113 (95%)
- Overheating?
  - Room temp described as “warm”: 23 (19%)
  - Room temp (N=59):
    - Mean: 72°
    - Median: 72°
    - Range: 65-80°

Other potentially dangerous elements in the infant's environment?

## **POTENTIAL THREATS IDENTIFIED BY TEAM'S REVIEW**

# Team-Identified Threats

- New or different environment
- Homeless/transient home
- Overcrowding
- Cluttered/unkempt home
- Found obstructed
- Impaired co-sleeper
- Parent/caregiver criminal history
- History of assault/battery or DV
- Prior drug charges
- Pain medication prescribed to mother at Labor & Delivery discharge

# Team-Identified Threats

- New or different environment: 26 (22%)
- Homeless or transient homes: 12 (10%)
- Overcrowding in home?
  - 56% of homes had 5+ people known to be living/sleeping in home at time of injury
  - Range: 2-12
- Cluttered/unkempt home: 48 (40%)
- Infant found obstructed by person or object: 43 (48%)
  - Fully obstructed: 34
  - Partially obstructed: 9

# Team-Identified Threats

- At least one co-sleeper impaired: 18 (26%)
- Parent/caregiver criminal history: 52 (44%)
  - Assault/battery or DV: 35 (29%)
    - Domestic violence: 21 (18%)
  - Drug charges: 29 (24%)
- Medication prescribed to mother at L&D discharge
  - Schedule II or III narcotic prescribed: 55 (68%)
    - C-sections resulting in Sch II or III prescription: 97%
    - Vaginal deliveries resulting in Sch II or III prescription: 42%
    - Percocet: 43 (48%)
    - Lortab: 7 (8%)
    - Vicodin: 3 (3%)
    - Dilaudid: 1
    - Oxycodone: 1
  - Ambien: 3 (3%)



# Cumulative Risk

Established risk factors

- Mean per case: 4.45

Example:

Premature male infant  
placed prone for sleep on  
a pillow in an adult bed,  
caregivers smoke.

Team-identified threats

- Mean per case: 3.45

Example:

Infant and family staying  
with friends in a dirty  
home, co-sleeping with  
impaired mother, found  
under pillow.

Who met this child along the way?

# **SYSTEM CONTACTS**

# System Contacts

- NICU stay: 31 (26%)
  - Range: 44-1843 hours
- Hospital noted red flags: 35 (29%)
  - Referred to hospital social services: 32 (27%)
  - Referred to CPS: 13 (11%)
  - Referred to CSB: 1 (1%)
- Home Health
  - Referred: 8 (7%)
  - Family complied: 4 (50%)
  - Home health agency followed up: 5 (63%)
- Infant saw Pediatrician at least once (N=108): 106 (98%)
  - 72% at least one visit in month preceding death
  - Range: 0-11 visits
- Child Protective Services
  - Child known to CPS (15) 13%
  - Caretaker known to CPS (30) 25%
- Other services
  - Medicaid: 78 (66%)
  - WIC: 30 (25%)
  - SNAP: 25 (21%)
  - TANF: 11 (9%)

What did the Team determine regarding preventability of these deaths?

## **RESULTS OF TEAM'S REVIEW**

# Preventability

- Team determined death was preventable :
  - Definitely: 91 (77%)
  - Probably: 22 (19%)
  - Probably not: 1 (1%)
  - Not at all: 0
  - Unsure: 5 (4%)

# Relation to Unsafe Sleep

- Team determined death was related to an unsafe sleeping environment:
  - Definitely: 91 (77%)
  - Probably: 16 (13%)
  - Probably not: 0
  - Not at all: 1 (1%)
  - Unsure: 11 (9%)

What types of recommendations for prevention and intervention did Team develop?

## **RECOMMENDATIONS**

# Areas of Recommendations: Public Education & Awareness

- VDH Tobacco Program should include information about safe sleep, particularly smoke as risk factor for SUID
- Include infant safe sleep materials in required education for WIC and SNAP benefits

# Areas of Recommendations: Substance Abuse

- Interagency workgroup to find solution for substance-exposed newborns and mothers known to abuse substances while pregnant (DEC program)
- Education for healthcare providers on potential risks of prescription medications to infant safety
- Information on pill bottles about dangers of using narcotics when caring for infant
- Require use of VA Prescription Monitoring Program as condition of medical licensure

# Areas of Recommendations: Professional Capacity

- Nurses to provide education & model safe sleep practices, especially for premature & LBW infants
- Safe sleep online training for medical residents/CME credits
- Physicians and nurse practitioners to discuss infant safe sleep at every infant until 1 year of age (aligned with revised AAP guidelines/Safe to Sleep campaign)
- VDSS incorporate infant safe sleep information into home assessment policy/guidance

# Areas of Recommendations: Tools and Training Materials

- Infant safe sleep assessment tool for healthcare providers, hospitals, home visitors, DSS, EMS, and others working with high-risk families
- VDSS develop online training for healthcare providers to assist in their role as mandated reporters: emphasize assessment for abuse and neglect

# Areas of Recommendations:

## Primary Prevention

- Joint Commission on Accreditation of Healthcare Organizations incorporate infant safe sleep practices into required standards for accreditation
- Face-to-face targeted case management for Medicaid/FAMIS families with premature or NICU infants, up to 1 year of age

# Areas of Recommendations: Infant Death Investigation

- Model policy for law enforcement on thorough investigation of unexpected infant deaths and need for multidisciplinary investigation including OCME and, if appropriate, CPS and Commonwealth's Attorneys
- SIDS peer review at the OCME
- Periodic training for forensic pathologists and death investigators on national SUID risk factors, diagnostic nomenclature, and criteria for such diagnoses: increased consistency in diagnostic nomenclature
- OCME develop & disseminate to LE, CPS, and CAs information about changes in diagnoses of unexpected infant death as they relate to SIDS, SUID and asphyxia diagnoses

# On the National Horizon

- New RFP from Health Resources and Services Administration:
- “Safe Infant Sleep Systems Integration Program”
  - Establish a national coalition
  - Respond to diagnostic shift – from natural disease to modifiable injury factors in sleep environments
  - Use richness of child death review team data
  - Evidence informed practices
  - Metrics

Emily Womble, M.P.A.  
Child Fatality Review Coordinator  
Office of the Chief Medical Examiner  
Virginia Department of Health

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<http://www.vdh.virginia.gov/medExam/ChildFatality.htm>

**FOR MORE INFORMATION**

# Infant Mortality Webpage

<http://www.vdh.state.va.us/>