Welcome and Introductions of Attendees

Alan Dellapenna, Head, Injury and Violence Prevention Branch, Chronic Disease and Injury Section, Division of Public Health

Sarah Potter, Chief of Community Wellness, Prevention and Health Integration, Division of Mental Health/DD/SAS

Please share with us...

• Your name

• Your organization/affiliation
Update: Division of MH/DD/SAS – SAMSHA Grants (Ongoing and Pending applications)

• SPF-Rx and SPF-SIG
  – **Sarah Potter**, Chief of Community Wellness, Prevention and Health Integration, Division of Mental Health/DD/SAS

• MAT and Opioid STR/Cures Act
  – **DeDe Severino**, Interim Section Manager, Addictions and Management Operations, Division of Mental Health/DD/SAS
NC Opioid State Targeted Response Grant Application (SAMHSA)

DeDe Severino, Interim Section Manager, Addictions and Management Operations, Division of Mental Health/DD/SAS
NC Opioid STR

• Section 1003 of the 21st Century Cures Act established an account for a total of $1 billion ($500 million in FY 2017 and $500 million in FY 2018) for prevention, treatment and recovery services, related programming and activities.

• The funding opportunity can be described as a hybrid – combination of block and discretionary grants, as there is a specific allocation amount for each state/territory, only SSAs are eligible applicants, but states must apply.
• Amount available to NC: $15,586,724 for FFY17, and an additional $15,586,724 for FFY18.
• Amounts for states were derived from a formula based on unmet need for opioid use disorder treatment and drug poisoning deaths.

  ▪ 80% of the funds **must** be spent for OUD treatment and recovery support services;
  ▪ **5% limit** on administrative/infrastructure costs to administer the grant;
  ▪ Remaining 15% can be used for prevention activities

• Application was submitted 02.17.17
NC Opioid STR

• Much interest in this initiative, input and feedback was received from over 35 groups, individuals and sister agencies within DHHS

• Topical areas included in the application:
  1. Marketing – Improve Public Perception
  2. Training – Improve Workforce Development and Retention
  3. Treatment – Improve Patient Engagement, Retention and Outcomes
  4. Accessibility – Improve Engagement, Retention and Outcomes
  5. Prevention – Increase Awareness and Reduce Use/Misuse
• Topical areas, cont.,
  6. Controlled Substances Reporting System (CSRS) – Prevent Use and Misuse, Intervene Through Integration and Analytics
  7. ECHO – Improve Workforce and Accessibility to MAT in Rural Areas
  8. Augment/Enhance Other Current Strategies

• States expect to be notified of funding in mid to late April

• Copy of the grant is located at https://www.ncdhhs.gov/divisions/mhddasas/grants

• Questions – dede.severino@dhhs.nc.gov
Dr. Ruth E. Winecker, Chief Toxicologist, Division of Public Health

OCME: Fentanyl and Its Analogues
HEROIN AND FENTANYL

Historical Perspective and a Look to the Future

Ruth E. Winecker, Ph.D. F-ABFT
Chief Toxicologist, NC-OCME
ruth.winecker@dhhs.nc.gov

Alison Miller, MA
Epidemiologist, NC-OCME
alison.miller@dhhs.nc.gov
## TOP FIVE DRUGS CAUSING DEATH 2000-2015

<table>
<thead>
<tr>
<th>YEAR</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>Methadone</td>
<td>Cocaine</td>
<td>Morphine</td>
<td>Oxycodone</td>
<td>Ethanol</td>
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<tr>
<td>2001</td>
<td>Methadone</td>
<td>Cocaine</td>
<td>Oxycodone</td>
<td>Morphine</td>
<td>Heroin</td>
</tr>
<tr>
<td>2002</td>
<td>Methadone</td>
<td>Cocaine</td>
<td>Oxycodone</td>
<td>Morphine</td>
<td>Heroin</td>
</tr>
<tr>
<td>2003</td>
<td>Methadone</td>
<td>Cocaine</td>
<td>Morphine</td>
<td>Oxycodone</td>
<td>Heroin</td>
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<tr>
<td>2004</td>
<td>Methadone</td>
<td>Cocaine</td>
<td>Morphine</td>
<td>Oxycodone</td>
<td>Fentanyl</td>
</tr>
<tr>
<td>2005</td>
<td>Cocaine</td>
<td>Methadone</td>
<td>Hydrocodone</td>
<td>Oxycodone</td>
<td>Fentanyl</td>
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<tr>
<td>2006</td>
<td>Methadone</td>
<td>Cocaine</td>
<td>Oxycodone</td>
<td>Fentanyl</td>
<td>Morphine</td>
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<tr>
<td>2007</td>
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<td>Cocaine</td>
<td>Oxycodone</td>
<td>Fentanyl</td>
<td>Morphine</td>
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<tr>
<td>2008</td>
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<td>Oxycodone</td>
<td>Cocaine</td>
<td>Fentanyl</td>
<td>Morphine</td>
</tr>
<tr>
<td>2009</td>
<td>Methadone</td>
<td>Oxycodone</td>
<td>Cocaine</td>
<td>Fentanyl</td>
<td>Morphine</td>
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<tr>
<td>2010</td>
<td>Methadone</td>
<td>Oxycodone</td>
<td>Cocaine</td>
<td>Fentanyl</td>
<td>Morphine</td>
</tr>
<tr>
<td>2011</td>
<td>Methadone</td>
<td>Oxycodone</td>
<td>Cocaine</td>
<td>Oxymorphone</td>
<td>Fentanyl</td>
</tr>
<tr>
<td>2012</td>
<td>Cocaine</td>
<td>Oxycodone</td>
<td>Methadone</td>
<td>Heroin</td>
<td>Fentanyl</td>
</tr>
<tr>
<td>2013</td>
<td>Oxycodone</td>
<td>Methadone</td>
<td>Heroin</td>
<td>Cocaine</td>
<td>Oxymorphone</td>
</tr>
<tr>
<td>2014</td>
<td>Heroin</td>
<td>Cocaine</td>
<td>Oxycodone</td>
<td>Fentanyl</td>
<td>Methadone</td>
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<tr>
<td>2015</td>
<td>Heroin</td>
<td>Cocaine</td>
<td>Oxycodone</td>
<td>Fentanyl</td>
<td>Oxymorphone</td>
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ACCIDENTAL VS. NATURAL DEATHS  2000-2015
<table>
<thead>
<tr>
<th>Year</th>
<th>Cases Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>114</td>
</tr>
<tr>
<td>2012</td>
<td>157</td>
</tr>
<tr>
<td>2013</td>
<td>174</td>
</tr>
<tr>
<td>2014</td>
<td>197</td>
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<tr>
<td>2015</td>
<td>245</td>
</tr>
<tr>
<td>2016*</td>
<td>526</td>
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</table>

**Table:**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cases Positive</th>
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<tr>
<td>2011</td>
<td>0</td>
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<td>2012</td>
<td>0</td>
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<tr>
<td>2013</td>
<td>0</td>
</tr>
<tr>
<td>2014</td>
<td>9</td>
</tr>
<tr>
<td>2015</td>
<td>38</td>
</tr>
<tr>
<td>2016*</td>
<td>195</td>
</tr>
</tbody>
</table>

**Graph:**

- **X-axis:** Year (2011-2016)
- **Y-axis:** Cases Positive
- **Legend:**
  - Heroin
  - Fentanyl
  - Fentanyl Analogues**
DEATHS ATTRIBUTED TO FENTANYL ANALOGUES IN NORTH CAROLINA, 2010 – 2016*

- Acetyl Fentanyl
- Butyrylfentanyl
- Fluorofentanyl
- Furanylfentanyl
- Multiple Analogues

<table>
<thead>
<tr>
<th>Year</th>
<th>Acetyl Fentanyl</th>
<th>Butyrylfentanyl</th>
<th>Fluorofentanyl</th>
<th>Furanylfentanyl</th>
<th>Multiple Analogues</th>
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</thead>
<tbody>
<tr>
<td>2010</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2011</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2013</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2014</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2016</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>77</td>
</tr>
</tbody>
</table>

*Data includes deaths attributed to specific fentanyl analogues in North Carolina from 2010 to 2016.
## TEST VOLUME OPIOIDS CLASS

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitragynine</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>29</td>
<td>27</td>
<td>95</td>
</tr>
<tr>
<td>Loperamide</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>25</td>
<td>46</td>
<td>68</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>95</td>
<td>101</td>
<td>46</td>
<td>104</td>
<td>98</td>
<td>68</td>
</tr>
<tr>
<td>Methadone</td>
<td>659</td>
<td>669</td>
<td>501</td>
<td>370</td>
<td>341</td>
<td>325</td>
</tr>
<tr>
<td>U-4770</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>137</td>
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<tr>
<td>Tramadol</td>
<td>75</td>
<td>79</td>
<td>93</td>
<td>103</td>
<td>111</td>
<td>103</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>382</td>
<td>337</td>
<td>282</td>
<td>416</td>
<td>522</td>
<td>937</td>
</tr>
<tr>
<td>Fentanyl Analogues</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>23</td>
<td>87</td>
<td>412</td>
</tr>
<tr>
<td>Opiates*</td>
<td>1338</td>
<td>1456</td>
<td>1504</td>
<td>1832</td>
<td>1959</td>
<td>2005</td>
</tr>
<tr>
<td>Total Results (all tests)</td>
<td>43,423</td>
<td>42,543</td>
<td>43,300</td>
<td>44,269</td>
<td>48,410</td>
<td>54,948</td>
</tr>
</tbody>
</table>
HOW DID WE GET HERE?

• Fentanyl and analogues are just the latest in a long string of compounds that have been introduced to the illicit drug market in the last 10 years.

• Commonly referred to as “research chemicals,” synthetic drug chemists have rediscovered old drugs from patents or modified existing drugs to change their structure so that they are exempt from current controlled substances scheduling.

• The swiftness with which these new drugs are developed is staggering and challenges the abilities of forensic laboratories.

• Today, all drug classes are represented in the new compounds being sold online and in more traditional drug supply chains.
SOME COMMON NPS DRUGS SEEN BY NC-OCME

• Synthetic Cannabinoids: commonly referred to as Spice or K2, these compounds mimic the effects of marijuana

• Cathinones/Piperazines: commonly referred to as bath salts, plant food and Flakka; these compounds mimic the effects of methamphetamine and MDMA (Ecstasy/Molly)

• Anxiolytics: all NPS in this class are classical benzodiazepines these include delorazepam, etizolam

• Hallucinogens: mimic the effects of classic hallucinogen-dissociative drugs. Examples include PCP and ketamine analogues as well as the NBOMe series

• Synthetic Opioids: This group of compounds is designed to mimic the effects of morphine, oxycodone, heroin and other common prescription opiates/opioids. Some are similar in chemical structure to existing compounds (e.g., fentanyl) while others are more novel (e.g., U-47700)
SCREENING TECHNIQUE CHANGES

- 2000 - added a fentanyl immunoassay
- 2008 - added an oxymorphone specific immunoassay to screen for Opana overdoses
- 2010 - shelved immunoassays as too limited/expensive and developed a LC-ion trap-MS screening technique to detect 10 opioids, 9 benzodiazepines, cocaine metabolite, gabapentin/pregabalin
- 2016 - added six designer opioids to the LC-ion trap-MS screen
- 2017 - plan to add 22 new designer fentanyl analogues to the screen
NEW DRUGS DETECTED BY TRADITIONAL SCREENING METHODS

• The Organic Bases screen has been employed by the laboratory for 30 years.

• Unlike the LC-ion trap-MS screen this test does not screen for a specific set number of drugs but instead will detect any basic organic compound that is present at sufficient concentration to register a response on the detectors (GC-NPD and GCMS).

• Most new drugs detected then require development and validation of a quantitative confirmation assay.

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fentanyl Analogues</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Other Opioids</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Designer Benzodiazepines</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Cathinones (&quot;bath salts&quot;)</td>
<td>5</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
THE CHALLENGE

- **September 2015**
  - Death of a 20 year old female
  - Traditional toxicology tested negative except for 4-ANPP, also known as despropionyl fentanyl

- **November 2015**
  - Obtained powder from death scene and analyzed
  - Large peak without a database match
  - Tentatively identified as furanylfentanyl

- **March 2016**
  - Certified reference material available
  - Method development and validation

- **June 2016**
  - Toxicology report certified
China’s fentanyl ban a ‘game-changer’ for opioid epidemic

by Vincent Crivelli | Friday, February 24th 2017

China bans drug so deadly it’s considered a terrorist threat

By Associated Press
February 16, 2017 | 8:11pm
Identification of some new fentalogs

Fentanyl

Butyryl-259
Valeryl-273
Hexanyl-287

THF-F
CONCLUSIONS

• Current screening techniques are capable of detecting >400 drugs, poisons and chemicals.

• The NC-OCME toxicology lab is well positioned to identify new synthetic opioids as they appear in the decedent population.

• Challenges include procuring certified reference materials and development and validation of confirmation testing in a timely basis.

• Increases in the total number of overdose deaths and number of drugs detected per case overwhelms the lab’s resources.

• Data requests can be accomplished on the OCME website.
Spotlight: Drug Take Back and Law Enforcement Assisted Diversion
PDAAC
LAW ENFORCEMENT
SPOTLIGHT

Investigator Donnie Varnell
Dare County Sheriff’s Office
336-338-1507
Donnie.varnell@darenc.com
- Enforcement Trends
- SEP & Naloxone
- Strategies

PDAAC (MARCH 17TH)
LE SPOTLIGHT
Operation Medicine Drop
Counties with Drop Boxes October 2016

- Counties with Drop Box Locations
- Counties that will be targeted for drop box installation.
SBI Purchase of Drop Boxes
2017 Counties with Drop Boxes
Collection From LEAs By Year

OMD BY POUNDS 2013 - 2020

- Takeback #1
- Takeback #2
- Takeback #3
- Takeback #4
- Takeback #5
- Takeback


Values:
- 2013: 9,875, 1,057, 11,267, 9,557, 5,366
- 2014: 10,695, 8,875, 9,932, 11,267, 5,366
- 2015: 11,267, 9,932, 11,267, 5,366, 5,366
- 2016: 11,267, 9,932, 11,267, 5,366, 5,366
- 2017: 11,267, 9,932, 11,267, 5,366, 5,366
- 2018: 11,267, 9,932, 11,267, 5,366, 0
Collection from LEAs-Dosage Units
CHALLENGES

• Obtaining RE-OCCURRING Funding from Legislature
• Education
• Manpower
Learn, Explore, and Clarify: *Health insurers and opioids*
LEARN, EXPLORE, AND CLARIFY: HEALTH INSURERS AND OPIOIDS

Anuradha Rao-Patel, MD, CPC
1. Introductions and Background
2. BCBSNC Current Processes
3. Future and Ongoing Considerations
4. Open Faucet, Mirror, and Sandbox Analogies
5. Discussion and Questions
1. Pharmacy
2. Care Management
3. Provider Outreach
4. Prevention of Fraud and Diversion
5. Other
FUTURE AND ONGOING CONSIDERATIONS

1. Collaborative Relationships
2. Adherence
3. Reduction of Waste and Fraud
4. CDC Guidelines
5. Education
Open Faucets
SANDBOXES AND MIRRORS
THANK YOU FOR YOUR TIME!

You'll just keep crashing if you never take your eyes off the rearview mirror.  
-Leo Christopher
## PDAAC Workgroup Time

**RETURN at 12:05PM**

<table>
<thead>
<tr>
<th>Workgroup Name</th>
<th>DHHS Facilitators</th>
<th>Meeting Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention and Public Awareness, <em>Group A: Community</em></td>
<td><strong>Nidhi Sachdeva</strong>&lt;br&gt;Sarah Potter</td>
<td>Pine Room (Building 1 – 5505, 1&lt;sup&gt;st&lt;/sup&gt; Floor)&lt;br&gt;Call Option: 919-431-2020</td>
</tr>
<tr>
<td>Prevention and Public Awareness, <em>Group B: Law enforcement</em></td>
<td><strong>Melinda Pankratz</strong>&lt;br&gt;Donnie Varnell</td>
<td>Reaves Room (Building 1 – 5505, 1&lt;sup&gt;st&lt;/sup&gt; Floor)&lt;br&gt;Call Option: 1-641-715-3680 Participant code: 131286#</td>
</tr>
<tr>
<td>Intervention and Treatment</td>
<td><strong>Smith Worth</strong>&lt;br&gt;Dede Severino</td>
<td>Cardinal Room B (yonder)</td>
</tr>
<tr>
<td>Professional Training and Coordination</td>
<td><strong>Anna Stein</strong>&lt;br&gt;Sara McEwen&lt;br&gt;Alex Asbun</td>
<td>Cardinal Room A (Here)</td>
</tr>
<tr>
<td>Core Data and Surveillance</td>
<td><strong>Scott Proescholdbell</strong>&lt;br&gt;Anna Perry</td>
<td>Sparrow Room (same floor, down hall)</td>
</tr>
</tbody>
</table>
BREAK and Transition!
Announcements and News

• **Scott Proescholdbell**, Epidemiologist, Injury and Violence Prevention Branch, NC Division of Public Health

• PDAAC Website: [https://sites.google.com/view/ncpdaac](https://sites.google.com/view/ncpdaac)
Wrap Up and Thank you!

Nidhi Sachdeva, Injury Prevention Consultant, Injury and Violence Prevention Branch, NC Division of Public Health

• 2017 Opioid Misuse and Overdose Prevention Summit
  – www.OpioidPreventionSummit.org
  – June 27-28, 2017, at McKimmon’s Center in Raleigh
  – REGISTER!
  – Call for vendors and sponsors

• THANK YOU!!

(Please return your name badges, take food, and travel safely!)