Forensic Evidence Recovery in Pre-pubertal Children: The **MA PEDI Kit** Experience
A Program of the MA Department of Public Health
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Massachusetts
Population = 6,587,536

Children/Youth = 1,383,382
US Census Bureau 2011
MA SANE Program

Centrally Managed

- Adult and Adolescent SANE
  Emergency department based, 24/7 on-call services for patients 12 years and older
  27 Designated SANE sites statewide
  6 Regions managed by Regional Coordinators
  - Manage 105 SANEs statewide
  - Quality Assurance activities
  - Liaison with SANE sites/Crime labs
  - Training to SANE and non-SANE hospitals
MA PEDI SANE & Kit Advisors

- State Police Crime Lab
- Boston Crime Lab
- MA DA’s Association
- CACs
- Law Enforcement
- Department of Children and Families
- Public Safety and Security
- Emergency Nurses
- SANEs
- Social Workers
- Child Abuse Physicians
The Goals

• Create a “child friendly” forensic evidence collection kit for use by emergency clinicians statewide
• Develop Pediatric SANE Protocols
• Create a Pediatric SANE Program
• Develop a network of local care for children who are sexually abused
A “First of Its Kind” Pediatric Evidence Collection Kit

- Children 11 years and younger
- “Child friendly”
- “Do No Harm” Principles guides clinicians
- 13 Steps versus 20 Steps in Adult Kit
- Organized for highest yield while child is cooperative
Do No Harm Principles

- PROVIDE THE APPROPRIATE LEVEL OF CARE
- DO NOT INTERVIEW THE CHILD
- AVOID INVASIVE OR PAINFUL PROCEDURES
- UNCOOPERATIVE CHILD = NO EXAM
- SUPPORT THE CHILD
Indications for the Use of the MA PEDI Kit

- Children 11 years of age and younger
- Abuse/assault occurred within 3 days (72 hours) of ED presentation
  - Suspected vaginal or anal penetration (however slight)
  - Suspected oral penetration within 24 hours
  - Anogenital bleeding/discharge with injury inconsistent with mechanism
  - Possibility of ejaculate on child's body
MA PEDI KIT

Massachusetts Pediatric Evidence Collection Kit
for Children under the age of 12

Incident Reported to Police? Yes No
Incident Reported to DSS? Yes No
City/Town in which Incident occurred:

Hospital/ Clinic: ________________________________ (Please Print)
Phone Numbers: ________________________________ (Please Print)
Clinicians: ________________________________ (Please Print)
Kit Sealed By: ________________________________ (Please Print)

PLACE KIT IN LOCKED REFRIGERATED SAFE

Placed By: ________________________________
Date: ________________ Time: ________________

For Police Personnel
Chain of Possession

Received From: ________________________________
Date: ________________ Agency: ________________________________
Received By: ________________________________
Date: ________________ Agency: ________________________________
Received From: ________________________________
Date: ________________ Agency: ________________________________
Received By: ________________________________
Date: ________________ Agency: ________________________________

The Commonwealth of Massachusetts

Left Hand

Evidence Seal

08/04/2008
More Than Just a “Kit”

- Multi-disciplinary collaboration
  - Crime labs, DAs, DCF, police, CACs, hospitals
- Documentation Forms
- Pediatric SANE Protocol
- Forum for discussion around statewide needs for pediatric patients
- Gave voice to the issue of child sexual assault
- Instrumental in funding allocation
Community Patient Care Algorithm

**Attachment A**

**Suffolk County Medical Referral Process**

**Patients 11 Years and Younger Who Have Been Sexual Assaulted/Abused**

1. **Patient Presentation for Sexual Abuse or Assault**
   - Is patient 11 years or younger?
     - Yes
     - No

2. Is there a report or concern of sexual abuse/assault that occurred within a 72 hour (3 day) period?
   - Yes
   - No

3. Are any of the following present?
   - A clear disclosure of sexual abuse or assault that was witnessed by another?
   - Oral, vaginal or rectal penetration (however slight)?
   - Possibility of ejaculation or spitting on child's body?
   - Anorectal pain, bleeding or injury not consistent with reported mechanism of injury?

4. Patient meets criteria for medical care and forensic evidence collection using the MA Pediatric Sexual Assault Evidence Collection Kit (MA PEDI KIT).

5. **Refer to Attachment B Algorithm for children 12 - 17 years**

6. **Yes**
   - Patient is outside of 72 hour window or does not meet criteria for forensic evidence collection.
     - File a SIA report
     - With guardian consent facilitate police notification

   **No**
   - With guardian consent:
     - Call Children's Advocacy Center of Suffolk County (617) 779-2144 or (617) 779-2146 (M-F, 9:00 - 5:00) to consult about appropriateness of patient referral for Pediatric SANE and other services.

7. **Is patient currently in ED?**
   - Yes
   - No

   **Yes**
   - ED Staff to complete MA Pediatric Sexual Assault Evidence Collection Kit (MA PEDI KIT).
   - File a SIA
   - Consult social worker or CPT per hospital protocol
   - With guardian consent facilitate police notification

   **No**
   - With patient/guardian consent Call Children's Advocacy Center (CAC) of Suffolk County (617) 779-2144 or (617) 779-2146 (M-F, 8:30 - 5:00) to link hospital intervention with CAC follow-up (Ped SANE, forensic interview, advocacy, and other specialized resources).

**CAC of Suffolk County**
(617) 779-2146
www.suffolcac.org

**Attachment B**

**Suffolk County Medical Referral Process**

**Patients 12 - 17 Years of Age Who Have Been Sexually Assaulted**

1. **Patient Presentation for Sexual Abuse or Assault**
   - Is patient 12 yrs - 17 yrs older?
     - Yes
     - No

2. Does the patient report a sexual assault within a 120 hours (5 day) period?
   - Yes
   - No

   **Yes**
   - Acute forensic evidence collection, emergency contraception, STI and HIV prophylaxis indicated

   **No**
   - Patient is outside of window for forensic evidence collection, emergency contraception, STI and HIV prophylaxis but may benefit Pediatric SANE services and other services at the CAC of Suffolk County.

3. **Is patient currently in ED?**
   - Yes
   - No

   **Yes**
   - ED Staff to initiate Adult/Adolescent SANE notification and or complete MA Sexual Assault Evidence Collection kit
     - File a SIA
     - With patient consent facilitate police notification
     - Consult social worker or child protection teams per hospital protocol
     - With patient/guardian consent Call Children's Advocacy Center of Suffolk County (617) 779-2144 or (617) 779-2146 (M-F, 8:30 - 4:30) to link hospital intervention with CAC follow up (Ped SANE, forensic interview, advocacy, and other specialized resources).

   **No**
   - Refer patient to ED MA Pediatric SANE Program/GAC of Suffolk County

**CAC of Suffolk County**
(617) 779-2146
www.suffolcac.org

**Suffolk Area SANE Sites**
- Beth Israel Hospital
  (617) 754-2450
- Boston Medical Center
  (617) 414-4991
- Brigham and Women's Hospital
  (617) 732-8073
- Cambridge Hospital
  (617) 665-1430
- Children's Hospital – Boston
  (617) 355-6611
- Mass General Hospital
  (617) 724-6993
- Newton Wellesley Hospital
  (617) 243-6193

**Children's Advocacy Center of Suffolk County**
(617) 779-2146
www.suffolcac.org
2006
The MA Pedi SANE Program Implementation
Pediatric SANE Program

- 1 Emergency Department Response
  - Children < 11 yrs with acute assaults (< 72 hours)
  - MA PEDI Kit
  - MedScope – Video-documentation
  - Provide court testimony
Children’s Advocacy Center Response

- Advanced Practice Pediatric SANEs in 7 of 11 Children’s Advocacy Centers
- Children up to 18 years of age
- Most children with non-acute assaults
- MedScope Exam
- Medical consultation to MDT
- Provide court testimony
Children’s Advocacy Centers (CAC) with Pediatric SANE Services

Suffolk CAC

Cape and Islands CAC

Essex CAC & LGH

Plymouth CAC

Bristol CAC

Norfolk CAC

Berkshire CAC
Bristol County CAC
Nursing: An Art and Science
MA PEDI KIT FINDINGS
MA PEDI Kit Distribution

• Pilot of MA PEDI Kits (12/05 - 6/06)
  - 3 Locations with Child Protection Teams and Pedi SANEs
• Regional MA PEDI Kit Trainings with statewide kit distribution
  - 18 month period (Summer 2006 - Fall 2007)
MA PEDI KIT Review Methods

• On-site review of all MA PEDI Kits at Boston and State Police Crime Labs
• Kits from 12/2/05 – 4/21/12
• Time 1 = June 2008
• Time 2 = Aug 2012
• N = 283
Resilient Children

My name is Amanda
I am not safe
Please help me
Brave Children

6 year old female locked herself in room and called police to “come and arrest the bad man”
Kit Completion
Expert vs. Non-Expert

44% 56%
Indicators for Use of MA PEDI Kit

- Kit indicators met in 90% of all cases
- Kit indicators met in 93.7% of cases done by experts
- Kit indicators met in 86% of cases done by non-experts
- Average age of child = 3.9 years in cases in which indicators were not met
- Average age of child = 5.9 years in cases in which indicators were met
Gender of Children

- Females: 80%
- Males: 20%
### Population Description

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age</td>
<td>5.76 Years</td>
</tr>
<tr>
<td>Age Range</td>
<td>0 – 17 years</td>
</tr>
<tr>
<td>Tanner Stage 1</td>
<td>93%</td>
</tr>
</tbody>
</table>
Perpetrator Gender

- Male: 96%
- Female: 4%
Relationship of Perpetrator to Child

- Bio parent
- Step parent
- Foster parent
- Other relative
- Mother's BF
- Sib/Step sib
- Known adult
- Unknown adult
- Known child/juv
- Unknown Child/Juv
- Other
- Missing
Type of Assault

- Penile Contact: 38%
- Oral: 31%
- Digital: 29%
- Other: 8%
Hours From Assault to Exam

- Within 6 hours
- Within 12 hours
- Within 24 hours
- Within 48 hours
- Within 60 hours
- Within 72 hours

Hours from assault to exam
Injury Definitions

• Possible Injury:
  - Genital ecchymosis, internal/hymenal erythema, pain, tenderness

• Definitive Injury:
  - Hymenal/peri-hymenal/posterior forchette/commissure/rectal/peri-rectal lacs, abrasions, bleeding
• 28% of children had physical findings consistent with injury
• 3% of children (N=8) had significant injuries requiring surgical repair
### Biological Evidence Recovery

<table>
<thead>
<tr>
<th>Evidence Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amylase on body</td>
<td>10%</td>
</tr>
<tr>
<td>Amylase on underwear/diaper</td>
<td>10%</td>
</tr>
<tr>
<td>Blood on body</td>
<td>7%</td>
</tr>
<tr>
<td>Blood on underwear/diapers</td>
<td>7%</td>
</tr>
<tr>
<td>Sperm on body</td>
<td>5%</td>
</tr>
<tr>
<td>Sperm on clothes</td>
<td>11% (10% underwear/diaper)</td>
</tr>
</tbody>
</table>

At least one form of biological evidence was recovered in 34% of cases.
Evidence Recovery by Perpetrator Age

- There was no significant difference in biological evidence recovery for perpetrators <16 years (41%) and 16+ years (36%)
- Sperm recovery on child’s body and child’s clothing was twice as likely when perpetrator was 16+ years
Sperm Recovery

• 4 children with no report of penile contact had recovery of sperm on their bodies

• 9 children without information or disclosure of penile contact had sperm in diaper or underwear
Biological Evidence Recovery by Kit Indicators

- Biological evidence was recovered in 34% of cases when kit indicators were met.
- Biological evidence was recovered in 27% of cases when kit indicators were not met.

- Clinical judgment should always be used. A “do no harm” approach and developmentally appropriate evidence collection kit minimizes additional trauma to child.
Recovery of Biological Evidence by Expert versus Non-expert

Not significantly different
DCF and Police Reporting

• Cases reported to the Department of Children and Families = 98.6%
  • (missing data 7 cases)

• Cases reported to Police at time of ED presentation = 81%
MA Kit Transport/Processing

• Kit completion to Police pick-up
  - Median = 1 day
  - Mean = 6.4 days
  - Range = 0 - 367 days

• Kit Hospital pick-up to Lab Submission
  - Median = 8 days
  - Mean = 32 days
  - Range = 0 - 572 days

• Date of Offense to Final Lab Report
  - Median = 64.5 days
Lessons Learned

- Multi-disciplinary collaboration critical to success
- MA PEDI Kit is a solid forensic tool that can be used successfully by expert and non-expert clinicians
- Do No Harm principles are essential in care of children who have been sexually abused
- Complete as many steps as long as child is cooperative
- Strengthen linkages between CPS and law enforcement
  - MA PEDI Kit # on 51A (MA Mandated Report)
- Need for training reinforcement
  - MA PEDI KIT DVD with post-test
Thank You

• **MA State Police Crime Lab**
  - Michelle Levasseur - Technical Leader, Criminalistics Unit
  - Kristen L. Sullivan - Deputy Director, Forensic Services Group
  - Gina Testa - Case Representative, Case Management Unit

• **Boston Crime Lab**
  - Donald R. Hayes - Director, Crime Laboratory Unit
  - Erica Neu - Senior Criminalist, Crime Laboratory Unit

• **Executive Office of Public Safety and Security**
  - Diane DeAngelis, Director, Justice and Prevention Division, Office of Grants and Research
What It’s All About