Risk or Resilience: Successful Collaboration for Early Intervention for the Substance-Exposed Child

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Door to Hope/MCSTART
Introduction to MCSTART
Public/Private Partnership

- Established in 2003
- Door to Hope, *lead agency*
- DSES, Family and Children’s Services, *vision, support, & collaboration*
- Monterey County Health Department, Children’s Behavioral Health
- The Parent Center, Salinas Adult School
MCSTART Sustainability

- $2.4 million annual budget
- 90+% Medi-Cal children/families
- Funding Sources
  - EPSDT
  - CA DSS SA/HIV funds
  - First 5 Monterey County
  - Local foundations & contributions
Multi-disciplinary Staff

- Physician
- Child Psychiatrist
- Physician’s assistant (Ped. PT)
- 4 Clinical Ph.D.
- 2 Psych SW
- 1.5 Occupational Therapist
- PAT Parent Educators
- 4.0 Case Managers
- Parent mentors
- Support staff
Best or Evidence-Based Practices

- SART (Chasnoff, Children’s Research Triangle)
- Theraplay®
- Circle of Security
- Sensory Integration
- PCIT
- How Does My Engine Run?
- Trauma (Perry)
Screening Instruments

- Ages & Stages Questionnaire (ASQ)
- ASQ:SE
- Parental Stress Index (PSI)
- FAS Digital Photographic Analysis
- Life Stages Progression (LSP)
Background Information
Rates of Drug Use During Pregnancy  
(2004 NIDA)

- 3.4% use illicit drugs
- 13.8% drink alcohol
- 17.6% smoke tobacco
How are we doing at identifying substance-exposed infants?

- Most are not identified
- Most go home

Why?

- Most women do not self-report
- Many hospitals don’t test or refer to CPS
- State law may not require report or referral for prenatal drinking
- Tests only detect very recent (1-3 days) use
Great variability in the effects of perinatal alcohol and/or drug use due to:

- Type and degree of drug(s) used during pregnancy
- Alcohol is the most damaging
- Women are multi-substance users
- When used during pregnancy (brain/CNS develop during the 1st trimester)
- Maternal health, including chronicity of addiction
- Prenatal care
- Family & social environmental factors, including history of violence
General Considerations

- Less than 1/3 of these children have major problems, but all are impacted to some degree. *(Sometimes that means less availability of services, i.e. educational)*

- **MILD – MODERATE -- SEVERE**

- Small head circumference or little head growth are predictors of vulnerability

- Attachment & early intervention are major modifying factors
FASD: What Do We Know

- Can affect physical, mental, behavioral, & learning disabilities w/ lifelong implications
- 100% preventable
- Individuals with FASD can grow, improve & function well in life
- Especially with early intervention & proper support
Understanding Fetal Alcohol Spectrum Disorder

- Leading cause of mental retardation
- Most w/ FASD aren’t mentally retarded
- Growth deficiencies
- Developmental delays & difficulties
- Neurological impairment
Normal brain of baby 6 wks old  Brain of baby same age with FAS

Photo courtesy of Sterling Clarren MD
Diagnosing FAS

- Dysmorphic features \((at \ least \ 1 \ or \ more)\)
  - Short palpebral fissures (eye shorter than space between them)
  - Smooth philtrum
  - Thin upper lip (Vermillion)
- Facial dysmorphology in less than 10% of exposures
- Diagnosed more readily with Digital Photographic Analysis
Measuring Individual Features

Facial Expressions

1. No Smile, Correct
2. Lip-Philtrum Guide
3. Same child with and without smile
4. Smile, Incorrect
5. Lip-Philtrum Guide 2
Actualse.

See Image alone.
The Effects of Alcohol on the Developing Brain

- Pre-frontal cortex
  *cognition, executive functioning*
- Hippocampus
  *memory, retrieval, emotion*
- Corpus Callosum
  *info processing & attention*
- Basal Ganglia
  *motor coordination*
FASD & the Brain:

- Executive Functioning
- Learning
- Memory
- Movement
- Balance
- Attention

- Info processing
- Abstract thinking
- Judgment
- Impulsivity
- Speech
- Language Comprehension
Stimulant Exposure
(Cocaine, amphetamine, methamphetamine)

- Inhibits blood flow & nutrient transfer in the fetus
- More is known about cocaine exposure than meth
- Usually premature & low birth weights
- Increased risk of miscarriage, abruptio placenta, placenta previa, preeclampsia
- Stroke, vascular disruptions, arthymias
- Limb growth affected w/ meth
- Very hyper-sensitive; tend to “shutdown” as a sensitivity defense
- Failure to thrive syndrome—most notable effect
After birth and as the child ages, the environment has a greater impact on determining the health and functioning of the child than the pre-natal drug exposure.
Environmental Exposure

- Children exposed to dangerous environments where drugs are being manufactured, i.e. “meth labs”
- 20% of lab seizures have children
- Environmental exposure carries unknown impact
- Many of these children have also been prenatally exposed
It’s a Meth Lab

Picture from http://www.nometh.org/
Nicotine Exposure

- Almost all substance-abusing pregnant moms smoke
- Very difficult to separate what caused what
- Major cause of low birth weight
- Poor growth

- Adversely affects neuro-psych development
- Respiratory & ear infections
- SIDS, asthma
- Cleft lip/palate
- Behavior problems
- Verbal intelligence & verbal learning
Developmental Delays and Difficulties

- Social/Emotional, problem solving delays
- Speech and language development
- Expressive language better than receptive
  - Superficially talkative
- Fine and gross motor coordination
  - Hand-writing
  - Often clumsy or uncoordinated
Breast Feeding and Substance Use

- All substances cross immediately into breast milk & should not be used at all if breast feeding
  - Except for low doses (< 40 mg) of methadone
- Cocaine stays in milk for 48 hrs.
- Alcohol for 4-6 hrs.
- PCP for weeks
- Caffeine & nicotine quickly absorbed into breast milk
Diagnostic Considerations

- Attention disorders
- Anxiety and mood disorders
- Conduct disorders
- Developmental disorders
- Speech/language disorders
- Attachment disorders
- Learning disabilities
Treatment Options

- Parenting & educational accommodations
- Speech therapy
- Occupational therapy (SI)
- Physical therapy
- Special education services
- Medication – poorer outcomes
- Psychotherapy – not good candidates
MCSTART OUTCOMES
Demographics

2007-08 n = 497 children, 344 caregivers
2008-09 n = 291 children, 339 caregivers

Ethnicity

- 56.0% Hispanic
- 18.3% Caucasian
- 15.5% Multi-racial
- 6.9% African-American
- 2.6% Asian/Pacific Islander
- .7% Native American
## Family Structure

<table>
<thead>
<tr>
<th></th>
<th>06-07</th>
<th>07-08</th>
<th>08-09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bio</td>
<td>60%</td>
<td>59%</td>
<td>40%</td>
</tr>
<tr>
<td>Kin</td>
<td>14%</td>
<td>24%</td>
<td>24%</td>
</tr>
<tr>
<td>Foster</td>
<td>20%</td>
<td>22%</td>
<td>31%</td>
</tr>
<tr>
<td>Adopt</td>
<td>15%</td>
<td>17%</td>
<td>23%</td>
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</table>
# Photo Digital Analysis for Fetal Alcohol Syndrome

## MCSTART Results

<table>
<thead>
<tr>
<th>Year</th>
<th>2007-2008</th>
<th>2008-2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>54%</td>
<td>40%</td>
</tr>
<tr>
<td><strong>Mild</strong></td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td>(1 feature)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Moderate</strong></td>
<td>5%</td>
<td>11%</td>
</tr>
<tr>
<td>(2 features)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Severe</strong></td>
<td>1%</td>
<td>6%</td>
</tr>
<tr>
<td>(3 features)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Percentage of Children Initially Screened with Developmental Delays

- 62% in 2007
- 56% in 2008
- 55% in 2009
ASQ/ASQ:SE Results: Types of Developmental Delays

- 2007
- 2008
- 2009
Developmental Delays:
### Improved Outcomes

- re-screen @ 6 months 0-3 yrs. & annually @ > 3 yrs.

<table>
<thead>
<tr>
<th>Category</th>
<th>07-08</th>
<th>08-09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Social</td>
<td>77%</td>
<td>91%</td>
</tr>
<tr>
<td>Gross Motor</td>
<td>50%</td>
<td>67%</td>
</tr>
<tr>
<td>Social Emotional</td>
<td>93%</td>
<td>88%</td>
</tr>
<tr>
<td>Fine Motor</td>
<td>78%</td>
<td>78%</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>74%</td>
<td>85%</td>
</tr>
<tr>
<td>Communication</td>
<td>71%</td>
<td>76%</td>
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</tbody>
</table>

n = 101  n = 210
Parental Stress Index

- 1/3 of bio moms high
- 1/5 relative high
- 1/10 foster adoptive high
- > 3 children in home high
- 94% scores decreased after intervention
Challenges

- Accessing services for moderately delayed children
- Engagement & retention of biological substance-abusing mothers
- Parenting issues
- Capacity maximized
- Perinatal screening
- Communication