Recommendations to EOC

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Below are evidence-based interventions for inclusion in the emergency response to the Flint lead exposure. These recommendations, which span the domains of education, nutrition, medical/health, are proven interventions to optimize children's health, especially for children with toxic stress exposures. Secondary Prevention interventions are targeted for all exposed children to prevent manifestation of the consequences of lead. Note: all children who lived in Flint water city limits from April 2014 until end date unknown (since water not safe yet) are considered exposed and at-risk. Estimated 8,000-9,000 children under the age of 6 years, as per census data. Tertiary prevention interventions are targeted for children already experiences the consequences of lead exposure. Several interventions are considered HIGH PRIORITY as noted.

EDUCATION

Please refer to "Educational Interventions for Children Affected by Lead" for additional information and references: http://www.cdc.gov/nceh/lead/publications/Educational_Interventions_Children_Affected_by_Lead.pdf.

TYPE	PRIORITY	INTERVENTION	RATIONALE	COST	NOTES
Secondary Prevention	HIGH PRIORITY	Universal Early Education; Flint Pre-Promise	To mitigate toxic stress, buffer potential cognitive impact of lead exposure, promote school readiness, proven return on investment	Estimated cost of head start per child per year approx. $6000/child/yr	• Limited preschool capacity in Flint (only about 1200 children enrolled) with wait lists • Early Head Start – Ages 0-3, federally funded • Head Start – Ages 3-5, federally funded • Great Start Readiness Program – Age 4, state funded • Relax income eligibility for above programs so ALL Flint children are eligible • Campaign to promote enrollment
		Early literacy promotion	To buffer potential cognitive impact of lead and to address word/literacy gap, promote school readiness		• Support expansion of Reach Out and Read is evidence based early literacy program – free books given to every kid at each medical visit starting at 6mos of age: http://www.reachoutandread.org/ • Consider support of additional early literacy programs such as: LENA is an evidence based 8-week literacy/parenting program to address word gaps (30 million word campaign):

					http://www.lenafoundation.org/
	HIGH PRIORITY	School Nursing	To monitor, case manage, treat, promote wellness (socioemotional), school nutrition, etc		• Recommended student to school nurse ratio is 1 nurse to 750 well students. Flint schools has one general nurse (1:6500). Michigan ranks last in nation in nurse:student ratio. • Estimated need approx 10 registered nurses (RN)
		School libraries in elementary schools	To promote early literacy		• Limited school libraries in Flint elementary schools, can also be used to promote adult literacy
		Pre-Post school programming	To provide structured, safe supervised programming	Estimated cost of $1K per child	• Before/after school programming, Boys and Girls Club, YMCA, Big Brother/Big Sister, CRIM, etc • Support funds to increase capacity
		Educate school personnel regarding lead consequences	To increase the awareness and knowledge of teachers regarding the early detection and management of lead exposure symptoms		• MDE to create curriculum for school staff regarding the varied impact of lead exposure on education and the necessary management services
Tertiary Prevention	HIGH PRIORITY	Increase funding for Early Intervention Enroll all children in Early Intervention	To provide early developmental services for children with delays		• Early On in Michigan • Early On has limited capacity, long waitlists, and is underfunded • Consider referral of all children to early on for routine assessments
		Increase special education capacity	To accommodate potential increase in children with needed special ed services		
		Increase social-emotional and behavioral health school counselors	To accommodate potential increased in children with needed school-based behavioral health services		

NUTRITION

TYPE	PRIORITY	INTERVENTION	RATIONALE	COST	NOTES
Secondary Prevention		Expand WIC eligibility requirements and the number of WIC sites	To increase availability of healthy nutrition for impacted children		• Continue USDA WIC waiver for ready-to-feed formula for infants • Extend WIC benefits to 7-10yrs of age (currently ends at 5yr) • Co-locate WIC offices with WIC nutrition educators in pediatric clinics (4-5 pediatric clinics see majority of Flint patients) • Campaigns to increase WIC enrollment (1/3 of Flint eligible not enrolled) • Relax income eligibility requirements for WIC so that it is not limited by poverty level
		Promote breastfeeding education and support services	To protect children from lead exposure, promote cognitive development		• Preexisting low breastfeeding rates in Flint contributed to the lead issue; breastfeeding is largely protective from lead exposure • Increase support for GCHD peer-to-peer breastfeeding program capacity • Encourage/incentivize breastfeeding friendly hospitals • Support lactation consultants (LC) – at least 3-4 more in city
		Expand eligibility for SNAP Increase DUFB enrollment Increase number of participating DUFB sites	To increase availability of healthy nutrition options		• Waiver to expand eligibility for SNAP benefits for residents that live in Flint • Campaign to increase enrollment in DUFB program, consider automatic enrollment in DUFB for all SNAP recipients • Actively increase number of DUFB sites (only one grocery store included – Landmark)
	HIGH PRIORITY	Address food insecurity, availability, and access	To increase availability of healthy nutrition options		• Flint is a food desert • Increase capacity of food bank resources to address food insecurity via voucher system; model program to allow physicians to provide vouchers to pediatric families when food insecurity is assessed / recognized • Consider subsidies for innovative neighborhood stores • Implement mobile food market to reach all city wards on a recurring basis
Tertiary		Educate and promote lead-	To limit absorption and		• Capacity / funding to place additional nutritionist / health

Prevention		exposure diet	promote excretion of lead in exposed children		educators in pediatric clinics and Genesee CHAP for primary care referral / integration (recommend 5 Registered Dietitians RD) ● Booklet created, online for mass distribution, need additional print and dissemination resources; imbed with door-to-door relief efforts ● http://www.hurleymc.com/files/wellness/lead-resources/nutrition-and-lead-recipe-and-resource-guide.pdf

MEDICAL/HEALTH

TYPE	PRIORITY	INTERVENTION	RATIONALE	COST	NOTES
Secondary Prevention	HIGH PRIORITY	Promote caregiver capacity Increase capacity of maternal infant support services	To support parents and programs to improve parenting skills and early identification of developmental delays		• Genesee County runs several evidence based state, federal and foundation funded home visiting programs. All have potential to increase in capacity to serve more families; also consider relaxing eligibility criteria so more mothers/infants can participate • Nurse Family Partnership (NFP), Maternal Infant Health Program (MIHP), Healthy Start • Expansion/adoption of additional parenting support programs: Strengthening Families, Incredible Years, etc.
		Provide education for primary care providers regarding toxic stress and aggressive long-term neurodevelopmental screening	To identify developmental delays early for best outcomes		• Multi-method – CME, office-based, web education • Coordination and outreach to assemble/engage providers can be provided by Hurley Children's Hospital, Genesee County Medical Society and/or MDHSS
		Support routine (yearly) neuropsych assessment of executive function	To identify delays early for earlier referral and management		• Exceeds general pediatrician developmental screening. • Would require more peds neuropsych/DBP workforce capacity (as below)
	HIGH PRIORITY	Increase pediatric healthcare access to a patient centered medical home Encourage initiatives between Medicaid HMOs and Flint/Genesee County medical homes	To continuously drive patients to their primary care provider (not emergency departments) for long-term continuity of care and developmental screening;		• There is a significant disparity in proper medical home utilization in Flint/Genesee County children covered by Medicaid; the exposure increases the urgency for all Flint children to have an established, active medical home • Medicaid children in Flint/Genesee County use the ED for emergent and non-emergent needs four times more frequently than commercially insured children • Flint children and caregivers require support for enhanced transportation, case management, HEDIS monitoring, patient incentives, mental health services, and nutrition education access • Request increased capacity for Genesee Children's Healthcare Access Program (CHAP) to support medical home utilization by Medicaid children in Flint; capacity needs include additional social workers, community health workers, RN case manager

					• Medicaid HMO could be encouraged to reimburse for integrated social work, nutrition, mental health services
Tertiary Prevention	HIGH PRIORITY	Creation of the Flint Children's Health and Development Fund	To support short and long-term health, medical care, and developmental needs of Flint children exposed to lead	$100M	• Create a federal / state supported fund to support local efforts to optimize children's health and development. • Request fund to support timeframe of 20 years from exposure to mitigate and support impact of exposure to the Flint population • To be housed at the Community Foundation of Greater Flint, and convened/advised by Greater Flint Health Coalition and community members.
		Increase Early Intervention capacity/providers *(note Early On is also in education domain)*	To support young children with identified developmental delays		• Known as Early On in Michigan. Home-based program for 0-3 children with suspected developmental delays. • Capacity is limited with long waits.
		Increase workforce capacity of mental health specialists: Developmental and Behavioral Pediatricians (DBP), pediatric psychologists, pediatric psychiatrists	To provide necessary mental/behavioral health services to exposed population	$700K/yr	• Access to pediatric mental health services is very limited in county • Consider incentives, loan repayments, subsidies, etc to recruit pediatric behavioral health specialists • Support/subsidize Graduate Medical Education programs that train pediatric psychologists and pediatric psychiatrists. MSU/Hurley currently sponsors a pediatric psychology fellowship program and efforts are underway to expand a MSU pediatric psychiatry program to Flint. To train one fellow per year is approx. $100K. At a minimum would need to train 2 psycholgy fellows (2 year program) and 1 psychiatry fellow (3 year program) per year, thus 7 total trainees at a time, totaling approx $700K per year.
		Expand state-funded county mental health (Genesee Health System) services	To provide necessary mental/behavioral health services to exposed population		• GHS provides infant mental health, case management, home-based and trauma informed care, yet capacity is limited and can be expanded with additional resources • Prioritize resources/pilot interventions in Genesee County • Expand behavioral health telemedicine and collaborative services – Michigan Child Care Collaborative (MC3) program is a MDHHS funded program for pediatric behavioral health, yet not in Genesee County – prioritize expansion to Genesee County

Assessment	HIGH PRIORITY	Identification and tracking of exposed children/cohort	To determine extent of injury and long-term neurodevelopmental, medical, socioeconomic impact To allow for identification of exposed children and ongoing surveillance		• Currently beginning to identify exposed children in EMRs • ICD10 code for "Contact With and (Suspected) Exposure to Lead" – Z77.011 • Capacity needed to promote health information exchange integration between primary care physicians, FQHCs, CMH, MCIR/MDHHS, and hospitals to increase effectiveness of population health interventions • Capacity required to support epidemiology, IT, research support (Hurley/MSU Pediatric Public Health Collaborative) for long-term epidemiologic follow-up • Request support/prioritized grant funding/consultive expertise from CDC, ADSTR, NIH (NIEHS)