Child Health Integration
The Michigan Experience

Michigan Care Improvement Registry

Michigan Department of Community Health
MDCH

MCIR is currently linked with

- Vital Records
- Lead Program
- EPSDT
- WIC
- Medicaid
- Newborn Hearing
- Newborn Screening
- **BMI**

Michigan Department of Community Health
MDCH

Apt 3E

Kalamazoo, MI 49009-1773 **County:** Kalamazoo

hone: (517)555-1212 **Resp. Party:** Andy Warhol (P/G)

igh Risk Conditions

☐ Influenza Screening Notification

Immunizations	Lead	EPSDT	NBS Mailers	EHDI	Other

Series	Dose 1	Dose 2	Dose 3	Dose 4	Dose 5	Dose 6	
DTaP	04/16/1997 DTaP 8wks 3days	06/11/1997 DTaP 16wks 3days	08/27/1997 DTaP 27wks 3days	05/07/1998 DTaP 1yr 2mos	08/26/2002 DTaP 5yrs 6mos		Due 08/26/2009 Tdap Up-to-date
Polio	04/16/1997 OPV 8wks 3days	06/11/1997 OPV 16wks 3days	08/27/1997 OPV 27wks 3days	08/26/2002 IPV 5yrs 6mos			Series Complete
MMR	02/25/1998 MMR 1yr 16days	08/26/2002 MMR 5yrs 6mos					Series Complete
HIB	04/16/1997 Hib-PedvaxHIB 8wks 3days	06/11/1997 Hib-PedvaxHIB 16wks 3days	08/27/1997 Hib-PedvaxHIB 27wks 3days	02/25/1998 Hib-PedvaxHIB 1yr 16days			Series Complete
HEPB	02/12/1997 HepB (Ped) 3days	04/16/1997 HepB (Ped) 8wks 3days	08/27/1997 HepB (Ped) 27wks 3days				Series Complete
Varicella	10/22/1998 Varicella 1yr 8mos						DUE NOW Varicella
Influenza	10/20/2004 Influenza-split 7yrs 8mos	10/19/2006 Influenza (hist) 9yrs 8mos					Series Complete
PCV7	04/16/1997 PCV7 (Prevnar)	08/27/1997 PCV7 (Prevnar)					DUE NOW PCV7 (Prevnar)

Lead

- Provides clinical decision support online and with a printable PDF. Displays the following fields:
  - Specimen date
  - Specimen ID
  - Date reported
  - Sample type
    - Venous
    - Capillary

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https://sso.state.mi.us - General Information - Site: Therese Hoyle - Mozilla Firefox

General Information

[redacted]

Provider: Eligible

Print | View | Print Help | Home | Exit

Person | Reports | Reminder/Recall | Import/Export | My Site | Administration | School/Childcare | Other

Add/Find | Roster | Deduplication | Vaccine Deduplication | Information | Status | History

If this is not the correct person you may Search Again or Add Person.

Personal Information :

Legal Last [redacted] Legal First [redacted] Middle [redacted]

Alias Last [redacted] Alias First [redacted] Mother's [redacted]

Birthdate [redacted] Gender* ☐ Male ☑ Female ☑ Multiple Birth

Responsible Party : Add New

[redacted]

Current (04/24/2006)

10-14 venous

- Provide caregiver lead education
- Provide follow-up testing (3 months)
- Local public health encouraged to provide family nursing visits (lead assessment and education); suggested within 30 days
- Additional information at 517.335.8885
- more...

Spec. Date	Spec. Id	Reported	Sample Type	Result (µg/dL)
05/15/2006	06-135-02988	05/23/2006	Venous	11
03/03/2006	06-062-03084	03/10/2006	Venous	15
12/20/2005	05-354-02430	01/06/2006	Venous	18
09/15/2005	0525802893	09/29/2005	Venous	37
09/14/2005	6732	09/20/2005	Capillary	46

Birth Facility Information :

Name Spectrum Hlth-Butterworth State MI County

MCIR options :

☐ Person does not receive medical care in Michigan ☐ Person is deceased

☐ Person is migrant ☐ Use alias name on reports

PHYSICIAN and HEALTH DEPARTMENT FOLLOW-UP According to Diagnostic Blood Lead Level

µg/dL	ACTION
<10	• Reassess and test again (if age appropriate) in 1 year. Provide anticipatory guidance (at appropriate language and reading level) to eliminate exposure sources.
10-14	• Confirm test results with a venous blood lead level (BLL). • Provide lead poisoning prevention pamphlets and anticipatory guidance to prevent further exposure to lead. Venous BLL again in 3 months. • Refer to local PH for family nursing visits for lead assessment and education. (Timeframe determined by local resources; suggested within 2 weeks.)
15-19	• Confirm test results with a venous blood lead level (BLL). • Refer to local PH for family nursing visits. • Provide or refer for follow-up venous BLL in 3 months. Refer for social services as needed. • If BLL's persist (i.e., two venous BLLs in this range at least 3 months apart), proceed according to actions for BLLs 20-44.
20-44	• Confirm test results with a venous blood lead level (BLL). • Physician to provide thorough physical assessment and clinical management and refer to local PH for coordination of care as soon as possible. • Refer other children under age 6 and pregnant women who live or spend time at this residence for blood lead tests. • Local PH staffs provide nursing and environmental investigations in the home within 5 working days of the referral. (Recommend joint visit if possible.) • **EBL Environmental Investigation:** EBL investigations require a trained and Certified Inspector/Risk Assessor. (Refer for lead hazard control as needed.) • Follow-up venous blood lead test every 1-3 months for the first 2-4 tests after initial identification. Repeat test every 3 months as level declines.
45-69	• Confirm test results with a venous blood lead level (BLL). • Clinical management includes chelation therapy. • Refer **ASAP** to local PH for nursing and environmental investigation, to be done **within 48 hours** of the referral. **Lead hazard control should be completed before the child returns to residence.**** • Follow-up venous blood lead test every 2 weeks - 1 month for the first 2-4 tests after initial identification. Repeat test every month as level declines.
≥ 70	• Confirm test results with a venous blood lead level (BLL). • Hospitalize child immediately and begin medical management, including chelation therapy. Refer immediately to local PH for nursing and environmental investigation (to be done within 24 hours of referral). • **Lead hazard control should be completed before the child returns to residence.** **

Continuing follow-up care is needed until the child has **two consecutive BLLs less than 10 µg/dL at least three months apart (MDCH).** At that time, the child may be discharged from care. Blood lead levels may remain high for extended periods of time, depending upon the length of time and severity of exposure. During this time, encourage family to continue the prescribed food plan.

A CHILD, LESS THAN 6-YEARS-OLD, WITH A VENOUS BLL ≥ 20 Should Receive a Thorough Medical AND Developmental Evaluation by His/Her Primary Care Provider *

CLINICAL EVALUATION COMPONENTS

1. MEDICAL HISTORY
- Symptoms?
- Developmental history – Include mouthing activities and pica.
- Previous BLL measurements?
- Family history of lead poisoning?

2. ENVIRONMENTAL HISTORY
- **Age, condition,** and ongoing **remodeling** or **repairing** of primary residence and other places where the child spends time (including secondary homes and day-care centers). Determine whether the **child may be exposed** to lead-based paint hazards at any or all of these places.
- Occupational and hobby histories of adults with whom the child spends time. Determine whether the child is being exposed to lead from an adult's workplace or hobby.
- Other local sources of potential lead exposure. (See "Possible Sources of Exposure" list reverse side.)

3. NUTRITIONAL HISTORY
- Evaluate the child's daily diet and nutritional status using 24-hour recall.
- Evaluate the child's iron status using appropriate laboratory tests.
- Ask about the need for food stamps and WIC participation.

4. PHYSICAL EXAMINATION
- Pay particular attention to the neurological examination and to the child's psychosocial and language development. This should be re-evaluated on a regular basis. Refer to Early On.* (Automatic referral for "Toxic Exposure")

* MDCH Lead Advisory Committee recommendations.
** *Screening Young Children for Lead Poisoning*, CDC, Nov 1997, pg 106.

Newborn Screening

- MCIR displays a link to the Newborn Screening Mailer
- MCIR displays the Kit number and Accession number
- Matching NBS Patient ID with MCIR records requires a semi-manual process of linking Patient ID’ s from the NBS database and the Vital Records ID.

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eneral Information

rson Information : Edit

MCIR ID : 1234567890AB

me:	John Jacob Jingleheimer-Schmidt	Birthdate:	02/09/1997	Gender:	Male
dress:	312 South First Street NW	Age:	10yrs 4mos		
	Apt 3E				
	Kalamazoo, MI 49009-1773	County:	Kalamazoo		
one:	(517)555-1212	Resp. Party:	Andy Warhol (P/G)		

gh Risk Conditions

Influenza Screening Notification

Immunizations | Lead | EPSDT | NBS Mailers | EHDI | Other

Number	Accession Number	
28286	071150386	Mailer
23456	099999999	Mailer
28286	071150386	No Mailer Available

Newborn Hearing

MCIR Displays Initial Screening Results

- Date Screened,
- Test Method,
- Left Ear and Right Ear Results

MCIR Displays Diagnostic Results

- Date Diagnosed,
- Left Ear and Right Ear Results

General Information

Person Information : Edit **MCIR ID : 1234567890AB**

Name:	John Jacob Jingleheimer-Schmidt	**Birthdate:**	02/09/1997	**Gender:**	Male
Address:	312 South First Street NW	**Age:**	10yrs 4mos		
	Apt 3E				
	Kalamazoo, MI 49009-1773	**County:**	Kalamazoo		
Phone:	(517)555-1212	**Resp. Party:**	Andy Warhol (P/G)		

High Risk Conditions

☐ Influenza Screening Notification

Immunizations | **Lead** | **EPSDT** | **NBS Mailers** | **EHDI** | **Other**

Patient Status: Retest Needed

Initial and Rescreen Results

Date Screened	Test Method	Left Ear	Right Ear	Incomplete Reason
02/02/2006	ABR	PASS	FAIL	
01/02/2006	ABR	PASS	FAIL	

Diagnostic Results

Date Diagnosed	Left Ear	Right Ear
03/02/2006	Within Normal Limits	Conductive-Permanent/Mild
02/02/2006	Within Normal Limits	Conductive-Permanent/Mild

PROVIDER GUIDELINES FOR HEARING FOLLOW UP

Screen Results	ACTION
Pass	▪ Monitor speech-language development. ▪ Review risk factors for late-onset hearing loss (www.jcih.org) and ensure at least one diagnostic evaluation is completed before 3rd birthday.
Incomplete	▪ Hearing screen needs to be completed no later than one month of age. ▪ **For NICU graduates**, it is recommended to have an automated auditory brainstem response (A-ABR) screen. ▪ If incomplete screen is due to parent refusal encourage family to have hearing tested.
FAIL	▪ If this is an initial failed screen then a hearing re-screen needs to be completed no later than one month of age. ▪ **If this is a failed re-screen then immediately send child for a diagnostic evaluation by a pediatric audiologist.** For pediatric audiologists in your area, please call 517-335-8878.
Diagnostic Results	ACTION
Within Normal Limits	▪ Monitor speech and language development milestones. ▪ A child may be at risk for late-onset hearing loss (www.jcih.org).
Undetermined and Conductive (Transient)	▪ Further diagnostic testing needs to be completed immediately by a pediatric audiologist. For pediatric audiologists in your area, please call 517-335-8878. ▪ Do not assume it is only middle ear effusion.
Sensorineural/ Auditory Neuropathy/ Mixed/ Conductive (permanent)	▪ Contact Early On (1-800-Early On) to initiate intervention. ▪ Refer to otolaryngologist to determine etiology of hearing loss and recommended treatment. Other referrals may include: ophthalmology, genetics, developmental pediatrics, neurology, cardiology, and nephrology if appropriate. ▪ Ensure ongoing pediatric audiology services. ▪ Offer parent support for families through referral to the Guide By Your Side parent support program. Call 517-335-8955 for more information on this program.

FACTS AND RECOMMENDATIONS

1. AUDIOLOGICAL SERVICES (Don't wait to refer!)

- **Critical Screen Protocol:** Do not continue to re-screen. If baby has failed two screens, refer directly to a pediatric audiologist to perform diagnostic testing. It is difficult to rule out hearing loss without objective, frequency specific testing. A baby with a sloping hearing loss will respond to a door slam or hands clapping, but may not hear a single consonant sound.
- Do not wait 3-6 months to do a repeat hearing screen. Even if child has otitis media do not wait this long to re-screen.
- The easiest and most accurate hearing testing is done when babies are in natural sleep. Early evaluations reduce the need for sedated procedures later.
- Otitis media and middle ear effusion have a greater impact on screening measures than diagnostic evaluations. A full diagnostic battery will identify permanent hearing loss even in the presence of middle ear effusion.
- Only 50% of babies with congenital hearing loss have an identifiable risk indicator at the time of birth. All babies failing a hearing screen should be retested!
- Early identification and intervention of hearing loss has been proven to prevent delays in speech and language development.

2. ON GOING CARE OF ALL INFANTS

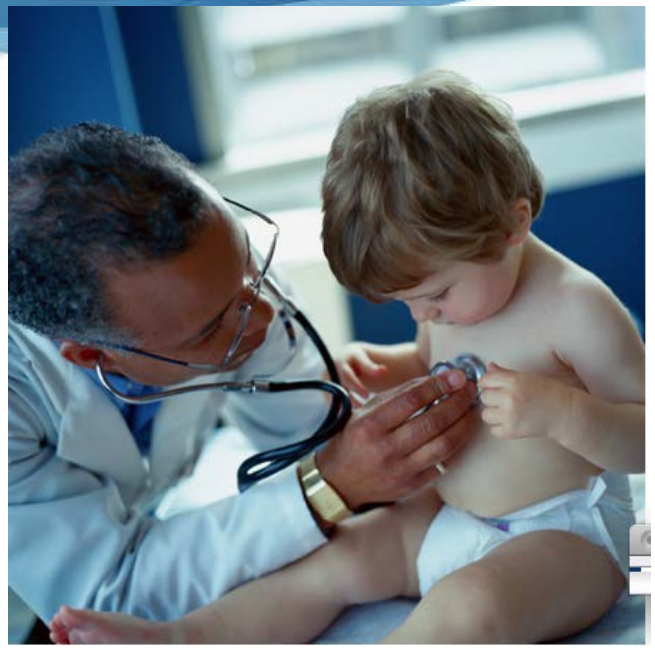
- Provide parents with information about hearing, speech, and language milestones.
- Identify and aggressively treat middle ear disease. Chronic middle ear effusion can lead to chronic mild hearing loss. Even mild hearing loss impacts speech and language development.
- Monitor infants with a risk indicator for progressive hearing loss. Don't forget, parental concern about hearing is a recognized risk indicator and reason for referral!

3. REPORTING HEARING RESULTS

- Michigan law requires reporting for hearing screens on infants who are less than 12 months of age and on children who have been diagnosed with hearing loss and are less than 3 years of age.
- If you have hearing screen or evaluation results that are not listed on MCIR, complete the Audiological/Medical Follow-Up Services form (http://www.michigan.gov/documents/FORMAUDMED_53429_7.pdf) and fax to the Early Hearing Detection and Intervention (EHDI) Program at 517-335-8036.

The Early Periodic Screening, Diagnosis and Treatment (EPSDT)

- MCIR displays the:
  - Date of Service
  - ICD9 Code
  - Description of Service



General Information

Person: Garnett, Michael
Birth Date: [redacted]
Provider: Up-to-Date

Print View | Print Help | Home | Exit

Person | Reports | Vaccine Mgmt | Reminder/Recall | My Site | Administration | School/Childcare | Other
Add/Find | Roster | Add Imm | Hazard | Information | Status | History

Personal Information :

Legal Last: Garnett | Legal First: Michael | Middle: Vincent Christoph
Alias Last: | Alias First: | Mother's Maiden Na
Birthdate: [redacted] | Gender* | Male | Female | Multiple

Responsible Party : Add New

BRIGID GARNETT [redacted] Ingham County

High Risk Conditions :

Influenza Screening Notification

Patient is due/overdue for EPSDT

Additional Information | Lead | EPSDT

Age: 7 months | Age-Time Factor (mos): 3 | Label Date: 02/06/2007

Date	Code	Description
11/03/2006	V70.3	Other general medical examination for administrative purposes
	99213	Office or other outpatient visit for the evaluation and management of an established patient
	99391	Periodic comprehensive preventive medicine reevaluation and management; established patient; infant (age under 1 year)
08/30/2006	V20.1	Other healthy infant or child receiving care
	99201	Office or other outpatient visit for the evaluation and management of a new patient

Birth Facility Information :

Name: Mich Capital Med Ctr, Penn Campus, Lansing | State: MI | County:

MCIR options :

EPSDT detail is displayed on the detail tab when clicked. The tab header displays the child's age, the EPSDT Age-Time Factor used in assessing the status. The most recent Label Date, which when combined with the Age-Time factor allows one to determine the size of the screening window

Hovering the mouse over the EPSDT status box presents a status description.

Dates of Service are displayed in reverse chronological order

Body Mass Index

- The first child health integration where fields were added to the IIS for data entry.
- Voluntary reporting of height and weight into MCIR annually for children ages 2 – 20 years that visit their clinician in the calendar year.

Michigan Department of Community Health
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High Risk Conditions : Edit

Influenza Screening Notification

Immunizations	Lead	Other	BMI/Growth

BMI/Growth Charts

BMI for Age | Get Chart

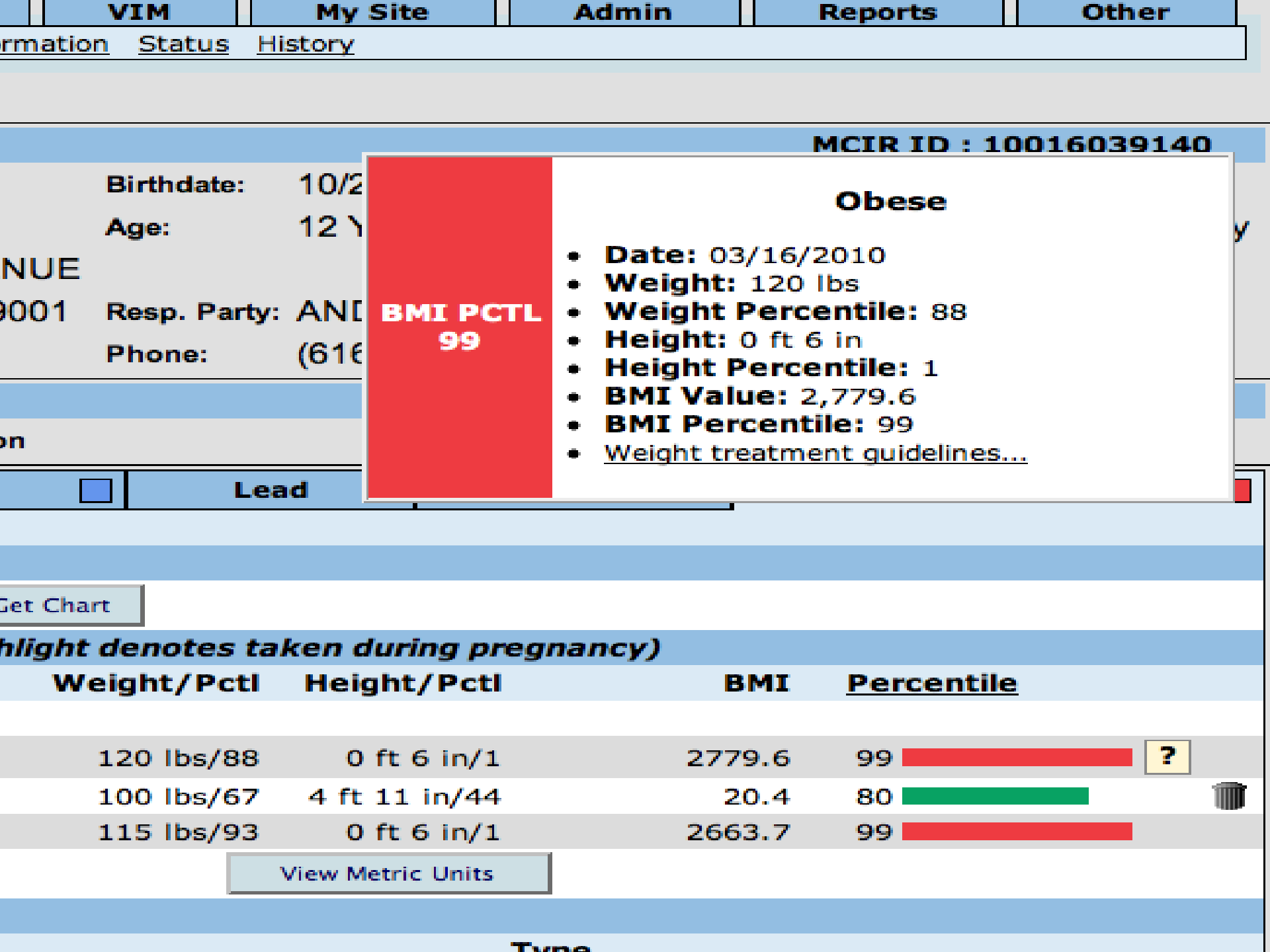
BMI Measurements *(red highlight denotes taken during pregnancy)*

Date	Age	Weight/Pctl	Height/Pctl	BMI	Percentile
Add Measurement					
03/16/2010	12yrs 4mos	120 lbs/88	0 ft 6 in/1	2779.6	99
01/01/2010	12yrs 2mos	100 lbs/67	4 ft 11 in/44	20.4	80
02/10/2009	11yrs 3mos	115 lbs/93	0 ft 6 in/1	2663.7	99

View Metric Units

Counseling Activity

Date	Provider	Type
Add Counseling Activity		
04/05/2009	MDCH -Cardiovascular Health	Physical Activitity Counseling
03/18/2009	MDCH -Cardiovascular Health	BMI Percentile Assessment
03/18/2009	MDCH -Cardiovascular Health	Weight Counseling
03/18/2009	MDCH -Cardiovascular Health	Physical Activitity Counseling
03/18/2009	MDCH -Cardiovascular Health	Nutritional Couseling
05/28/2008	MDCH -Cardiovascular Health	Nutritional Couseling
02/28/2008	MDCH -Cardiovascular Health	BMI Percentile Assessment
02/28/2008	MDCH -Cardiovascular Health	Weight Counseling
02/28/2008	MDCH -Cardiovascular Health	Physical Activitity Counseling
02/28/2008	MDCH -Cardiovascular Health	Nutritional Couseling


VIM
My Site
Admin
Reports
Other
rmation
Status
History
MCIR ID : 10016039140
Birthdate:
Age:
NUE
9001
Resp. Party:
Phone:
BMI PCTL
99
Obese
Date: 03/16/2010
Weight: 120 lbs
Weight Percentile: 88
Height: 0 ft 6 in
Height Percentile: 1
BMI Value: 2,779.6
BMI Percentile: 99
Weight treatment guidelines...
Lead
Get Chart
hlight denotes taken during pregnancy)
Weight/Pctl
Height/Pctl
BMI
Percentile
120 lbs/88
0 ft 6 in/1
2779.6
99
?
100 lbs/67
4 ft 11 in/44
20.4
80
115 lbs/93
0 ft 6 in/1
2663.7
99
View Metric Units

Medicaid Partnership

- MEDICAID
  - Financial Support
  - Onboarding (2 FTE's)
  - Master Person Index (2 FTE)
  - 90/10 funding in 2000 to develop the web-based version of MCIR
  - Operations Funding
- Immunization Program
  - Generates coverage rates by Health Plan on a monthly basis and share results with Medicaid
  - MCIR Program
    - Display EPSDT Results
    - Display Lead Results
    - Provide Immunization Data to Health Plans for HEDIS Measures

Maternal Child Health Programs

- MCH Partnership
  - WIC Partnership
  - EHDI Funding
  - Lead Program
  - Newborn Screening Program
- Immunization Program
  - Receives funding for 1 FTE for a MCIR programmer (EDHI)
  - Generate coverage rates by WIC clinic on a monthly basis.
- MCIR Program
  - Updates WIC ID's on MCIR records on a monthly basis
  - Real-time interface with WIC
  - Developing a case management program for EHDI follow-up
  - Sickle Cell Case Management Module

Benefits

- Providers have access to public health data through one portal.
- Immunization Program has diverse funding streams for the IIS.
- Each public health program manages their own data.

Thank You

- QUESTIONS?