



Livingston County Department of Public Health
Personal & Preventive Health Services

Birth Defect Rates in Livingston County

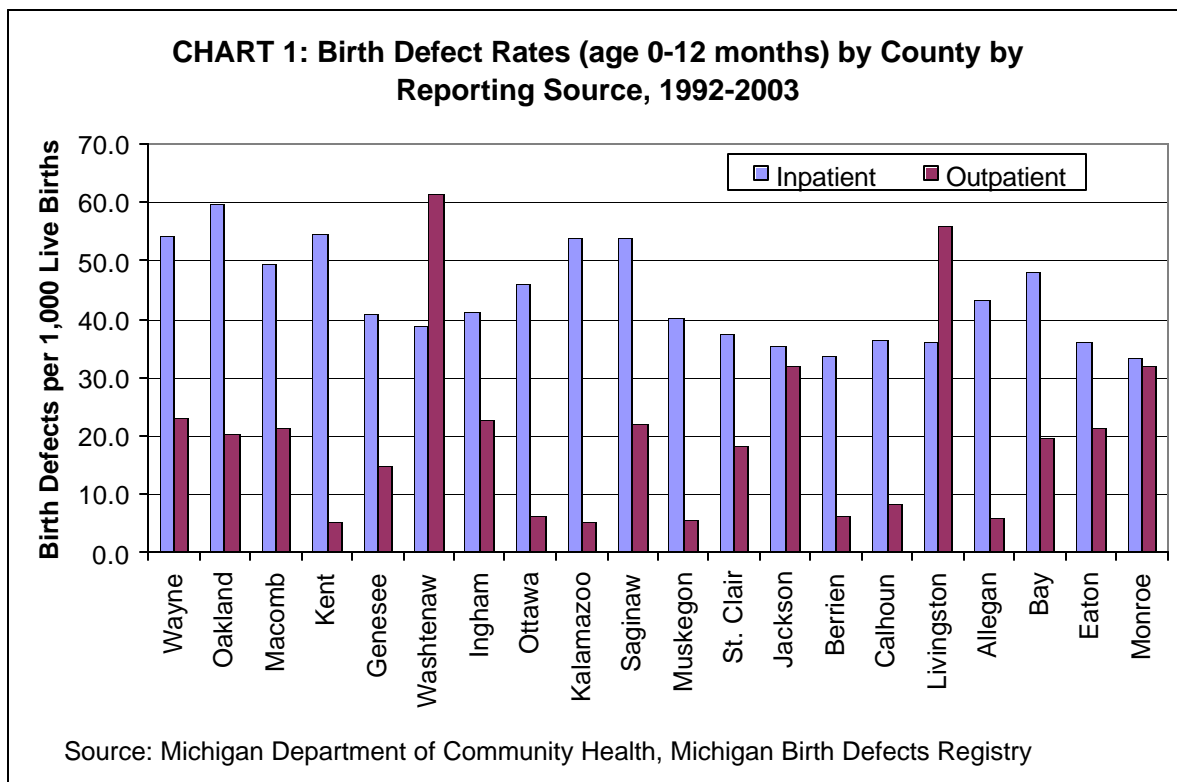
A Report Provided with data and analysis
from The Center for Population Health at
the Southeastern Michigan Health Association
and the Michigan Department of Community Health

Livingston County Birth Defects

Over the past decade, Livingston County residents recorded **the second highest level of birth defects among Michigan counties** (Washtenaw recorded the highest). However during the same period, **the level of serious birth defects was below the statewide average**. Since 1992, the Michigan Department of Community Health has maintained the Michigan Birth Defects Registry (MBDR). According to the Department, the MBDR tracks the occurrence of over 800 types of birth defects across the State. Birth defect reports submitted to the registry include structural malformations as well as genetic disorders and other selected diseases in children from birth through 24 months of age. Epidemiologists at MDCH analyze the registry data and conduct special studies to better understand the impact of birth defects on public health. The Michigan Department of Community Health has provided the Livingston County Health Department with detailed information from the MBDR. The following is a summary of that information.

- During 2003 there were 2,010 births to Livingston County residents with 232 reported birth defects, resulting in a birth defect rate of 115.4 per 1,000 live births. The Livingston County birth defect rate **was significantly higher** than the rest of the State recording a rate of 78.7 per 1,000 live births.
- In Livingston County during the 12 years between 1992 and 2003, there were an annual average of 1,875 births with 115.2 birth defects per 1,000 live births. The Livingston County experience **appears significantly higher** than the statewide birth defect rate of 81.9 per 1,000 live births for the same twelve-year period.

Birth defects are reported to MDCH from both inpatient facilities (hospitals) and outpatient facilities (ambulatory care centers and physician offices) (Chart 1, Appendices).



In every diagnostic category, except ear/face/neck, Livingston County birth defects reported on an inpatient basis, for the first year of life, were at or below the rest of the state (See Table 1).

TABLE 1: Inpatient Birth Defect Rates per 1,000 live births, 1992-2003¹		
	Livingston	Michigan (excludes Livingston and Washtenaw Counties)
Central Nervous System	1.60	2.31
Eye	0.94	0.94
Ear/Face/Neck	1.60	1.17
Cardiac	8.68	12.87
Respiratory	2.00	2.74
Clefts	0.67	1.21
Upper Alimentary/Digestive	3.56	3.86
Genito-urinary	9.22	9.35
Musculo-skeletal	7.93	9.86
Integumentary	1.60	2.20
Chromosomal	1.47	1.63
Other/Unspecified Anomalies	1.20	2.44

Between 1992 and 2003, **over 60% of the Livingston county birth defects were reported on an outpatient basis, for the first year of life, compared to about 30%** for the rest of the state. According to the MDCH “the birth defects reported on an outpatient basis are less severe than those reported on an inpatient basis.”

Between 1992 and 2003, Livingston County recorded **the second highest rate** (56.1 per 1,000) of birth defects recorded in Michigan on an outpatient basis (Washtenaw County recorded the highest [see Chart 1]).

TABLE 2: Outpatient Birth Defect Rates per 1,000 live birth, 1992-2003¹		
	Livingston	Michigan (excludes Livingston and Washtenaw Counties)
Central Nervous System	1.87	1.26
Eye	4.90	1.87
Ear/Face/Neck	1.42	0.53
Cardiac	12.69	2.58
Respiratory	1.96	0.69
Clefts	0.89	0.34
Upper Alimentary/Digestive	3.56	1.00
Genito-urinary	13.00	3.85
Musculo-skeletal	12.60	5.02
Integumentary	1.11	0.43
Chromosomal	1.25	0.46
Other/Unspecified Anomalies	1.07	0.64

¹Source: MDCH, Michigan Birth Defect Registry, Age 0-12 months

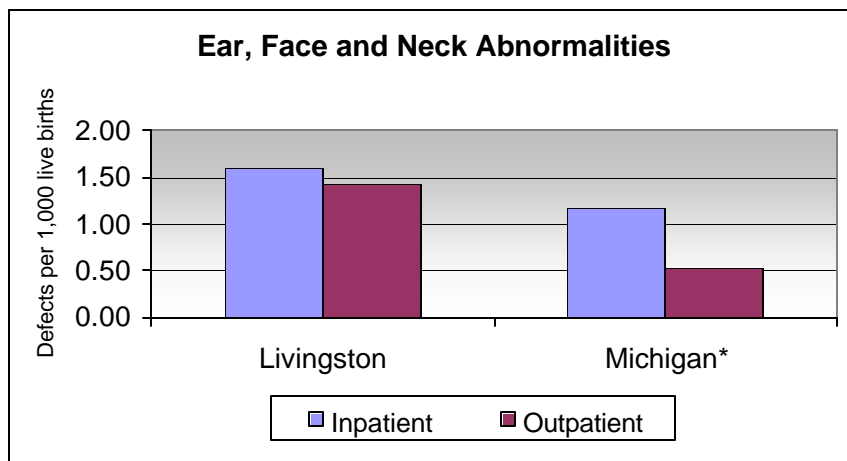
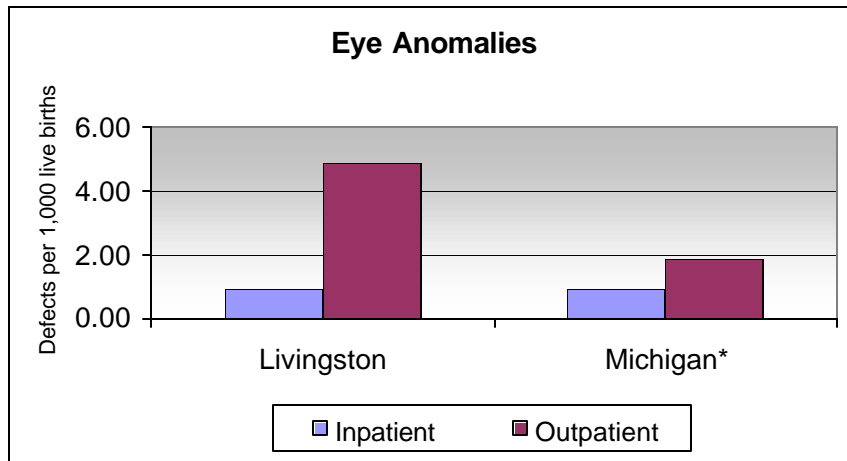
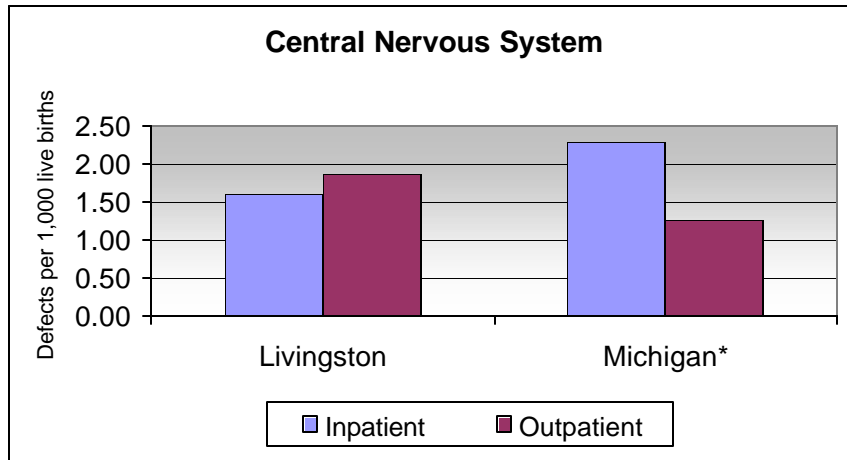
Residents of Livingston and Washtenaw Counties are served by common health providers, particularly the University of Michigan and St. Joseph Mercy Health Systems and their associated ambulatory care networks. The health systems maintain electronic medical records that facilitate more complete diagnostic reporting to the MBDR. **It appears that the significantly higher rates of birth defects diagnosis on an outpatient basis are responsible for the overall higher birth defect rates and according to MDCH “the Livingston data reflect higher prevalence due to more complete ascertainment likely associated with minor conditions.”**

This analysis suggests that more precise reporting on an ambulatory basis is responsible for increased reporting of less significant birth defects. As electronic medical record systems become an industry standard, it is reasonable to believe that the statewide rate of birth defects may increase driven by the inclusion of less serious, yet notable, birth defects.

Acknowledgement

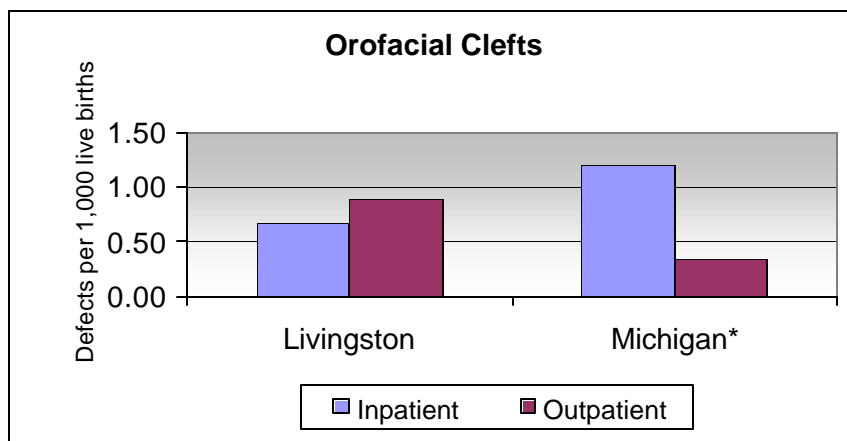
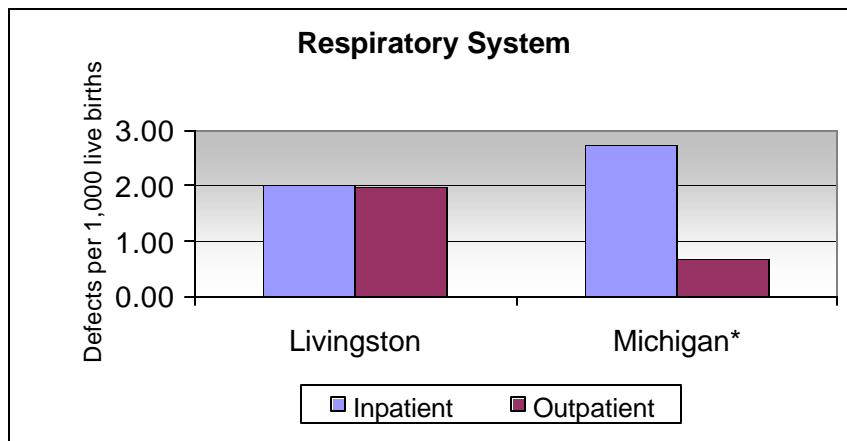
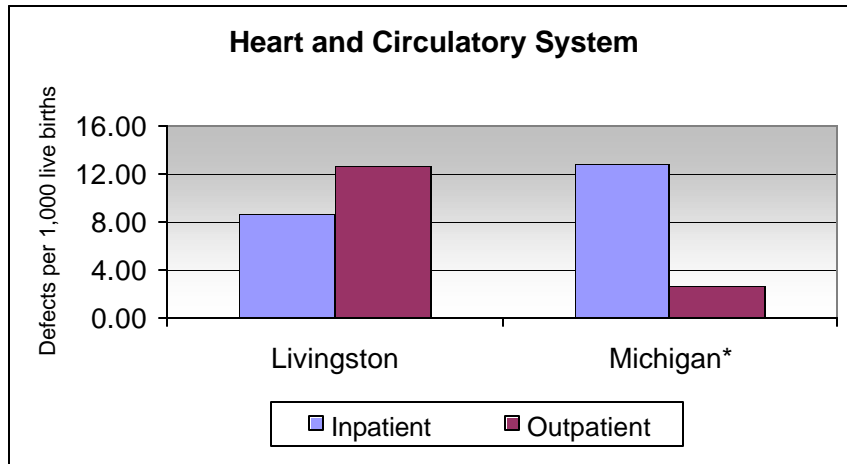
The Center for Population Health at the Southeastern Michigan Health Association would like to express our appreciation to Glenn Copeland, State Registrar and Dr. Jeffery Pollet, CSTE Fellow, Maternal and Child Health, both at the Michigan Department of Community Health, for providing the information and analysis which made this report possible.

Appendix 1: Birth Defects Reported to the Michigan Birth Defect Registry, by Body System for Infants Age 0-12 Months, 1992-2003



*excludes Livingston and Washtenaw Counties data

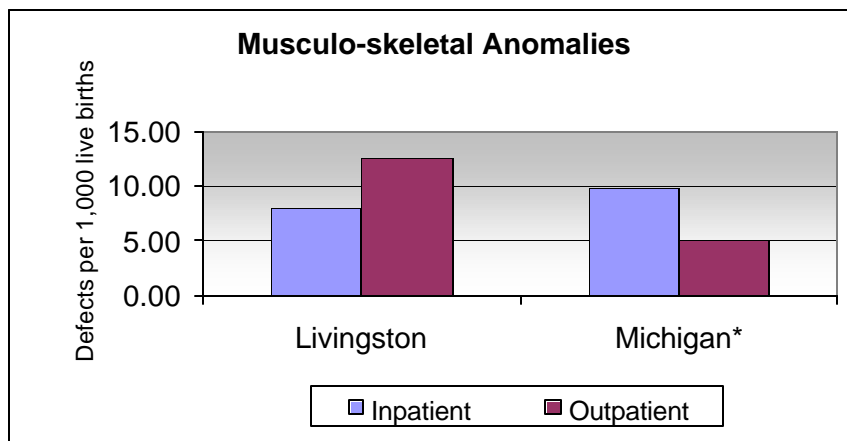
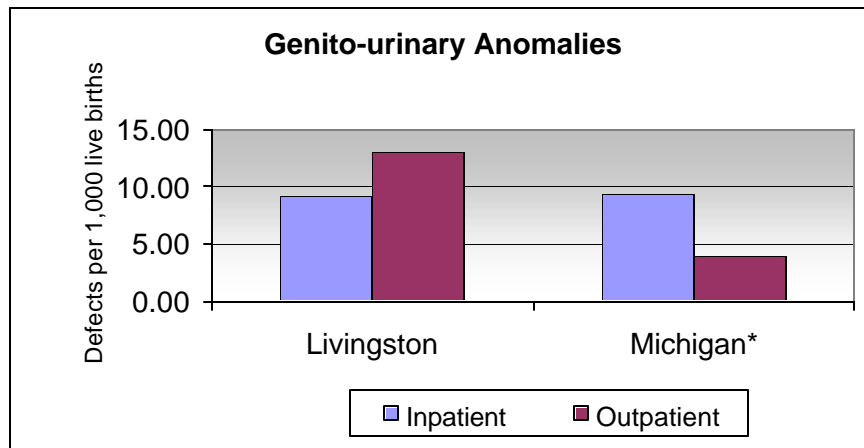
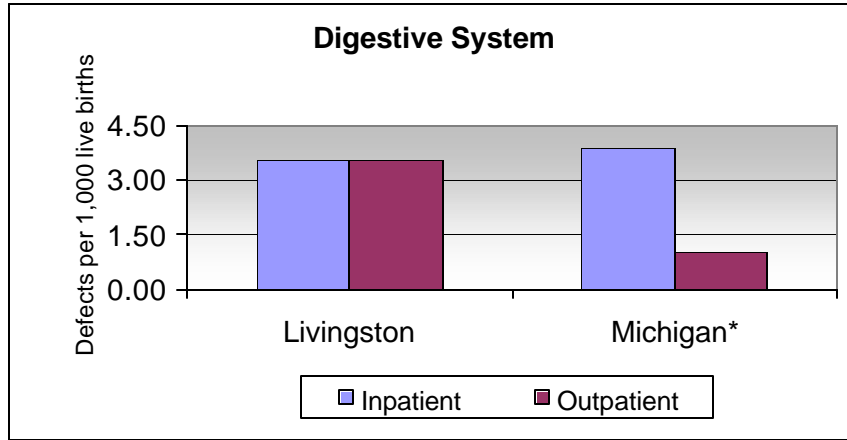
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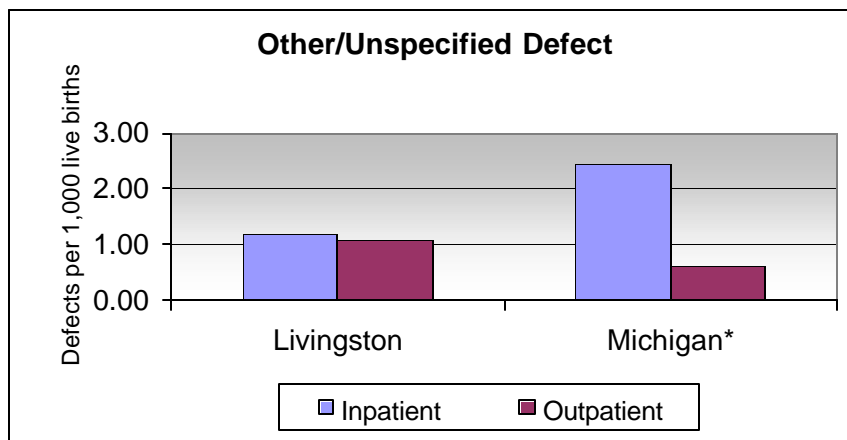
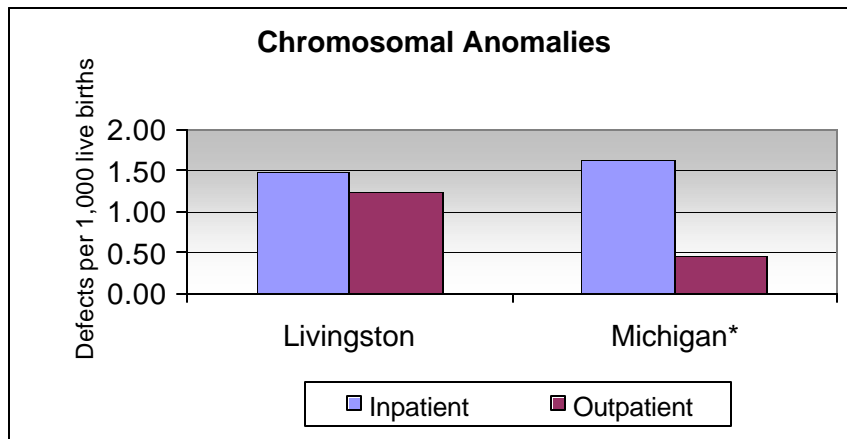
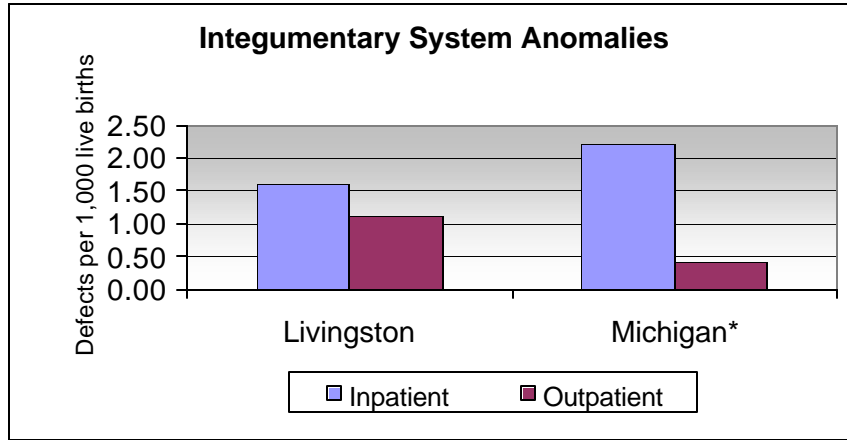
Source: Michigan Department of Community Health

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