The Impact of Cholera and Mosquito-Borne Disease in the 19th-Century Michigan Territory

Richard Adler
University of Michigan-Dearborn
Lake Maumee, one of a series of glacier lakes which evolved into the Great Lakes
Prior to 1880, malaria constituted 50-75% of all illness in Michigan.

“But what about Michigan malaria? Unfortunately for the reputation of Michigan as a healthful State, the idea got abroad many years ago that the principal feature of its climate was malaria. Going to Michigan was considered almost synonymous with going to have a fit of the ague. It was not supposed to be possible for a person to visit Michigan or even to pass through the State without having the chills.”

Paquin, Paul. *Bulletin of the Medical and Surgical Sanitorium.* Battle Creek, Michigan, 1892
"In 1858, the most notable and impressive event of the season was the fever and ague (malaria). In the latter part of August and fore part of September, there were 70 out of 100 students unable to attend classes; at least they could come every other day, as the fever was mainly intermittent. The main consolation the sufferer got was the frequent assurance that it was only the ague and nobody died of it."

50th Anniversary Celebration of the Michigan Agricultural School in 1898

http://www.scmac.org/history.htm
[Malaria] was so prevalent that it was rather unusual to escape it.”

War of 1812: During Fall of 1812 and Winter 1813, hundreds of soldiers dies in Detroit, most commonly from malaria.

“Don’t go to Michigan, that land of ills; The word means ague, fever and chills.”

Fort Saginaw established 1822; Two companies commanded by Major Daniel Baker.
Surgeon: Zina Pitcher: “When spring came on the rapid solution of it caused a great
flood in the Tittabawassee and other tributaries of the Saginaw, so that most of the prairie
between the post and Green Point was under water. The succeeding summer was very
warm, and the troops, unused to the climate.” Decommissioned in 1825 because 90%
of the garrison had contracted malaria.

http://www.bay-journal.com/bay/1he/writings/fort-saginaw.html
DR. ZINA PITCHER (1797-1872)
- Assistant Surgeon, U.S. Army; Surgeon, U.S. Army (1822-1836)
- Twice mayor of Detroit (1840-1841; 1843)
- Founding member of Wayne County Medical Society
- Regent of the University of Michigan (1837-1852)
- Establishment of free public schools in Detroit
- President, American Medical Association (1856-1857)
- Botanist; identification of Pitcher's thistle in Great Lakes region
“A. D. P. Van Buren, whose family came to Calhoun County near Battle Creek in 1836, noted that the first question asked of new settlers was whether or not they had contracted malaria yet, and "if answered in the negative, the reply would be, `Well, you will have it; everybody has it before they've been here long.'"

https://michpics.wordpress.com/2012/06/18/of-michigan-mosquitoes-malaria/
MAP
SHOWING THE TRAVERSE OF DEATHS FROM
MALARIAL DISEASES
TO DEATHS FROM ALL CAUSES,
COMPARATIVE FROM THE RETURNS OF MORTALITY AT THE TENTH CENSUS
BY THE CENSUS OFFICER.
FRANCIS L. GOGGINS

[Map of the eastern United States with color coding indicating the distribution of deaths from malarial diseases and all causes.]
US Census Map of 1870 (Courtesy of Library of Congress)

250-1400 deaths per 10,000 deaths from all causes
Plasmodium falciparum
Anopheles sp.
The life cycle of the malaria parasite begins when a mosquito bites a human and ingests the parasite during blood feeding. The mosquito then injects the parasite into its own body when it bites the human again. The parasite enters the mosquito's liver, where it forms merozoites. Merozoites are then released into the mosquito's blood stream, infecting red blood cells and causing symptoms of malaria. If the mosquito then bites another human, the cycle repeats, starting the cycle again. Additionally, during the sexual stage of the cycle, male and female gametocytes form and are passed to a new mosquito when it bites an infected human, completing the cycle.
Vibrio cholerae
“Comma bacillus”
1832 Outbreak: July - September
CHOLERA IN NORTH AMERICA: 1832
BLACK SPARROW HAWK (1767-1838), LEADER OF SAUK AND MESKWAKI [FOX]
“If he [political rival Lewis Cass] saw any live, fighting Indians it was more than I did, but I had a good many bloody struggles with the mosquitoes.” [Abraham Lincoln]
The SHELDON THOMPSON
FORT GRATIOT (ca. 1860's)
CHOLERA VICTIMS: BURIAL SITE AT FORT GRATIOT

20/11/2012
MONUMENT INSCRIPTION, LAKESIDE CEMETERY

[Image of a monument with text on it]

20/11/2012
PLAN OF DETROIT: 1830
• “With this terrible cholera we lost many of our friends, and among others, our dear old ‘Granny-Peg,’ my mother’s faithful nurse... She died in my arms, and I went into the night to find the death cart which passed the streets day and night, calling ‘Bring out the dead.’” (Emily Mason)

• “One evening a charming young man from Boston sat with us on the doorstep sipping a mint julep [thought to be a preventive]. He was well, gay, at parting; by the morning he was dead.” (cited in Loomis, *Detroit’s Delectable Past, 2012*)
STEVENS MASON (1811-1843)
“Along came Stevens Mason [on the Chicago Road], on his way to Mottville. He wanted to run the guard and shun Ypsilanti. We went across the north part of the plain, crossed the Huron at the upper bridge, and came into the Chicago Road west of the village [Ypsilanti]. It was four miles to the first tavern west [Saline], and only a half mile back into the village, and by going around we had not passed a tavern after leaving Sheldon’s [now Sheldon Road]...He was arrested by Eliphalet Turner, who brought him to the sheriff, Dr. Withington, and after a short but stormy discussion...was allowed to depart.

“The first official act the governor was known to do [in 1837] was to take away the doctor’s commission as sheriff.”
• ESTIMATED DEATHS: 60 - 100