

**Finding aid for the Michigan women and
the whooping cough vaccine collection
Collection 328**

**The Pearl Kendrick and Grace Eldering papers,
Katherine Chase scrapbook and other sources**

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This finding aid was produced using the Archivists' Toolkit

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Describing Archives: A Content Standard

Grand Rapids Public Library, Grand Rapids History and Special Collections Department

April 9, 2007

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Summary Information

Repository	Grand Rapids Public Library, Grand Rapids History and Special Collections Department
Title	Michigan women and the whooping cough vaccine
Date [bulk]	Bulk, 1925-1969
Date [inclusive]	1854-2007
Extent	2.3 Linear feet
Language	English
Abstract	<p>Dr. Pearl Kendrick (1890-1980) and Dr. Grace Eldering (1901-1988) are credited with the development of a vaccine for whooping cough. This work was done while both were employed at the Michigan Department of Health, working in Grand Rapids, Michigan. This is a devised collection which includes several accessions of materials related to their research. The collection includes biographical information, articles, photographs and some research documents. A photograph album compiled by their associate, Katherine Chase, depicts Dr. Kendrick and Dr. Eldering in their later years. Also included are oral histories from colleagues Loney Clinton Gordon and Dr. Kenneth Wilcox. Gordon, an African American woman, found the culture used for the vaccine. Kendrick, Eldering and Gordon were all inducted into the Michigan Women's Hall of Fame for their work on the vaccine.</p>

Dr. Grace Eldering

Grace Eldering was born in 1900 in Myers, Montana. As a five-year old, she suffered from whooping cough, and she never forgot the endless, painful coughing. In 1927, she graduated from the University of Montana with degrees in biology and chemistry. A year later, she decided to become a bacteriologist. She moved to Michigan on Labor Day in 1928 and volunteered in Lansing in the Department of Health's Bureau of Laboratories. Six months later she was placed on the payroll and was transferred to the lab in Grand Rapids in 1932. Once there, she met Dr. Kendrick, who had established the Grand Rapids lab in 1926. Looking through scientific archives for research possibilities, Eldering and Kendrick found that the cause of whooping cough, pertussis bacillus, had been identified in 1906 but no successful vaccinations had been found.

Doing other lab work during the day, they did much of their whooping cough research at night. They collected live samples of the bacteria from coughing children and grew them on a culture that used sheep's blood. This culture had been identified by their assistant Loney Gordon. Dr. Kenneth Wilcox, an associate of the two doctors, was interviewed by Carolyn Shapiro Shapin. In the interview, he recalled that Eldering and Kendrick inoculated each other with vaccines as a way to test the safety. By 1935, they were successfully vaccinating children. One year later, First Lady Eleanor Roosevelt traveled to Grand Rapids to learn about the vaccination from Eldering and Kendrick. Kendrick said that Eleanor Roosevelt was "the only lay person to really understand what they were doing." In October 1939, the Michigan Department of Health began manufacturing the vaccine. The two women were modest about their accomplishments and did not look for honors.

Eldering continued her work at the lab. She earned a Ph.D. From John Hopkins University in 1941 and became director of the lab in 1951, after Kendrick retired and left to lecture at the University of Michigan. Wilcox recalls that Eldering managed the lab well, and, as a result, people were loyal to her, showed her respect and enjoyed working there. In 1966, she received the Michigan Public Health Association Distinguished Service Award. Dr. Eldering retired in 1969 but remained active in the community, working with the blind and the West Michigan Environmental Action Council. After they both retired, Eldering and Kendrick shared a house in Grand Rapids. Eldering was inducted into the Michigan Women's Hall of Fame in 1983. She died in 1988 at her home.

Dr. Pearl Kendrick

Pearl Kendrick was born on August 24, 1890, in Wheaton, Illinois. At the age of three, she suffered from whooping cough. She attended Syracuse University, majoring in zoology and minoring in philosophy. Kendrick told a reporter that philosophy was to help her understand the facts once she learned them. She took a course in parasitology at Columbia. She worked as a high school principal but resigned for an

assistant position at the New York State Department of Health laboratories. State of Michigan laboratories director Dr. C.C. Young offered her a job in Lansing.

After doing some work on a test for syphilis, she moved to the Grand Rapids branch in 1926. She became director of the Western Michigan branch. She attended summer classes at the University of Michigan and took a leave of absence to get a Ph.D. in microbiology from John Hopkins University in 1932. During that same year, she began working with Eldering on the whooping cough vaccination, doing much of the research after lab working hours. Kendrick set up a control group that had not be vaccinated to help prove that their vaccination had successfully reduced whooping cough. The state began mass producing the vaccine in 1939 and a few years later the vaccination was made throughout the country. Kendrick was also responsible for combining several agents, diphtheria, pertussis (whooping cough) and tetanus, into one vaccination, the DPT vaccine. Kendrick, like her partner, was modest about their accomplishments and did not look for recognition. Dr. Wilcox recalls Kendrick being the leader of the team and the more dominant one of the two doctors, but, he said, the team worked because Kendrick had “someone who was capable and a well-trained knowledgeable microbiologist in Grace.”

Kendrick was a consultant to the World Health Organization and the United Nations International Children's Emergency Fund, and she helped set up vaccination programs throughout the world. She also spent several months in Mexico City, helping the government to establish an immunization program. She retired from the lab in 1951 and became a lecturer at the University of Michigan. She retired from there in 1960 but continued to remain active. She even traveled to then Soviet Union in 1962 to help Russian experts with developing vaccinations. She died from bone cancer on October 8, 1980, in Grand Rapids. She was inducted into the Michigan Women's Hall of Fame in 1983.

Loney Clinton Gordon

Loney Gordon was born in Arkansas in 1915 and moved to Michigan as a young child. In 1939, she received a bachelor's degree in home economics and chemistry from Michigan State College (now University). As an African-American woman, she had a difficult time finding dietitian jobs. According to a 1999 interview with Gordon by Grand Valley State University history professor Carolyn Shapiro Shapin, Gordon said she found a job working as a dietitian in a mental institution in Virginia but the doctor treated her poorly and she was given inadequate living quarters. To escape this discrimination, she came back to Grand Rapids, where she found that no one would hire her because chefs would not take orders from a black woman. One of Gordon's friends knew Dr. Kendrick and told her that Gordon was looking for a job. Dr. Kendrick hired her in the Michigan Department of Health's Grand Rapids lab around 1944.

In the early 1940s, Gordon tested thousands of culture plates, trying to find the culture that would have sufficient virulence to make the vaccine. Gordon was motivated by the need to help thousands of children who suffered from whooping cough. She discovered that a sheep's blood medium worked best and, in the interview, she said, “when I found out that was the organism I was just ecstatic. I was crazy with joy and happiness.” Gordon called Kendrick and Eldering wonderful friends who were good to her because

she was ambitious. In the interview, she said, "They were like two jewels in a crown for me because they dearly loved me and they gave me access to whatever other organisms that I wanted to study in the lab."

Gordon worked as a microbiologist and trained scientists and hospital technicians in parasitology and bacteriology. Dr. Kenneth Wilcox, an associate of Gordon's, described Gordon as a woman who always stood her ground and expressed her opinions. After marrying Howard Gordon on June 23, 1956, she moved to the Lansing office of the Department of Health. After World War II, her scientific work led to her selection for traveling to Europe and the Middle East with the National Council of Christian and Jews to "take the pulse of the people" in the area. She retired from the Michigan Department of Health in 1978. In 1997, the Grand Rapids Public Library had a display on women who made a difference, and it featured Gordon. This display prompted Representative Lynne Martinez of Lansing, who before the display had no idea that Gordon was alive, living in Lansing, and played a role in developing the vaccine, to honor Gordon with a House Resolution. She died in 1999. She was inducted into the Michigan Women's Hall of Fame in 2000.

Katherine Chase

Katherine Chase was born on October 28, 1909 in Jackson, Michigan. She graduated from the University of Michigan in 1930 with a bachelors of science in bacteriology and received a master's degree in the same subject one year later. In 1934, she was hired at the Grand Rapids branch of the Michigan State Laboratory, where Dr. Kendrick and Dr. Eldering were researching a vaccination for whooping cough. Chase had no direct role in this research, though she did work on identifying the bacteria related to diphtheria, pneumonia and whooping cough. When Dr. Kendrick retired, Dr. Eldering became director of the lab and Chase became the assistant director. Chase retired in 1969.

Whooping Cough History

Before the creation of the vaccine in 1935, whooping cough was killing 6,000 people a year and 95 percent of these deaths were children. It was disease that killed more infants during the 1940s than all of the other childhood diseases combined, including polio. Michigan had a high rate of whooping cough deaths, further prompting Eldering and Kendrick to find a vaccination.

Whooping cough, caused by the bacteria *bordetella pertussis*, is a highly contagious bacterial infection of the upper respiratory system. Often found in young children, the disease starts similar to a mild respiratory infection, but in a few weeks turns into severe coughing fits. The cough is followed by a whooping sound. Coughing fits can be so severe that they cause vomiting, leading to malnutrition. The

coughing fits usually subside after one or two months. Complications with the disease include pneumonia, pulmonary hypertension, and bacterial infections.

Today, it is one of the leading causes of vaccine-preventable deaths world-wide. Ninety percent of all cases occur in third-world countries, where access to the vaccination is not available.

Scope and Contents note

This is a small, non-comprehensive collection on Kendrick and Eldering and the whooping cough vaccine. The bulk of this collection is the Chase photo album, which has some images of Kendrick and Eldering. The strength of the collection is the amount of information known about the women from their associates. The oral histories shed light on the personalities and work of Eldering and Kendrick and the interview with Gordon offers a great primary source. The weakness of this collection is the lack of personal information about the two women and the lack of scientific information detailing the actual discovery of the vaccination. Documents related to the research leading up to the discovery and the discovery of the vaccination can be found at Bentley Historical Library at University of Michigan and in the state archives at the Michigan Historical Center.

Administrative Information

Publication Information

Grand Rapids Public Library, Grand Rapids History and Special Collections Department April 9, 2007

Immediate Source of Acquisition note

Series I. Barbara Easley, accession number 1999.051 Series II. Katherine Chase Estate, accession number 2000.099

Related Materials

Related Archival Materials note

Coll. 034, Kent County Health Department Records.

Grace Eldering and Pearl Kendrick (Neg. #2185), 00.[436].1-2

Robinson Studio Collection (125). Herald Series.

Controlled Access Headings

Genre(s)

- oral histories

Geographic Name(s)

- Grand Rapids (Mich.) -- History

Personal Name(s)

- Chase, Katherine, b. 1909
- Eldering, Grace, 1900-1988
- Gordon, Loney Clinton, 1915-1999
- Kendrick, Pearl L, 1890-1980

Subject(s)

- African Americans -- Michigan -- Grand Rapids
- Immunologists -- Michigan
- Immunology -- Research -- Michigan
- Pertussis vaccines -- Research -- Michigan
- Whooping cough -- Research -- Michigan
- Women -- Michigan -- Grand Rapids -- History

Series I. Biographical and Historical Information

Collection Inventory

Series I. Biographical and Historical Information

Scope and Contents note

This series includes a clipping file that has information on Pearl Kendrick and Grace Eldering, including articles from area newspapers, MI Women's Hall of Fame information and the Grand Rapids Press obituary of Eldering.

	Box	Folder
Clipping file	1	1
Oversized biographical	1.5	0.5
Seven Women who Made a Difference pamphlet	1	2
Postcard with images of Pearl Kendrick and Grace Eldering. Prepared by the Michigan Women's Historical Center & Hall of Fame. c. 1993. (2 copies, P2008.013.102, added 3/5/2008)	1	2.5

Series II. Eldering & Kendrick Research Documents & Papers.

Scope and Contents note

Included in this series is a black record book where Pearl Kendrick details observations, plans and comments from 1934 work in the Michigan Department of Community Health of Grand Rapids. Also, there is an extensive collection of scientific studies from academic journals, many by Pearl Kendrick

Collected studies, Kendrick, et al. (1999.051)

and Grace Eldering, bound together in a single book, plus one separate. Some of these studies focus on whooping cough work done by the two women.

	Box	Folder
Black Record book, Pearl Kendrick, Michigan Dept. of Health Laboratory, Grand Rapids, Michigan. 1999.051 1934	1	3

Collected studies, Kendrick, et al. (1999.051) 1925-1937

	Box	Folder
A Comparison of the Schulte-Tigges and Ziehl-Neelsen methods of staining tubercle bacilli / by Ora M. Mills and Pearl L. Kendrick. Reprinted from The American Review of Tuberculosis, v. 10, no. 6 February 1925	1	4
Studies on the Kahn Precipitation Test / by C.C. Young, R.L.Kahn, Pearl L. Kendrick, Harther L. Keim, W.W. Duemling, M.K. Lowe, H.G. Dunham, and Dora Jenks, with statement by R. M. Olin. Lansing : Mich. Dept. of Health. Reprint Series.	1	4
Report on Three Hundred Thousand Kahn Tests / R.L. Kahn, Pearl L. Kendrick and J.L. Landau. Chicago : AMA 1927	1	4
Studies on Antigen for the Kahn Test : uniformity in sensitiveness of standard antigen / R.L. Kahn, Nathan Nagle and Pearl L. Kendrick. Reprinted from the Journal of Infestious Diseases, v. 41, no. 2 August 1927	1	4
The Antigenic Properties of Bacteriophage Lysates of Salmonella Suipestifer; General Introduction and Preliminary study of Cultures and	1	4

Collected studies, Kendrick, et al. (1999.051)

Lytic Filtrates / by Pearl Kendrick. Reprinted from the American Journal of Hygiene, v. 17, no. 2 March 1933		
Rate of Disappearance of Injected Bacteriophage from the Blood stream of Rabbits. V. 17, no. 2 March 1933	1	4
Circulating Antibodies. V. 18, no. 1 July 1933	1	4
Observations on the Antilytic Antibody. V. 18, no. 1 July 1933	1	4
Protection Tests with Rabbits. General Resume. V. 18, no. 2 September 1933	1	4
Cough Plate Examinations for B. Pertussis / Pearl Kendrick and Grace Eldering, Associate Director, and Bacteriologist, Michigan Department of Health, Bureau of Laboratories, Western Michigan Division, Grand Rapids, Mich. Reprinted from American Journal of Public Health, v. 24, no. 4 April 1934	1	4
Whooping Cough : a study of methods for diagnosis and control / Pearl Kendrick and Grace Eldering. Michigan Public Health, v 23, no. 12 December 1935	1	4
Some Practical considerations in B. Pertussis Vaccine Preparation / Grace Eldering and Pearl L. Kendrick. Reprinted from American Journal of Public Health, v. 26, no. 5 May 1936	1	4
Tentative Methods for the Bacteriological Diagnosis and Control of Whooping Cough. Reprinted from Am. Public Health Assoc. Year Book 1935-1936	1	4

Series III. Kendrick related personal papers.

Progress Report on Pertussis Immunization / Pearl Kendrick and Grace Eldering. Reprinted from Am. Jnl. Of Public Health, v. 26, no. 1. January 1936	1	4
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Round Table discussion on Prophylaxis and Treatment of Whooping Cough : 6th Annual meeting of the American Academy of Pediatrics. Reprinted from the Journal of Pediatric. V 9, no. 1. Inscription: Dr. Pearl Kendrick, with the compliments of E.J. Huenekens. July 1936	1	4
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The Opsonocytphagic Test in the Study of Pertussis / Pearl Kendrick, Jean Gibbs and Marian Sprick. Reprinted from the Journal of Infectious Diseases, v. 60 May-June 1937	1	4
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Symposium on Pertussis Immunization, in honor of Dr. Pearl L. Kendrick in her Eightieth Year : historical notes on Pertussis Immunization / Grace Eldering. Reprinted from Health Laboratory Science, v. 8, no. 4. American Public Health Association. October 1971	1	5
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Series III. Kendrick related personal papers.**Scope and Contents note**

Manuscripts make up much of this collection, and ties to Grand Rapids have not been found in at least one of the manuscripts. Also included is a 1897 book on Levering family history and genealogy and brochures from the Grand Lodge of Michigan, Knights of Pythias and the Grand Rapids Boat and Canoe Club.

Box

[book] Levering Family : history and genealogy / by Col. John Levering of Lafayette, Indiana. Indianapolis : Pub. by the Levering Historical Assoc. 1897	1.5
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Manuscripts

	Box	Folder
When Kent was Young : an early history and reminiscences / by Josephene Bender. [Kent Country Club] 1980	1.5	1
Grand Lodge of Michigan, Knights of Pythias. 18th Annual Session, Grand Rapids March 18-19, 1891	1.5	2
Souvenir of the New Club House by the Grand Rapids Boat and Canoe Club. N.d.	1.5	3

Manuscripts

	Box	Folder
Manuscript. A Journal in the World, from Five to Fifty / by Samp Wright Moon. Preface. This is a true story of the author's life from the age of five to fifty years, which extended over the period from 1870 to 1920.	1.5	4
Manuscript. Civic Center. The cabin at Pillsbury Crossing was assuming, in 1858 1859, the importance of a small civic center.	1.5	5
Manuscript. Josiah Hobart Pillsbury, Kansas Pioneer 1854-1879	1.5	6
Manuscript. Tornado. Oakdale Christian School early 1900s	1.5	7

Series IV. Katherine Chase Photo Album**Photos from album**

Photos from album

Scope and Contents note

Photos collected, and perhaps taken by Katherine Chase, who worked at the Grand Rapids laboratories, were originally included in an album and have been removed to acid free folders. A photocopy of the original album, as received, is also included.

The Katherine Chase Photo album includes Grace Eldering and Pearl Kendrick in some photos, ca. 1947-1969. Most of the images are from the Grand Rapids laboratories where Chase worked with various staff. The images are mostly black and white, with some color. The images show staff at work, office parties for holidays and retirements, a Milwaukee boat trip and some photos of the lab building in Grand Rapids. There is one 1948 photograph that has both Dr. Eldering and Dr. Kendrick. The finding aid lists only the page numbers of where the photographs were found in the album and notes the description of the photos only when images of Dr. Eldering or Dr. Kendrick were featured.

	Box	Folder
pgs. 1-2	2	1
pgs. 3-4	2	2
pgs. 5-6	2	3
pgs. 7-8	2	4
pgs. 9-10 includes Farewell to Dr. Eldering, August 26, 1969	2	5
pgs. 11-12, includes photos of Dr. Eldering	2	6
pgs. 13-14	2	7
pgs. 15-16, includes photos of Dr. Wilcox presenting an award to Dr. Eldering, 1969	2	8

Photos from album

pgs. 17-18	2	9
pgs. 19-20	2	10
pgs. 21-22, photos of Department of Health State Division of Laboratories at Grand Rapids	2	11
pgs. 23-24	2	12
pgs. 25-26	2	13
pgs. 27-28	2	14
pgs. 29-30	2	15
pgs. 31-32, 1961 photos, includes photo of Dr. Kendrick	2	16
pgs. 33-34	2	17
pgs. 35-36, 1961 photos, includes photo of Dr. Eldering	2	18
pgs. 37-38	2	19
pgs. 39-40	2	20
pgs. 41-42	2	21

Photos not included in album

pgs. 43-44	2	22
pgs. 45-46	2	23
pgs. 47-48	2	24
pgs. 49-50	2	25
pgs. 51-52, includes 1948 photo that has Dr. Eldering and Dr. Kendrick; 1950s photos, two of Dr. Eldering	2	26
pgs. 53-54	2	27
pgs. 55-57, includes photos of Dr. Kendrick in Mexico and Dr. Kendrick with Buzzie the dog (color)	2	28

Photos not included in album

	Box	Folder
1947 photos, among others	2	29

Copy of entire Chase photo album

Scope and Contents note

This series includes a copy of the entire Chase photo album with captions and names for some of the photographs. The actual images can be found in box 2.

Box Folder

Series V. Ancillary Materials

Usage photocopy of Chase photo album, actual photos found in box 2	4	1
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Series V. Ancillary Materials

Scope and Contents note

This series includes oral histories of Dr. Kenneth Wilcox, an associate of Kendrick and Eldering, and of Loney Clinton Gordon, an assistant for Kendrick and Eldering. The interviews were done by Grand Valley State University professor Carolyn Shapiro Shapin and both the transcripts and tapes are available. Other information on Loney Gordon and a database of images from the Robinson collection are also in this series.

	Box	Folder
Oral History of Dr. Kenneth Wilcox, Assoc. of Kendrick & Eldering / Carolyn Shapiro Shapin. (1999.091)	2	30

		Box
Oral History of Dr. Kenneth Wilcox, Assoc. of Kendrick & Eldering / Carolyn Shapiro Shapin. (1999.091). Tape 2		3

	Box	Folder
Oral History of Mrs. Loney Clinton Gordon, assistant of Kendrick & Eldering / Caroline Shapiro Shapin. (1998.041)	2	31

Scope and Contents note

Also includes copy of State of MI House Resolution 115 honoring Loney Gordon and Lansing State Journal article "Whooping cough cure recalled" July 2, 1997.

		Box
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Series V. Ancillary Materials

3

Oral History of Mrs. Loney Clinton Gordon, assistant of Kendrick & Eldering / Caroline Shapiro Shapin. (1998.041) Tape 2

Box**Folder**

1

6

“A Whole Community Working Together” : Pearl Kendrick, Grace Eldering, and the Grand Rapids Pertussis Trials, 1931-1939 / by Carolyn G. Shapiro-Shapin. In Michigan Historical Review, Vol. 33, no. 1, Spring 2007, pg. 59-85 (2008.026, added 2/15/2008)