

ST0161235

Executive Summary of Mortality Among Female
Employees of a Chemical Company

Gregory G. Bond, PhD, MPH

Elsie A. McLaren, RN

Janice B. Cartmill, RN

Karen T. Wymer, BS

Thomas E. Lipps, MD

Ralph R. Cook, MD, MPH

The Dow Chemical Company

September 8, 1987

Women are becoming an increasingly larger segment of the total workforce, yet there have been few health studies conducted on working women. This investigation compared the mortality experience of 10,839 present and former female employees of The Dow Chemical Company with comparable national, state, and local groups. Employees were observed to have consistently experienced lower mortality from all causes of death combined, and the numbers of deaths from cancer were at or below expected levels.

Included for study were women with three or more days of service between 1940 and 1982 at the Midland or Bay City locations. The group consisted of substantial numbers of production and research personnel, but was predominantly comprised of clerical and office workers (80.5%). Employees were tracked through 1982 to determine whether they were alive or dead, and if dead, the particular cause. The observed numbers of deaths from each of the major disease categories were compared with expected values based on age-, race-, and era- specific mortality rates for female residents of the U.S., State of Michigan, and local seven county East-Central Michigan area. In addition to examining mortality in the total group of employees, analyses were done of various subgroups defined by job category, duration of employment, latency (interval since first employment), age and year of death, and age at and year of

ST0161236

first employment. These additional analyses were done to help distinguish findings which might be indicative of an occupational influence on mortality from those due to random variation.

Nearly 90 % of female employees were successfully tracked and determined to be alive or dead. Although this follow-up rate is somewhat lower than the figure which approaches 100 % in studies of male employees, it compares very favorably to the follow-up achieved in the few studies of female employees reported by others. Historically, many women married and adopted their husband's name after leaving work, thus making the tracking of women more difficult.

Death certificates were obtained to ascertain the cause of death for 94 % of the 467 decedents. By comparison with U.S. females (Table), employees experienced 29 % fewer than expected deaths from all causes combined (467 observed vs 661.2 expected), and 11 % fewer cancer deaths (177 observed vs 199.3 expected). For no cause of death did employees experience a statistically significant higher rate than the general population. These findings held true regardless of which of the three region-specific population groups was used for comparison.

ST0161237

Analyses of various subgroups of employees did not identify any with a different or unusual mortality experience. Hourly female employees did not differ materially from their salaried counterparts with respect to their death rate from all causes, or specific causes including cancer. It is anticipated that the experience of these employees will be updated at some future date; however, this research has not identified any areas of concern that would warrant more in-depth studies of female mortality at this time.

ST0161238

Observed and Expected Deaths Among
Female Chemical Company Employees;
Midland/Bay City Michigan 1940-1982

Cause of Death	Observed	Expected*
All Causes	467	661.2
Cancer	177	199.3
Heart Disease	110	194.3
Accidents	38	41.6
Stroke	28	52.3
Respiratory Diseases	17	29.6
Cirrhosis of the Liver	12	18.1
Suicide	11	17.4
Diabetes	8	15.4
Other	66	93.2

* Expected numbers of deaths based on the experience of U.S. white females adjusted for age, and era.

ST0161239



DOW COMMUNICATIONS ROUTING SHEET

FOR RELEASE OF INFORMATION

In order to safeguard the interests of The Dow Chemical Company and its authors, all talks, papers, publications, articles, news releases, etc., for release outside the company must have proper approval. Technical information must be approved within Research and Development and other material by Dow Communications.

SUBJECT Dow Female Health Study Release

SPECIAL INSTRUCTIONS

PLEASE WALK OR SCOUT TO NEXT NAME ON
ROUTING LIST.

DATE 5/26/87

PREPARED BY Jeff Stevenson 6-5786
(name) (phone)

NEWS RELEASE CONTACT PERSON (This person must be available to handle media calls on release date.)

Jeff Stevenson 6-5786
(name) (phone)

DISTRIBUTION

PUBLICATIONS/TV:

- ☒ DOW TODAY
- ☐ CENTERLINE
- ☒ EMPLOYEE PUBLICATIONS SERVICE (EPS)
- ☐ COMMERCIAL DIALOGUE
- ☒ DOW FRIENDS
- ☐ THE POINT IS...
- ☒ DATELINE
- ☒ OTHER ONSTREAM, Weekly Rpt

WIRES (INTERNAL OR EXTERNAL)

- ☒ DOW GLOBAL NEWSWIRE (Internal Wire)
- ☒ DOW PR NETWORK (Internal Wire)
- ☐ COMMERCIAL MGMT. & DOMs (U.S. only)
- ☒ PRESS RELATIONS NEWSWIRE (External)

EXTERNAL NEWS RELEASES

- ☒ SAGINAW VALLEY
- ☐ MIDWEST BUREAUS
- ☐ TRADE (Attach trade publications list if appropriate)

- ☐ UNIVERSITY ALUMNI ASSOCIATION

- ☐ HOMETOWN PAPER (Include local tie-in, parents' names/address, etc., as appropriate)

OTHER

Michigan Media
Selected National Media

INSTRUCTIONS: Please read attached copy, revise as necessary, sign off, and send to next person on routing list below:

Greg Bond, 1803

Ralph Cook, 1803

Joe Lebeau, 1803

Tom Lipps, 607

John Mier, 47

Pete Lehman, 47

DOW COMMUNICATIONS/NEWS & INFO. SERV. (N&IS)
MIDLAND. Please send an advance information copy to N&IS at the start of the routing process.

Al Wolf, Vicky Suazo

OTHER COMMUNICATIONS/PR CONTACTS

Sue Dupree, Vince Smart

LEGAL Jane Gootee

TRADEMARK

PATENT

APPROVED BY
Initial and Date

CJB 5/27/87

JST 5/27/87

TL 5-26-87

Yuan 5/28/87

JKL 6/1/87

STO161240

RETURN TO: Jeff Stevenson, 47 BY ASAP
(Call 6-5786 for pickup) DATE

AUTHOR'S FINAL APPROVAL DATE

RELEASE DATE: June 8, 1987 TIME: