

Monsanto

FROM Springfield, Mass.

cc:

DATE October 27, 1977

SUBJECT

REFERENCE

TO FILE:

PERSONAL & CONFIDENTIAL

This memo is to briefly document discussions which took place on October 25, 1977, between Dr. Ferdinand Meyer and Judy Killeen representing the Department of Medicine and Environmental Health (DMEH) Bob Cummings, Acting Plant Manager, Paul Bureau, Dr. Nessell, Mike Starr, Angie Garrison, Bill Patton and Archie Torrenzano. Dr. Meyer is on a special project with DMEH while Judy Killeen is a recent college graduate at Monsanto - our only epidemiologist at the present time. The purpose of their visit was:

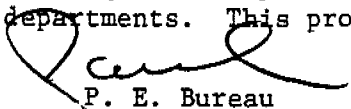
- To inform concerned top plant management personnel on the details of Monsanto's study with regard to incidence of cancer among former Monsanto-Springfield employees (See attached).
- To request that we identify certain occupation and department codes with specific names and building numbers.
- To establish the major raw materials used and produced in those departments during the period of time when specific concerned employees worked in those department.

Note: Concerned employees under further study are those which had died of either gastrointestinal or genital cancer. These categories were selected for further investigation because Monsanto's study showed they represented a marginally higher level of cancer - but not statistically significant to indicate a problem.

In the morning, Dr. Meyer and Judy Killeen met with Bob Cummings, Paul Bureau and Dr. Nessell to explain the basis for Monsanto's statistical study. Briefly, their study shows that when compared with Hampden County which has a higher incidence of cancer than the national average, the incidence of cancer death of those employees studied showed no statistically significant higher level of cancer. When compared with the national average, which has a lower level of cancer than Hampden County, our sample did show a statistically significant increase in two categories of cancer death.

In the afternoon, the St. Louis visitors met with Mike Starr, Bill Patton, Angie Garrison and Paul Bureau to pursue sources of information which would yield data on departmental codes, etc. and to understand the approach we used to gather information for Monsanto's study. A tour of our records section, and an explanation of the approach satisfied their needs. Archie Torrenzano met with our visitors to understand the degree of detail they would require re: materials used and produced in those departments where approximately 60 former employees under study worked.

Presently, we need to provide Judy Killeen with requested department code names and major materials used in those concerned departments. This project is under-way.


P. E. Bureau

PEB/SBN--Att.

RSV0027174

Springfield Proportionate Mortality Study: 1/1/50 - 4/22/76

Cause of Death with ICD Number (7th Revision)	Observed	Expected**
Tuberculosis (001-019) → <i>Significantly low</i>	0	3.702
Malignant Neoplasms (140-205)	118	116.720
Buccal Cavity and Pharynx (140-148)	3	4.437
Digestive Organs and Peritoneum (150-156A, 157-159)	46	39.199
Biliary Passages and Liver (155)	3	1.520
Pancreas (157)	6	6.876
Respiratory System (160-164)	24	33.356
Genital Organs (171-179) ← <i>not significant</i> →	14	8.769
Prostate (177)	12	8.175
All Other and Unspecified Genital Organs (178-179)	2	.453
Urinary Organs (180-181)	7	6.672
Other and Unspecified Sites (156B, 165, 170, 190-199)	15	11.874
Leukemia and Aleukemia (204)	2	4.092
Lymphosarcoma, Lymphatic and Hematopoeitic Tissues (200-203, 205)	7	6.692
Diabetes Mellitus (260)	9	8.002
Major Cardiovascular Diseases (330-334, 400-468)	318	307.416
Cerebrovascular Diseases (330-334)	41	44.090
Rheumatic Fever and Chronic Rheumatic Heart Disease (400-402, 410-416)	5	5.583
Ischemic Heart Diseases (420) — <i>sig 141</i> →	237	203.215*
Nonrheumatic Endocarditis (421, 422)	6	11.066
All Other Forms of Heart Disease (430-434)	6	10.387
Hypertensive Heart Disease (440-443)	5	10.979
Hypertension (444-447)	3	2.248
Arteriosclerosis (450)	8	5.963
Other Disease of Arteries, Arterioles, and Capillaries (451-468)	7	8.232
Influenza and Pneumonia (480-493)	14	12.997
Peptic Ulcer (540-541)	2	4.546
Appendicitis (550-553)	2	.580
Hernia and Intestinal Obstruction (560, 561, 570)	2	1.940
Enteritis and Other Diarrheal Diseases (543, 571, 572)	3	1.096
Cirrhosis of Liver (581)	9	13.148
Nephritis and Nephrosis (590-594)	5	3.667
Hyperplasia of Prostate (610)	1	1.387
Symptoms and Ill-Defined Conditions (780-795)	2	6.166
All Other Diseases (Residual)	45	--
Motor Vehicle Accidents (E810-E835)	10	16.133
All Other Accidents (E800-E802, E840-E962)	16	18.554
Suicide (E963, E970-E979)	8	11.682
Homocide (E964, E980-E985)	0	3.064

* $p < .05$ Chi-Square = 3.842)

(Significant)

** calculated using statistics from 1955, 1960, 1973 for U.S. white males. Expected numbers for cancer deaths adjusted for Hamden County Mass. rates.

RSV0027175

Age at Death	observed Springfield, No. of Deaths, All Causes 1950-1959		I.C.D. Code(s): 150-156A, 157-159 Expected U.S. Rate % of U.S. Deaths (W ^o) Due to Specific Cause - 1955		Expected # of Deaths Due to Specific Cause 1955	
20-29	4	X	.0090	=	.036	
30-39	8		.0254		.203	
40-49	10		.0447		.447	
50-59	38		.0630		2.394	
60-69	47		.0758		3.563	
70-79	27		.0687		1.855	
≥ 80	5		.0451		.226	
	Σ = 139				Σ = 8.724	Obs = 1
	1960 - 1969		I.C.D. Code(s): 150-156A, (1965) 157-159		1960 - 1969	
20-29	1		.0064		.006	
30-39	9		.0253		.228	
40-49	33		.0413		1.363	
50-59	52		.0569		2.959	
60-69	73		.0650		4.745	
70-79	62		.0605		3.751	
≥ 80	5		.0411		.206	
	Σ = 235				Σ = 13.258	Obs = 1
	1970 - 4/22/76		I.C.D. Code(s) 150-159 (1973)		1970 - 4/22/76	
20-29	0		.0043		.000	
30-39	4		.0207		.083	
40-49	22		.0400		.880	
50-59	38		.0567		2.155	
60-69	54		.0624		3.370	
70-79	44		.0571		2.512	
≥ 80	28		.0410		1.148	
	Σ = 190				Σ = 10.148	Obs = 17

Total Number of Deaths, White Males,
All Causes, Springfield,
1950 - 4/22/76 = 564

RSV0027176

Overall

Marginal high but not statistically significant.
(3.842) ✓

39.199 ← Adj. 1.22
Obs = 46
Exp = 32.130
 $\chi^2 = 1.180$

Marginal (C₁, F₁) not

I.C.D. Code(s): 150-156A, 157-159

150-156A, 157-159

Age at Death	Springfield, No. of Deaths, All Causes 1950-1959	% of U.S. Deaths (W ^o) Due to Specific Cause - 1955	Expected # of Deaths Due to Specific Cause 1955
20-29	4	.0090	.036
30-39	8	.0254	.203
40-49	(10) X	(.0447) <i>4% of all deaths to males due to heart disease</i>	= .447 <i>Expected deaths</i>
50-59	38	.0630	2.394
60-69	47	.0758	3.563
70-79	27 <i>acc death</i>	.0687	1.855
≥ 80	5 <i>for white</i>	.0451	.226
	Σ = 139 <i>male</i>		Σ = 8.724 <i>Obs = 12</i>

	1960 - 1969	I.C.D. Code(s): 150-156A, (1965) 157-159	1960 - 1969
20-29	1	.0064	.006
30-39	9	.0253	.228
40-49	33	.0413	1.363
50-59	52	.0569	2.959 X
60-69	73	.0650	4.745
70-79	62	.0605	3.751
≥ 80	5	.0411	.206
	Σ = 235		Σ = 13.258 <i>Obs = 1</i>

	1970 - 4/22/76	I.C.D. Code(s) 150-159 (1973)	1970 - 4/22/76
20-29	0	.0043	.000
30-39	4	.0207	.083
40-49	22	.0400	.880
50-59	38	.0567	2.155 +
60-69	54	.0624	3.370
70-79	44	.0571	2.512
≥ 80	28	.0410	1.148
	Σ = 190		Σ = 10.148 <i>Obs = 17</i>

Total Number of Deaths, White Males, (Summation)

All Causes, Springfield

1950 - 4/22/76 = 564

RSV0027177

Overall

Dempster County

39.199

Adj.

Exp = (1.22)

Obs = 46

Exp = (32.130)

χ² = 1.180