New File: "COT" Deaths - England

AN-4107

The Vinyl Institute
A Division of The Society of The Plastics Industry, Inc

Roy T. Gottesman
Executive Director

April 30, 1990

News Paper

TO: H. Patrick Toner

RE: Information on "COT" Death Controversy in England"

This is in follow-up to our telephone conversation of April 17th. As I indicated I would do, I telefaxed Harold Clayton, my contact at Hydro Polymers Limited in England and asked that he collect all information available on this subject. Further, I requested that copies of this information be given to me at the PVC '90 Conference in B[illegible]hton, England, which I attended last week.

Enclosed with this letter is a copy of all information that I have received which will provide you with the background on this subject. Further, I am advised that there has been no technical report by Barry Richardson and that the paper included in the attachments which is a fax copy obtained by Hydro Polymers in June 1989, was rejected for publication by a British medical journal. At that time, a governmental inquiry was supposed to have gotten started, but Mr. Richardson raised the issue again in February with a member of Parliament, and it was picked up also by a British newspaper at that time.

In the addition to the information in the attachments, a meeting was held at the British Plastics Federation on April 23rd at which time I am advised it was agreed to attempt to provide answers to the questions that have been raised by the Chief Medical Officer, Sir Donald Acheson. Industry has agreed to attempt to provide answers to the questions given in Philip Law's letter of April 4th, although, according to Dr. Malcolm Biggs of Hydro Polymers who attended this meeting, they are not certain that they have all of this information.

Nevertheless, they have agreed that a committee of 5 people including Philip Law of the British Plastics Federation, Dr. Brian Bennett of ICI, Mr. Tom Hyde of Ciba-Geigy, a representative of the British Rubber Association and a representative of the PVC Film Producers Association will meet with the Department of Health on May 3rd. The intent is to provide sufficient input so that a

committee that has been established by the Chief Medical Officer to be headed by Professor Paul Turner can evaluate all of the available information and determine whether there is any validity to the Richardson hypothesis.

Finally, I call your attention to the information statement published by the Foundation For The Study of Infant Deaths, which indicates that the SIDS rate has remained relatively constant and infant mortality has continued to fall since the use of plasticized PVC.

Harold Clayton or Malcolm Biggs will keep me advised of developments as they emerge on this, and I will see that any information I receive is passed onto you and Bonnie Limbach.

If you have any questions on this, please call.

RTG/pmb
cc: B. Limbach

~~HWD~~
~~AKH~~

LOUISIANA CHEMICAL ASSOCIATION

DAN S. BORNÉ
PRESIDENT

AN-4112

June 1, 1990

MEMORANDUM

TO: SCIENTIFIC ADVISORY COUNCIL

FROM: Edward J. Flynn
Health Affairs Coordinator

SUBJECT: Cancer in Louisiana articles

The April 1990 issue of the Journal of LA State Medical Society published these three articles on cancer in Louisiana. I am sending them to you FYI.

EJF:bg

Enclosures (3)

cc: M. Currier
B. Withers
W. Hulon

20855001

BFG07482

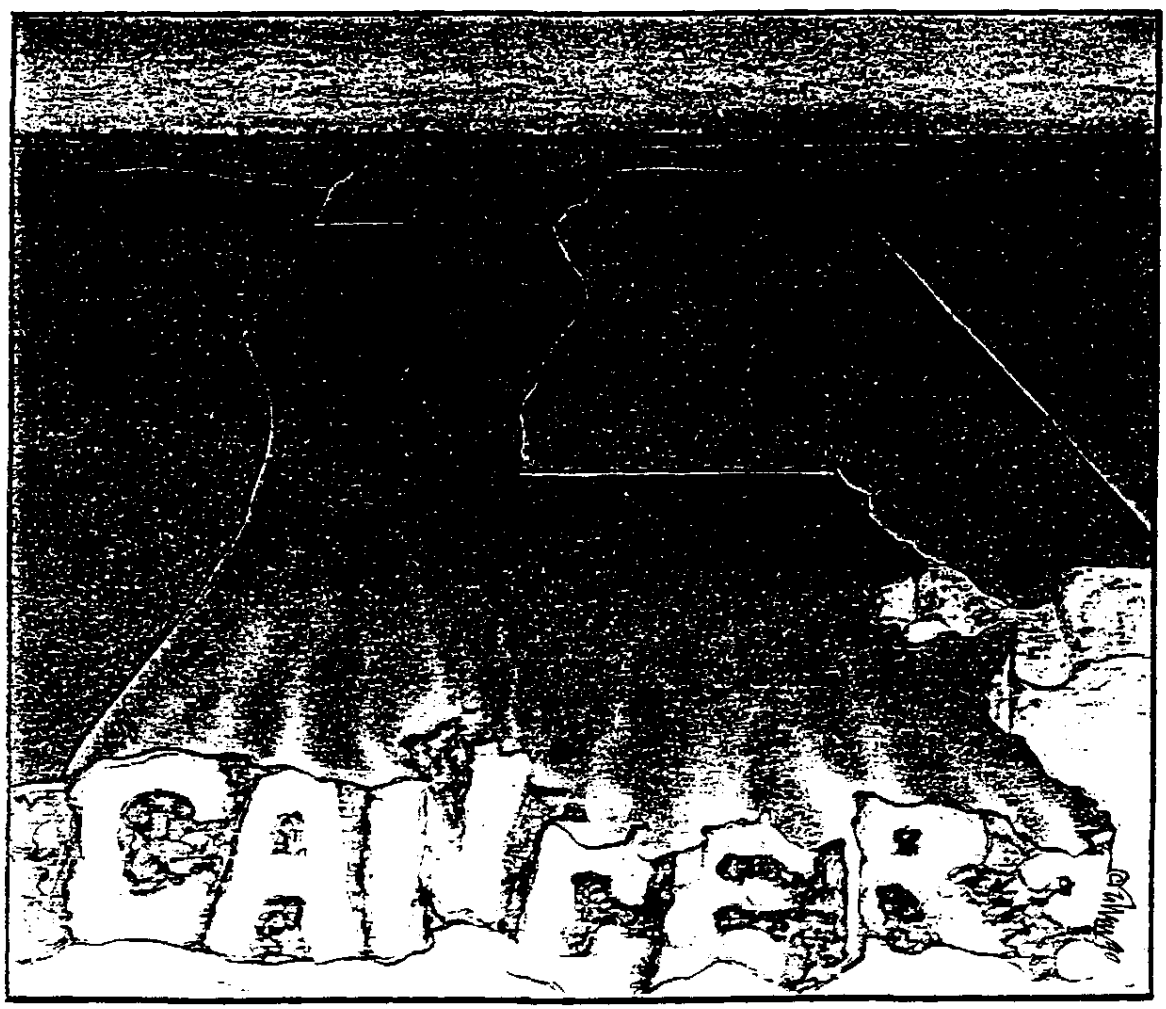
SUITE 2040, ONE AMERICAN PLACE P.O. BOX 1188 BATON ROUGE, LOUISIANA 70821 (504) 344-2609

SPECIAL ISSUE

JOURNAL

OF THE LOUISIANA STATE MEDICAL SOCIETY April 1990

Cancer in Louisiana



INCLUDING: PEDIATRIC CANCER IN NEW ORLEANS

CANCER MORTALITY IN THE 30s FORETELLS CANCER OF THE 80s IN LOUISIANA

CANCER MORTALITY IN THE 30s FORETELLS CANCER OF THE 80s IN LOUISIANA

JEAN FIKE CRAIG, MSHyg; VIVIEN W. CHEN, PhD; ELIZABETH T.H. FONTHAM, DrPH; THOMAS BALLINGER, MA; PELAYO CORREA, MD

Examination of secular trends suggests that the high cancer mortality rates of the 1980s could have been foretold by the excessive rates in the 1930s in Louisiana. Those same sites which were excessive in the 1930s, reflecting exposure to risk factors in the early 1900s, still predominate in the 1980s. Because of the poor survival associated with lung cancer and the increase in smoking, the increase in lung cancer had the greatest impact on the mortality trend in the all sites combined category. The stability of the cancer problem and the lack of progress in reducing cancer over the last 50 years is seen as a harbinger of the cancer problem over the next 50 years.

THE CURRENT high cancer rates in Louisiana are not unprecedented. They have been documented since the 1930s.[1] This fact is especially noteworthy since cancer has a latency period of decades suggesting exposure to relevant risk factors in the early 1900s.

In 1930-1932 all sex-race groups in Louisiana showed excessive cancer mortality rates for the oral cavity and bladder when compared to the United States. Males had excessive rates for cancers of the lung and pancreas while higher stomach cancer rates were noted in blacks (Table 1). Fifty years later, excess in those same cancers predominates in Louisiana. Furthermore, the rapid and vast increase in lung cancer, which has very poor survival, has resulted in a higher rate than the national average in the all sites combined category (Table 2).

CANCERS OF THE RESPIRATORY TRACT

Currently whites still experience excessive mortality rates for cancer of the lung and the oral cavity when compared to those of the United States. Cancers of the respiratory system cause the greatest loss of life

TABLE 1

AVERAGE ANNUAL AGE-ADJUSTED (US 1930) MORTALITY RATES FOR SELECTED SITES, BY SITES, BY SEX AND RACE IN UNITED STATES AND LOUISIANA, 1930-1932

		WM	*WF*	*BM*	*BF*
All Sites	US	89.8	110.6	52.4	101.0
	La	88.8	99.0	63.0	108.2
Buccal cavity and Pharynx	US	6.3	1.4	2.9	1.8
	La	9.7	1.7	4.2	2.7
Stomach/Duodenum	US	24.9	17.9	17.6	15.4
	La	21.7	16.0	21.2	17.1
Intestine	US	8.7	11.4	3.4	4.1
	La	4.9	7.3	3.1	2.9
Rectum and Anus	US	5.0	4.3	2.4	3.8
	La	3.2	4.6	2.9	5.0
Pancreas	US	2.9	2.5	1.6	1.0
	La	3.7	1.5	2.5	0.3
Larynx	US	1.5	0.2	0.5	0.1
	La	2.6	—	0.6	0.1
Lung and Pleura	US	3.2	1.8	1.4	0.8
	La	4.0	1.6	1.9	0.6
Breast	US	—	19.4	—	14.9
	La	—	14.7	—	15.4
Uterus (Corpus and Cervix)	US	—	23.1	—	41.6
	La	—	24.9	—	46.9
Prostate	US	8.4	—	5.7	—
	La	6.7	—	8.1	—
Bladder	US	4.3	2.1	2.3	1.5
	La	5.1	2.8	2.5	2.1
Kidney	US	1.6	1.3	0.8	0.7
	La	1.3	1.7	1.1	0.6
Brain	US	0.9	0.7	0.3	0.2
	La	0.4	0.3	0.2	0.2

US — Excludes the state of Texas

Source: Cancer Mortality in the United States, 1930-32. By M. Gover, 1940. Tables 2, 3; B and C.

Rates in Tables 1 & 2 are age-adjusted to different standard populations (US 1930 & US 1970). Therefore the two tables cannot directly compared to each other.

in Louisiana.[2] In 1987, cancer of the respiratory system was the cause of death for 2,512 people in Louisiana. All urban areas in Louisiana except Monroe have respiratory cancer mortality rates above the US average (Fig 1), in contrast to colorectal cancer which exceeds the US rate in only one metropolitan area (Fig 2) even though colorectal cancer is the second leading cause of cancer death in Louisiana. Rates for respiratory cancer in New Orleans are more than 30% higher than the US rate while the Lake Charles rate is more than 25% higher.

The magnitude of excess in lung cancer and its relationship with other cancers can be graphically seen in Fig 3. It has been estimated that lung cancer accounts for 85% of the excess of cancer in Louisiana when compared to the United States.[3] Since the 1950s

TABLE 2

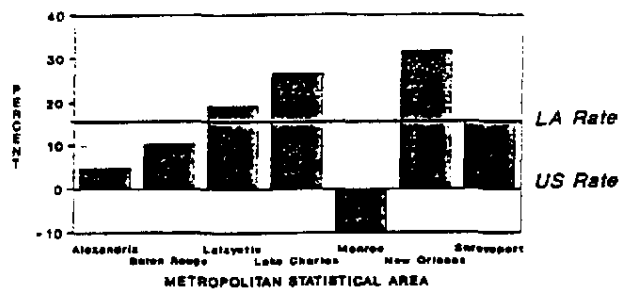
AVERAGE ANNUAL AGE-ADJUSTED (US 1970) MORTALITY RATES FOR SELECTED SITES, BY SEX AND RACE IN UNITED STATES AND LOUISIANA, 1978-1981

		WM	WF	BM	BF
All Sites	US	209.5	132.7	286.7	152.9
	La	227.2	126.8	274.5	153.8
Oral cavity and Pharynx	US	5.2	1.9	10.0	2.4
	La	6.4	2.0	8.8	2.2
Stomach	US	7.7	3.6	14.8	6.6
	La	6.5	3.4	17.8	7.9
Colon	US	21.1	16.0	20.6	17.6
	La	19.1	14.3	15.4	15.7
Rectum	US	4.7	2.7	4.5	2.8
	La	3.9	2.0	3.9	2.5
Pancreas	Us	10.5	6.8	13.5	9.2
	La	11.4	7.3	13.8	8.2
Larynx	US	2.6	0.4	4.9	0.7
	La	2.6	0.3	4.5	0.8
Lung	US	69.3	20.2	91.4	20.1
	La	83.1	22.1	88.4	20.1
Breast	US	—	26.6	—	26.3
	La	—	22.1	—	24.9
Cervix Uteri	US	—	3.2	—	8.8
	La	—	3.1	—	8.6
Corpus Uteri	US	—	2.0	—	2.9
	La	—	1.3	—	2.6
Prostate	US	21.0	—	43.9	—
	La	21.1	—	36.0	—
Bladder	US	6.9	1.9	5.4	2.6
	La	6.4	2.1	5.6	2.7
Kidney	US	4.6	2.0	3.8	1.7
	La	5.1	2.3	2.9	2.4
Brain	US	5.0	3.4	2.9	1.9
	La	4.0	3.2	2.6	1.9
Leukemias	US	9.0	5.2	7.4	4.6
	La	9.6	5.8	8.4	5.3

Rates in Tables 1 & 2 are age-adjusted to different standard populations (US 1930 & US 1970). Therefore the two tables cannot be directly compared to each other.

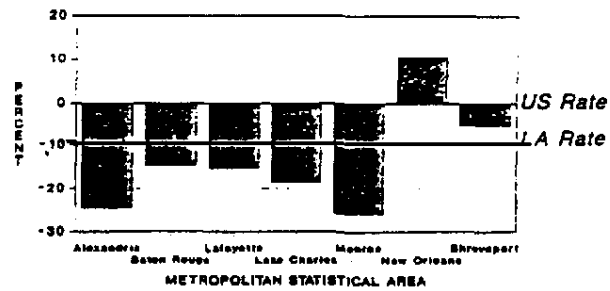
Louisiana has had the highest lung cancer death rate for white males in the whole nation.[4]

Alton Ochsner, MD, was one of the first to notice the link between smoking and lung cancer. Further studies have estimated that 85% to 90% of lung cancer deaths are caused by smoking. Correa et al[5] have documented that a greater proportion of residents of southern Louisiana begin smoking at an earlier age, smoke nonfiltered cigarettes, and smoke more per day than north Louisiana residents. This difference between north and south Louisiana can be seen in other lifestyle habits and may be reflected in the north-south gradient in cancer mortality which is seen in Louisiana.[6]



Adjusted to US 1940 age distribution

Fig 1. Difference Between US & LA 1980-1984 Average Age Adjusted Death Rates Respiratory Cancers



Adjusted to US 1940 Age Distribution

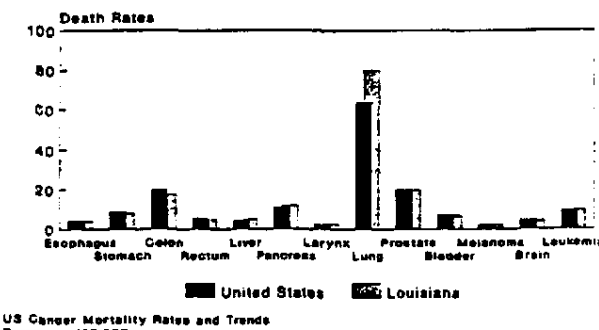
Fig 2. Difference Between US & LA 1980-1984 Average Age Adjusted Death Rates Colorectal Cancers

Deaths attributed to cancer in Louisiana climbed from 850 in 1918 to 8,405 in 1988. While this absolute increase is primarily due to increases in population, it also reflects a trend of increasing rates, particularly in those cancers related to tobacco. Smoking became more common in women in the 1940s, and lung cancer death rates for women began rising in 1964 after the latency period.

Historically females in Louisiana, particularly white females, have enjoyed lower risks of cancer than males and also lower rates than females in other parts of the US. Figs 4 and 5 depict female cancer mortality rates by metropolitan statistical area in the state. Only Shreveport, and to a lesser degree New Orleans, have rates above the US average for white females, while only New Orleans and Alexandria have rates above the US average for black females. In Louisiana, deaths from lung cancer in women have continued to rise since 1964, and in 1980 lung cancer killed more white women than breast cancer, the former leading cause of cancer death.[7]

PANCREATIC CANCER

Cancer of the pancreas is still a relatively rare cancer although the mortality rate is growing. Continuing the trend from the 1930s, all sex-race groups except black females have higher pancreas cancer mortality rates than the US average. More than half of all Louisiana parishes rank in the top 20 percent of US counties/parishes with the highest death rates for pancreatic cancer among the whites.[4] Fig 6 clearly shows a cluster of pancreatic cancer deaths in the Acadiana area of the state in the 1980s. This same area exhibited high rates in the 1950s and 1960s. An excess risk has been established among cigarette smokers although it is lower than the risks associated with respiratory cancers.[5]

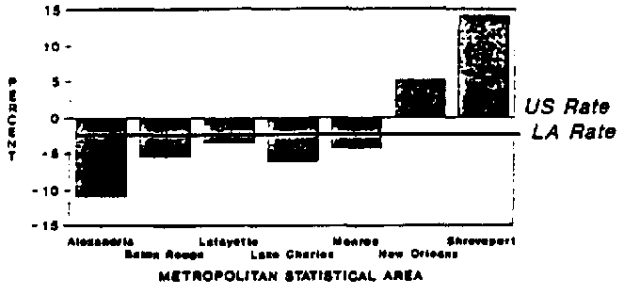


Age-adjusted rates per 100,000 US Cancer Mortality Rates and *Trends*

Fig 3. Cancer Death Rates, 1970 to 1979 US and Louisiana White Males

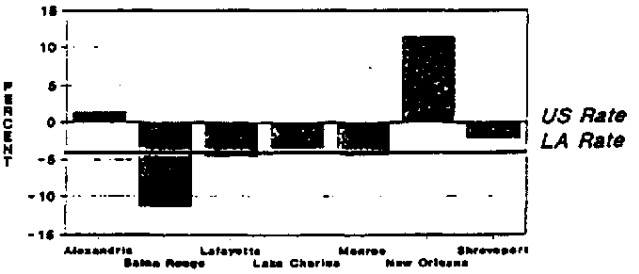
STOMACH CANCER

While mortality from stomach cancer has declined since the 1930s, it continues to be a major cancer prob-



Adjusted to US 1940 Age Distribution

Fig 4. Difference Between US & LA 1980-1984 Average Age Adjusted Death Rates White Females All Cancers



Adjusted to US 1940 Age Distribution

Fig 5. Difference Between US & LA 1980-1984 Average Age Adjusted Death Rates Non White Females All Cancers

lem for blacks, especially males, in Louisiana. As with pancreatic cancer, a cluster of high stomach cancer rates can be seen in the Acadiana area. It is postulated that the excessive gastric cancer rate may have resulted from the interaction of the black and Cajun cultures. Although the most established risk factor is diet, stomach cancer in blacks has also been associated with tobacco.[9]

BLADDER CANCER

While the threat of bladder cancer has been reduced

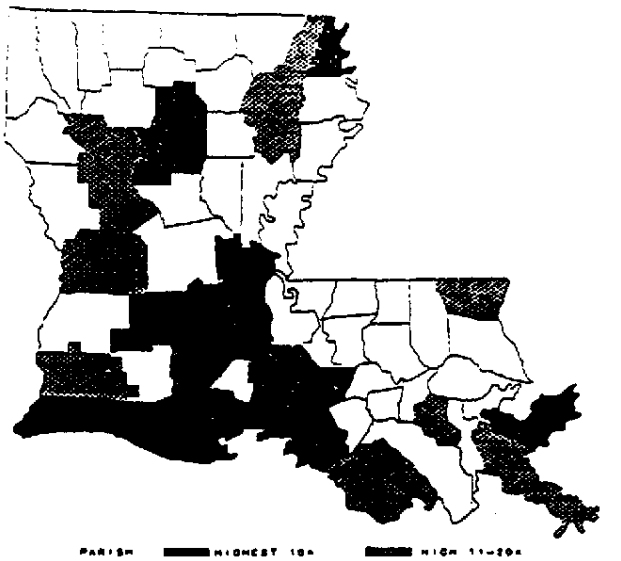


Fig 6. LA Ranked Pancreatic Cancer AADR — White Males — 1970-1979

statewide, excessive rates remain in the New Orleans area for all sex-race groups. The rest of the state has rates which are comparable with national rates.

LEUKEMIA

Excesses in two cancers which were not previously observed in the 1930s have now emerged, leukemia and kidney cancer. All sex-race groups now have excessive leukemia mortality. It is difficult to adequately assess the leukemia mortality problem in Louisiana as all types of leukemias are grouped together in national mortality reports even though the risks, treatment, and survival for specific types are vastly different. It is also important to note that excessive mortality does not necessarily reflect excessive incidence. Survival is influenced by such factors as recognition of symptoms, stage of disease at diagnosis, access to diagnosis and treatment, patient compliance, and others. The nature of the leukemia problem in southern Louisiana will be more adequately assessed after incidence rates for the various subtypes of leukemia (as well as all other cancers in southern Louisiana) become available in the spring of 1990 from the Louisiana Tumor Registry.

KIDNEY CANCER

Excessive mortality from kidney cancer is now seen in all sex-race groups except black males. Smoking is associated with kidney cancer as are obesity in women and occupational exposure to substances such as asbestos. Cancer of the renal pelvis has been associated with the long-term use of pain relievers containing phenacetin.[8]

CONCLUSION

Louisiana has very stable patterns in cancer mortality. Those cancers which are responsible for premature mortality in the 1980s were responsible for Louisiana's high cancer rates in the 1930s. More importantly, without intervention, the same cancers will probably continue to be a serious public health problem in 2030.

While we are fortunate in having low rates for some cancer sites, our respiratory cancer rate is a serious burden. It has been well documented that the excess cancer in Louisiana is due in large part to exposure to tobacco.

Innovative methods must be implemented to reduce the number of citizens who are at risk for respiratory cancer. Both prevention efforts for our youth and cessation programs for current smokers are needed if we are to change the cancer mortality trend by 2010. We applaud the Louisiana State Medical Society and parish medical societies for their public health education efforts and programs to control smoking. Our efforts must be expanded. ■

REFERENCES

1. Correa P, Chen VW, Craig JF, et al. *Cancer in Louisiana*. Baton Rouge, La: Louisiana Division of Administration, 1984.
2. Correa P, Chen VW, Craig JF, et al. *Cancer in Louisiana, Vol 2*. Baton Rouge, La: Louisiana Division of Administration, 1985.
3. Correa P, Fontham E, Chen V, et al. Diet, nutrition, and cancer. *J La State Med Soc*, 1988;1404:43–49.
4. *US Cancer Mortality Rates and Trends, 1950-1979*. Riggan WB, Mason TJ, Van Bruggan J, et al (eds). Washington, DC: National Cancer Institute, Environmental Protection Agency, 1983.
5. Correa P, Johnson WD. Cancer and lifestyle in Louisiana. *J La State Med Soc*, 1983;135(3):4–6.
6. Correa P, Chen VW, Craig JF, et al. *Cancer in Louisiana, Vol 4*. Baton Rouge, La: Louisiana Division of Administration, 1987.
7. Chen VW, Correa P, Zavala D. Lung Cancer: Leading cause of cancer deaths in Louisiana white females. *JNCI*, 1984;72:1-2.
8. Page HS, Asire AJ. *Cancer Rates and Risks*. NIH Publication No 85-691, 1985.
9. Fontham ETH, Correa P, Chen V, et al. Tobacco and Cancer. *J La State Med Soc*, 1988;1404:29-39.

Drs Chen, Correa, and Ms Craig are from the Louisiana Tumor Registry, Office of Public Health at the Dept of Health and Hospitals.

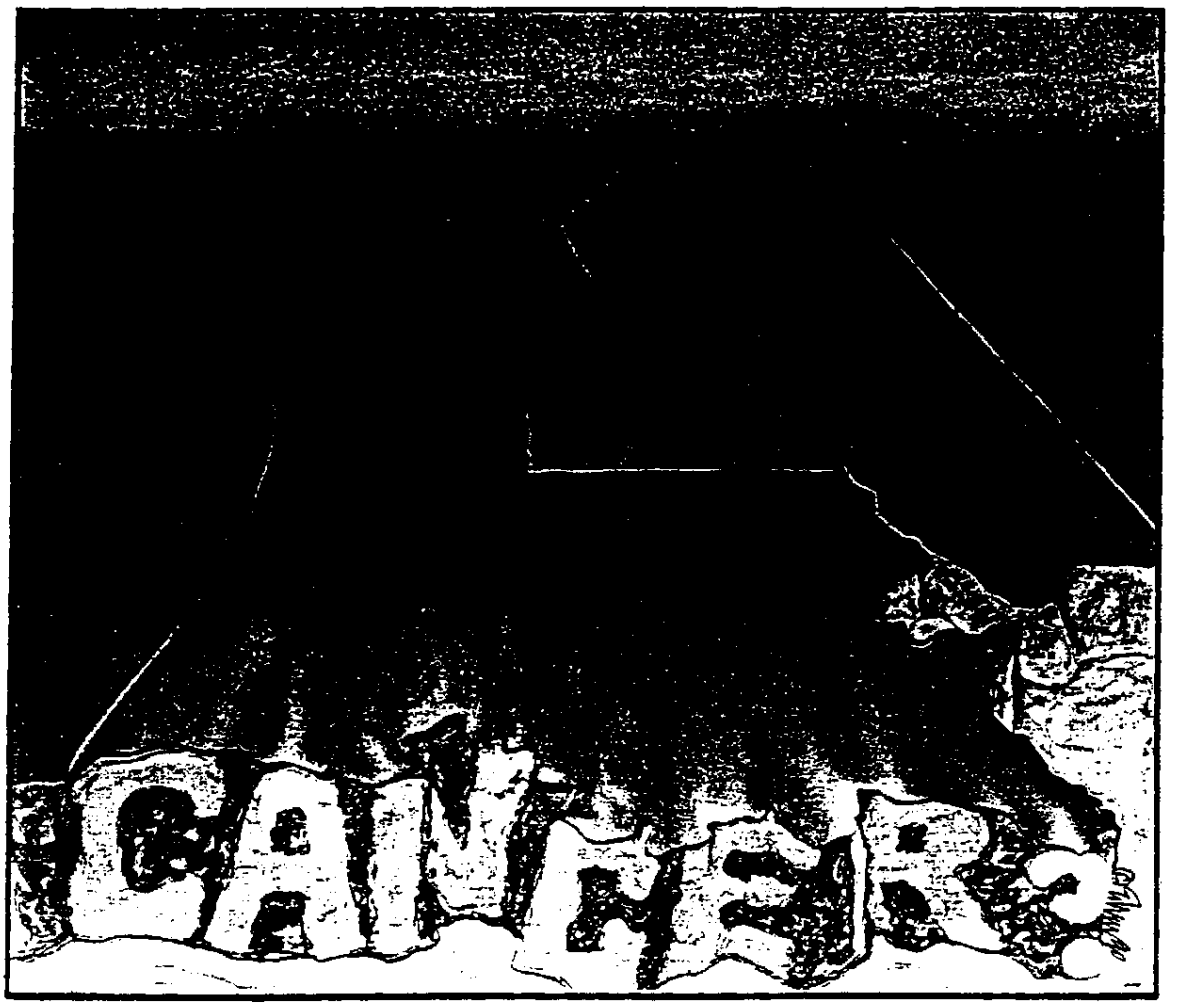
Drs Fontham, Chen and Correa are also from the Dept of Pathology at Louisiana State University Medical Center in New Orleans.

Mr Ballinger is from the office of Public Health Statistics, Office of Public Health at the Dept of Health and Hospitals.

Reprint requests should be sent to Jean F. Craig, Louisiana Tumor Registry, Room 305, PO Box 60630, New Orleans, LA 70160.

EXCESSIVE CANCER RATES AMONG BLACKS IN LOUISIANA: *AN OPPORTUNITY FOR PHYSICIAN INTERVENTION*

VIVIEN W. CHEN, PhD; JEAN FIKE CRAIG, MSHyg;
ELIZABETH T.H. FONTHAM, DrPH; PELAYO CORREA, MD



Excessive cancer rates among blacks in Louisiana are well-documented. Both male and female blacks have higher overall cancer incidence and mortality rates than their white counterparts. Cancers that are excessive in males include lung, esophagus, larynx, stomach, pancreas, liver, multiple myeloma, and prostate. In black females, higher rates are observed for cancers of the esophagus, stomach, pancreas, liver, multiple myeloma, cervix, and breast (mortality only). The excess of lung cancer among black men is not observed in women. These cancer sites share similar risk factors and are associated mostly with tobacco or diet. Physicians in Louisiana can play an important role in cancer intervention by informing their black patients about the magnitude of the cancer problem in blacks, increased cancer risk associated with tobacco and excessive alcohol use, importance of a balanced nutritious diet, cancer signs and symptoms, and the importance of early detection.

BLACKS in the United States are known to have a higher overall mortality and to lag behind their white counterparts in life expectancy.[1] A sharper increase in cancer mortality among blacks in the 1950s and early 1960s has placed blacks ahead of whites in deaths from all malignant neoplasms.[2] Currently, blacks have the highest overall age-adjusted cancer rates for both incidence and mortality in any US ethnic group.[3]

Louisiana has a high proportion of blacks in the population, approximately 30% compared to 12% nationwide.[4] Blacks have higher cancer rates than whites, particularly black males. In Louisiana, cancer mortality in black males varies greatly by geographic area, with a gradient of increase from north to south as demonstrated in the map (Fig 1).[5] Comparisons of age-adjusted mortality rates for all cancers by Metropolitan Statistical Area (MSA), along with rates for the state of Louisiana and the United States, 1980 to 1984, are presented in Figs 2 and 3. For nonwhite (over 90% black) males, cancer mortality rates are lower in north and central Louisiana (ie, MSAs of Monroe, Shreveport, Alexandria, and Baton Rouge) than the state and national rates. This is in contrast to south Louisiana, as represented by metropolitan New Orleans and Lake Charles, which has higher rates than both the state and national averages. For nonwhite women, only New Orleans blacks have higher cancer death rates.

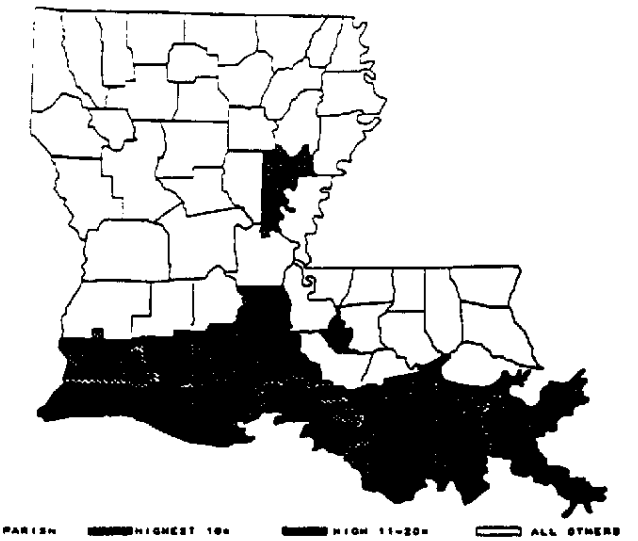


Fig 1. LA Ranked Cancer AADR—All Sites—Non-White Males—1970-1979

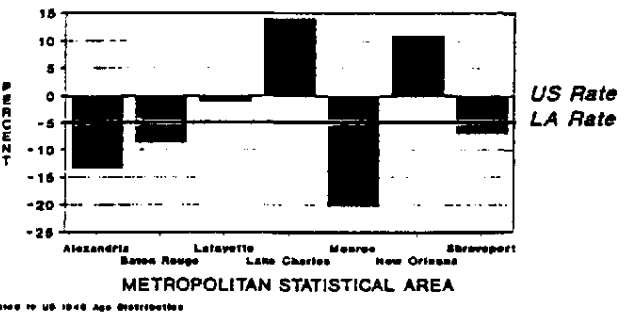


Fig 2. Difference Between US & LA 1980-1984 Average Age Adjusted Death Rates Nonwhite Males—All Cancers.

Since the excessive cancer mortality is primarily in New Orleans and sufficient cancer incidence data are currently available only for New Orleans, this paper will focus on excessive cancer among New Orleans blacks. The cancer profile of New Orleans blacks is compared to New Orleans whites, the blacks in the

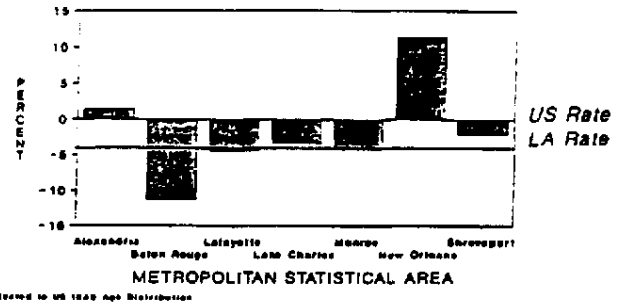


Fig 3. Difference Between US & LA 1980-1984 Average Age Adjusted Death Rates Non-White Females All Cancers.

SEER (Surveillance, Epidemiology and End Results) program of the National Cancer Institute (NCI), blacks in Louisiana and the nation as a whole. It is our hope that a better understanding of the cancer profile in Louisiana will provide a basis for our practicing physicians to plan for cancer prevention and cancer control. Accordingly, for those cancer sites which have excess incidence, the risk factors are presented since they are pertinent for prevention. For those sites in which the excess rates are restricted to mortality (implying poorer survival), screening and early detection are emphasized.

EXCESSIVE CANCER RATES IN BLACK MALES

Table 1 presents cancer sites which are excessive in incidence and/or mortality rates among New Orleans black males as compared to their white counterparts and blacks elsewhere.

Lung cancer. Lung cancer is the most common cancer among New Orleans black males. It alone accounts for more than a quarter (27.5%) of all newly diagnosed cases of cancer and about 30% of all cancer deaths.[6, 7] The New Orleans black males not only have lung cancer rates (both incidence and mortality) which exceed those of New Orleans white males, but also those of black males in other parts of the United States. They have a higher lung cancer incidence rate than any one registry in the SEER program. In fact, data from Cancer Incidence in Five Continents Volume V show that New Orleans blacks have the highest rate reported worldwide for 1978 to 1982.[8]

Cigarette smoking has been well-documented to be the predominant cause of lung cancer, overshadowing all other risk factors. Correa et al suggested as much as 90% of all lung cancer cases in south Louisiana are attributable to tobacco consumption.[9] Low intake of fresh fruits and vegetables was shown to be the second most important risk factor in this population. Other factors predisposing an individual to increased risk for lung cancer include occupational exposures to a variety of products such as asbestos, polycyclic hydrocarbons and chromium,[10] and also exposure to passive smoking.[11]

Esophageal cancer. The excess of esophageal cancer risk and mortality among the blacks is very pronounced. Black males have a threefold excess risk when compared to white males and the mortality rates are twice as high.[6, 7]

Major risk factors for cancer of the esophagus are alcohol intake and tobacco use. Epidemiologic data indicate that the combination of these two factors substantially increases the risk of cancer of the esophagus.[12, 13] Other factors associated with increased risk include nutritional deficiencies and possibly consumption of hot food and drinks which may induce thermal irritation.[14]

Stomach cancer. Excessive mortality from stomach cancer was observed in both blacks and whites in south Louisiana during the 1950s.[15] This excess disappeared in whites about a decade later but persisted in blacks, resulting in an even larger gap in the racial differential.[16] At present, the age-adjusted mortality rate for black males in New Orleans is three times higher than that for white males (19.9/100,000 vs 6.5), exceeding the SEER, state, and US averages. Incidence data are consistent with mortality, with 2.5 times greater risk among blacks than whites.

Low socioeconomic status is correlated strongly with increased rates of stomach cancer. Studies from Louisiana have implicated diet as the major determinant of stomach cancer risk.[17] Consumption of smoked foods, homemade sausages and home cured meats, excessive salt intake, and particularly low consumption of fresh fruits and vegetables are associated with significant increases in the risk of stomach cancer in blacks. Excess risk is also found among current drinkers and cigarette smokers.

Pancreatic cancer. Although black males in New Orleans share similar risk and mortality from pan-

TABLE 1

AGE-ADJUSTED (US 1970) INCIDENCE AND MORTALITY RATES FOR MALES, BY RACE AND GEOGRAPHIC AREA, 1978-81

		New Orleans* BM	New Orleans WM	SEER BM	La State BM	US BM
All sites	I	471.4	403.5	487.9	—	—
	M	326.9	247.8	289.0	274.5	286.7
Esophagus	I	18.6	5.3	19.2	—	—
	M	11.6	5.5	—	12.1	16.0
Stomach	I	22.4	9.2	21.3	—	—
	M	19.9	6.5	14.8	17.8	14.8
Liver	I	9.7	4.6	5.5	—	—
	M	10.5	5.2	—	6.7	5.5
Pancreas	I	15.5	9.4	16.8	—	—
	M	13.5	10.8	13.8	13.8	13.5
Larynx	I	14.5	12.9	12.5	—	—
	M	4.5	3.1	4.7	4.5	4.9
Lung	I	129.7	104.7	119.0	—	—
	M	101.2	87.9	93.5	88.4	91.4
Prostate	I	99.7	58.5	120.3	—	—
	M	38.5	19.7	44.5	36.0	43.9
Multiple Myeloma	I	8.0	3.2	10.2	—	—
	M	4.9	2.9	—	5.1	6.0

I = Incidence rate M = Mortality rate — = NA

*Incidence for New Orleans includes Jefferson, Orleans, and St Bernard parishes

Mortality for New Orleans includes Jefferson, Orleans, St Bernard, and Plaquemines parishes

Sources: Cancer in Louisiana, Vol III, IV, and Cancer Incidence and Mortality in the US 1973-81

creatic cancer as blacks elsewhere in the United States, their incidence rate is 1.5 times higher than the New Orleans whites. The causes of pancreatic cancer are not clear. A study in Louisiana has found excess risk associated with cigarette smoking, consumption of pork products, and low dietary intake of vitamin C.[18]

Cancer of the larynx. The incidence rate for laryngeal cancer in black males exceeds the New Orleans white rate and the SEER averages by about 15% and has remained stable over the last decade. However, the excess in mortality is greater, about 50% higher than New Orleans whites.

Tobacco and alcohol consumption are the two major risk factors for laryngeal cancer, and they act synergistically. Other risk factors include occupational exposure to asbestos, nickel, and mustard gas.[19]

Liver cancer. The incidence rate for New Orleans black males rose 47% between 1974 to 1977 and 1978 to 1981 while rates for their white counterparts and rates for black and white males in the nation declined.[6] Currently, incidence and mortality rates are two times higher among blacks than whites.

Worldwide, infection with hepatitis B virus is the most important risk factor for liver cancer.[20] Alcohol consumption is a major cause for liver cirrhosis which is associated with liver cancer; however, a causal relationship has not been established.[21]

Prostatic cancer. Prostatic cancer is the second most common cancer in New Orleans blacks, following lung cancer, with an average age-adjusted incidence rate of 99.7/100,000 and mortality rate of 38.5. National trends in incidence from recent years show that prostatic cancer has become the leading cancer among men. Despite the fact that black males in New Orleans

TABLE 2

AGE-ADJUSTED (US 1970) INCIDENCE AND MORTALITY RATES FOR FEMALES, BY RACE AND GEOGRAPHIC AREA, 1978-81

		New Orleans BM*	*New Orleans WM*	*SEER BM*	*La State BM*	*US BM*
All sites	I	287.5	273.5	290.3	—	—
	M	181.6	138.2	151.5	153.8	152.9
Esophagus	I	4.5	1.6	5.5	—	—
	M	3.2	1.1	—	2.9	3.9
Stomach	I	11.8	4.0	8.3	—	—
	M	11.3	3.8	6.0	7.9	6.6
Colon	I	33.2	25.6	36.6	—	—
	M	22.0	16.3	17.7	15.7	17.6
Rectum	I	9.7	11.5	9.0	—	—
	M	5.0	2.3	2.8	2.5	2.8
Liver	I	4.3	3.6	1.8	—	—
	M	4.0	3.2	—	3.5	2.1
Pancreas	I	9.4	7.5	11.1	—	—
	M	6.6	7.4	9.9	8.2	9.2
Breast	I	70.8	77.3	71.9	—	—
	M	29.6	24.2	26.8	24.9	26.3
Cervix	I	20.0	8.2	20.2	—	—
	M	8.1	2.8	7.3	8.6	8.8
Multiple Myeloma	I	4.9	2.4	7.0	—	—
	M	4.6	1.8	—	4.5	4.3

I = Incidence rate M = Mortality rate — = NA

*Incidence for New Orleans includes Jefferson, Orleans, and St Bernard parishes

Mortality for New Orleans includes Jefferson, Orleans, St Bernard, and Plaquemines parishes

Sources: Cancer in Louisiana, Vol III, IV, and Cancer Incidence and Mortality in the US 1973-81

have a lower incidence rate than all registries in the SEER program and a mortality rate 14% below the US average, they still have significantly higher rates than New Orleans whites, with a 70% greater incidence rate, and a 95% greater mortality rate.[6,7]

The causes of prostatic cancer are not well-established. Studies have suggested increased risk associated with high consumption of dietary fats and possible occupational exposure to cadmium.[10]

Multiple Myeloma. The incidence for multiple myeloma is more than twice as high for blacks as it is for whites, 8.0/100,000 compared to 3.2/100,000. An approximately twofold excess is also observed for mortality.

Risk factors associated with the predominance in blacks have not been identified. Higher levels of immunoglobulins in blacks than whites have been suggested as a possible inborn susceptibility to multiple myeloma.[22] Other factors reported to be associated with the disease include some occupational exposures, ionizing radiation, immunosuppressive diseases, and more infections in general.

EXCESSIVE CANCERS IN BLACK FEMALES

Although black females in New Orleans have only slightly higher risk (5% excess) of developing any cancer than white females, the mortality is about 31% higher. Table 2 shows cancers that are excessive in incidence and/or mortality among black females.

Breast cancer. Breast cancer is the most common

cancer for black women in New Orleans. Even though black females have a lower incidence rate, they experience a higher mortality rate than white women, a phenomenon not observed nationwide. The age-adjusted mortality rate of 29.6/100,000 is higher than the SEER average, the Louisiana rate, and the national rate, reflecting a poorer survival which is partially explained by more advanced stages at diagnosis.[23]

In an NCI funded multicenter study of Black/White Cancer Survival, New Orleans black women were more frequently diagnosed with advanced breast cancer than New Orleans whites. In addition, 45% of New Orleans breast cancer cases were diagnosed with tumor < 5 cm and no lymph node involvement as compared to 53% in Atlanta and 59% in San Francisco. Furthermore, carcinoma in situ accounts for only 4% of the New Orleans cases while it represents 7% and 11% of cases in Atlanta and San Francisco respectively. These results are consistent with the Louisiana Tumor Registry data that New Orleans women are not at a higher risk of developing breast cancer when compared to the nation but do have a higher rate of dying from breast cancer. Factors associated with early detection and diagnosis include the use of screening mammography, practice of proper breast self-examination, recognition of signs and symptoms, and promptness in seeking medical care. The same study showed only 21% of New Orleans breast cancer patients (ages 20 to 79) reported having at least one mammogram in the 6-year period prior to diagnosis, compared to 30% in Atlanta and 36% in San Francisco.

Cervical cancer. Black females in New Orleans experience a 2.5-fold excess incidence and mortality rates from cervical cancer when compared to their white counterparts.

Incidence for cervical cancer has been declining in both black and white females in recent years. In Louisiana, the decline has occurred more rapidly for in situ cases than invasive cancer resulting in an increase in the proportion of more advanced stage. During the period 1978 to 1981, the proportion of invasive cervical cases was 45% in black women and 36% in white women.[6] This pattern contrasts sharply with those observed at other registries, in which a decline in the incidence of invasive cervical cancer is accompanied by a corresponding increase in reported cases of carcinomas in situ, reflecting the benefits of Pap smear screening.

The two major risk factors for cervical cancer are multiple sex partners and early age at first coitus. Recent studies have demonstrated papilloma virus as an etiologic candidate.[24, 25] Other factors associated with excess risk include lack of cytology screening, cigarette smoking, and a low intake of vitamin C and folacin.[10]

Cancers of the colon and rectum. In contrast to the cancers of the upper gastrointestinal tract (esophagus and stomach) where a more than twofold excess is observed for blacks, colon cancer exhibits less disparity between the two racial groups. Black females in New Orleans have a 30% excess incidence rate and a 40% excess mortality rate when compared to New Orleans white females.[6] The age-adjusted mortality rate of 22.0/100,000 also exceeds the averages for black females in the SEER program, Louisiana, and the whole United States.[7]

While the incidence rates of rectal cancer in New Orleans black females are very comparable to the SEER rates and slightly lower than those for New Orleans whites, mortality in females displays a different pattern. A twofold excess mortality is present in New Orleans black females when compared to any referent group. The excess mortality rates for both colon and rectal cancer implicate a poorer survival among black females in New Orleans. One possible reason for the poor survival is a more advanced stage at diagnosis.

The major risk factors for colon and rectal cancer are dietary. Dietary fat intake has been associated with increased risk while consumption of fresh fruits and vegetables and dietary fiber appear to be protective.[10]

Cancers of esophagus, stomach, liver, and pancreas and multiple myeloma. Rates of both incidence and mortality for these cancers are higher among black females than white females in New Orleans. In addition, New Orleans black females have mortality rates which exceed those of the state and United States for cancers of the esophagus, stomach, liver, and multiple myeloma. Since the magnitude of these excesses are similar in males, they are not discussed further.

DISCUSSION

Excessive cancer rates among blacks in Louisiana are very well-documented. Both black males and females have higher incidence and mortality rates than their white counterparts. A close examination by specific site reveals cancers that are excessive, share similar risk factors and are mostly tobacco[26] and diet-related.[27]

Cigarette smoking is responsible for 30% of all cancers and nearly 90% of lung cancer. It is also a contributory factor for cancer of the oral cavity, larynx, esophagus, bladder, pancreas, kidney, and cervix. Concurrent with a high prevalence of smoking, blacks in Louisiana experience an increased risk for cancers of the lung, esophagus, stomach, pancreas, larynx, and cervix.

Louisiana has been known for its distinct ethnic and geographic dietary patterns. These patterns may have an influence on the peculiar cancer profile observed, especially the high rates of cancers of the respiratory and upper digestive tract. Alcohol consumption, more prevalent in lower socioeconomic groups, when used together with tobacco increases the risk of laryngeal and esophageal cancer. Consumption of pork products and smoked and home cured meats, which is more prevalent among Louisiana blacks, is associated with an excess risk of stomach and pancreatic cancers in blacks of south Louisiana. Excessive salt intake is suspected as a factor in the high incidence of stomach cancer in Louisiana blacks. The recent findings of the protective effect of adequate intake of fresh fruits and vegetables and dietary vitamin C against cancers of lung, stomach, and pancreas is perhaps most interesting and potentially important in cancer prevention.

If cancer prevention and control in blacks is to be undertaken in Louisiana, the strongest effort should be directed toward prevention and cessation of tobacco use followed by an emphasis on a balanced diet which includes a higher consumption of fresh fruits and vegetables; less intake of foods that are high in fats, heavily salted or nitrite preserved; and decreased alcohol consumption particularly among smokers.

In addition to primary prevention, ie, reduction of risk factors, secondary prevention should also be addressed. This includes early detection for cancers of the breast, cervix, and colorectum by more frequent utilization of screening services such as mammography, Pap smears, and proctoscopic examinations. In a study of attitudes towards cancer and cancer tests sponsored by the American Cancer Society,[25] blacks were found to underestimate the cancer prevalence among themselves, to be less likely to recognize cancer warning signs and symptoms, and to participate less in screening programs. They also tended to be more fatalistic and less likely to believe that early detection is essential and that existing treatment could be effective. Therefore, programs directed at improving knowledge of cancer facts, correcting the misinformation on treatment, and promotion of health interventions are greatly needed.

In conclusion, physicians in Louisiana can play an important role in cancer prevention and control among blacks by informing their black patients about: (1) the magnitude of the cancer problem in blacks; (2) the cancer risk associated with tobacco use and excessive alcohol consumption; (3) the importance of a balanced nutritious diet which includes more fresh vegetables and fruits, less smoked and salted foods, and less fats; (4) cancer warning signs and symptoms; and (5) the benefits of early detection by screening tests and regular participation in such screening. ■

REFERENCES

1. *Health United States 1987*. Hyattsville, Maryland: US Dept of Health and Human Services, 1988; PHS Publ No 88-1232.
2. Riggan WB, Van Bruggen J, Mason T, et al. *US Cancer Mortality Rates and Trends, 1950-79. Vol I*. Washington, DC: NCI/EPA, 1983.
3. National Cancer Institute. *1987 Annual Cancer Statistics Review, including cancer trends: 1950-1985*. Washington, DC: US Dept of Health and Human Services, 1988; NIH Publ No 88-2789.
4. *Health Status of Minorities and Low Income Groups*. US Dept of Health and Human Services, 1985; No (HRSA) HRS-P-DV 85-1, Table 61.
5. Correa P, Chen VW, Craig JF, et al. *Cancer in Louisiana, Vol I*. Baton Rouge: Louisiana Division of Administration, Administrative Services, 1983:1-248.
6. Correa P, Chen VW, Craig JF, et al. *Cancer in Louisiana, Vol III*. Baton Rouge: Louisiana Division of Administrative Service, 1986:1-124.
7. Chen VW, Craig JF, Correa P, et al. *Cancer in Louisiana, Vol IV*. Baton Rouge, Louisiana: LSU Graphic Service, 1987:1-150.
8. Craig JF, Correa P, Chen VW. USA, Louisiana, New Orleans, 1978-82. In: Muir C, Waterhouse J, Mack T, et al, eds, *Cancer Incidence in Five Continents, Vol V*. Lyon, France: International Agency for Research on Cancer, 1988:350-357.
9. Correa P, Pickle LW, Fontham E, et al. The causes of lung cancer in Louisiana. In: Mizell M, Correa P, eds, *Lung Cancer Causes and Prevention*. Deerfield Beach, Florida: Verlag Chemie International, 1984:73-82.
10. Page HS, Asire AJ. *Cancer Rates and Risks*, 3rd ed. Washington, DC: US Dept of Health and Human Services, 1985; NIH Publication No 85-691.
11. Correa P, Pickle LW, Fontham EH, et al. Passive smoking and lung cancer. *Lancet* 1983:2:595-597.
12. Tuyns AJ, Pequignot G, Abbatucci JS. Oesophageal cancer and alcohol consumption. Importance of type of beverage. *Int J Cancer* 1979;23:443-447.
13. Pottern LM, Morris LE, Blot WJ, et al. Esophageal cancer among black men in Washington, DC. I. Alcohol, tobacco and other risk factors. *JNCI* 1981;67:777-783.
14. Pottern LM, Morris LE, Blot WJ, et al. Esophageal cancer among black men in Washington, DC. II. Role of nutrition. *JNCI* 1981;67:1199-1206.
15. Haenszel W. Variation in incidence and mortality from stomach cancer with particular reference to the United States. *JNCI* 1958;21:213-262.
16. Mason TJ, McKay FW, Hoover R, et al. *Atlas of Cancer Mortality for US Counties: 1950-1969*. Washington, DC: Government Printing Office, 1975.
17. Correa P, Fontham E, William PL, et al. Dietary determinants of gastric cancer in south Louisiana. *JNCI* 1985;75:645-654.
18. Falk R, William PL, Fontham E, et al. Lifestyle factors for pancreatic cancer in Louisiana. *Am J Epidemiol* 1988;128:324-336.
19. Austin DF. Larynx. In: Schottenfeld D, Fraumeni JF Sr, eds. *Cancer Epidemiology and Prevention*. Philadelphia: WB Saunders, 1982:554-563.

20. Beasley RP. Hepatitis B virus as the etiologic agent in hepatocellular carcinoma, epidemiologic considerations. *Hepatology* 1982;2:218-268.
21. Falk H. Liver. In: Schottenfeld D, Fraumeni JF Sr, eds. *Cancer Epidemiology and Prevention*. Philadelphia: WB Saunders, 1982:666-682.
22. Blattner WA. Multiple myeloma and macroglobulinemia. In: Schottenfeld D, Fraumeni JF Sr, eds. *Cancer Epidemiology and Prevention*. Philadelphia: WB Saunders, 1982:795-811.
23. Chen VW, Correa P, Craig JF, et al. Is cancer survival poorer in Louisiana? *J La State Med Soc* 1988;1404:20-28.
24. Zur Hausen H. Condylomata acuminata and human genital cancer. *Cancer Res*, 1976;36:794.
25. Bosch FX, Muñoz N. Human papillomavirus and cervical neoplasia: a critical review of the available epidemiologic evidence. In: Muñoz N, Bosch FX, Jensen OM, eds. *Human Papillomavirus and Cervical Cancer*. Lyon, France: IARC Scientific Pub No 94, 1989:135-151.
26. Fontham ET, Correa P, Chen VW, et al. Tobacco and cancer. *J La State Med Soc*, 1988;1404:29-40.
27. Correa P, Fontham ET, Chen VW, et al. Diet, nutrition and cancer. *J La State Med Soc* 1988;1404:43-49.
28. American Cancer Society. Black Americans' attitudes towards cancer and cancer tests: highlights of a study. *CA*, 1981;31:212-218.

Drs Chen, Fontham and Correa are from the Dept of Pathology at Louisiana State University Medical Center in New Orleans. Dr Chen is also from the Dept of Biostatistics and Epidemiology at Tulane University School of Public Health and Tropical Medicine in New Orleans.

Ms Craig is from the Louisiana Tumor Registry, OPH, at the Louisiana Dept of Health and Hospitals.

Reprint requests to Dr Vivien W. Chen, Dept of Pathology, LSU Medical Center, 1901 Perdido St, New Orleans, LA 70112.

Work supported by Grant #N01-CP-43262 and the Louisiana Dept of Health and Hospitals.

Studies on cancer are highlighted this month in honor of Cancer Month. Coordination of this issue was provided by the Louisiana Cancer and Lung Trust Fund Board.

The Board was established in 1980 to oversee the Louisiana Tumor Registry and to encourage, through the awarding of grants, research on the cancer problem in Louisiana. Three of the grants funded by the Board are reported on in this issue: "The Louisiana Cancer Consortium"; "Tobacco, Alcohol, and Marijuana Use Among Black Adolescents"; and "Excessive Cancer Rates Among Blacks."

PEDIATRIC CANCER IN NEW ORLEANS

FRANK D. GROVES, MD; JEAN FIKE CRAIG, MSHyg;
VIVIEN W. CHEN, PhD; ELIZABETH T.H. FONTHAM, DrPH;
DIEGO E. ZAVALA, MSc; PELAYO CORREA, MD

Rates for pediatric cancer in the Greater New Orleans area were compared with rates from the National Cancer Institute's SEER (Surveillance, Epidemiology, and End Results) Program. The same patterns observed nationally were seen in New Orleans over a 10-year period. Rates were comparable with the exception of cancers of the brain and central nervous system for which New Orleans children displayed higher rates. Using the large number of cases in the SEER Program, three etiological patterns of childhood cancer were apparent based on the age at diagnosis.

CANCER in children, though low in incidence compared to adult cancers, is second only to accidents as the leading cause of death among children less than 15 years old.

Childhood cancer incidence rates for the metropolitan New Orleans area have been determined by the Louisiana Tumor Registry and compared with national rates calculated by the SEER (Surveillance, Epidemiology, and End Results) Program of the National Cancer Institute. Because childhood cancer is relatively rare, 10 years of data in New Orleans (1974 to 1983) were used to ensure stable rates. The incidence rates are reported as per million child-years. Incidence rates were calculated by age group (0 to 4, 5 to 9, and 10 to 14), as well as by race-sex groups so that differences between age groups can be examined.

The Manchester Classification System used in this manuscript classifies pediatric tumors according to histology, rather than anatomic site. This system is utilized because most childhood cancers are leukemias, lymphomas, sarcomas, or primitive embryonal cell lines which are not necessarily limited to a specific part of the body as are the carcinomas in adults.

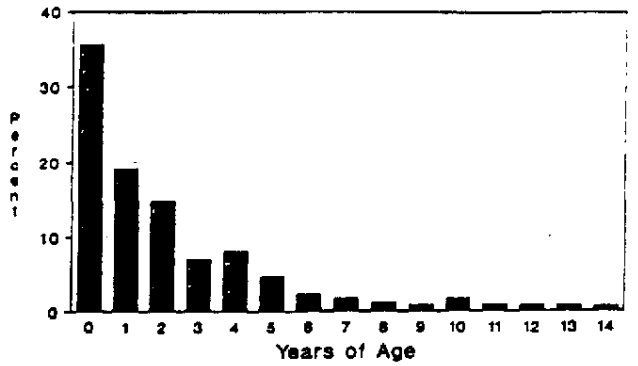


Fig 1. PEDIATRIC NEUROBLASTOMA, 1974-1983. Seer Program, All Races, Both Sexes. Distribution by Age at Diagnosis.

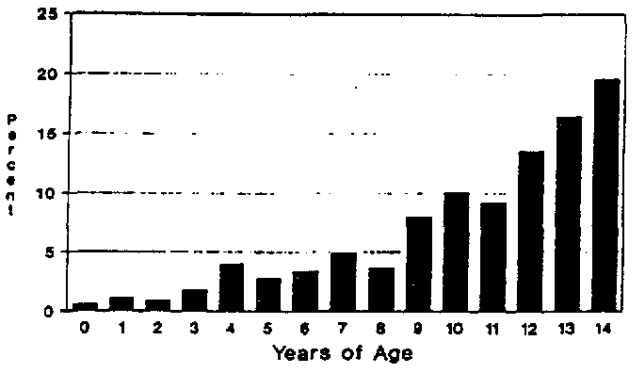


Fig 2. PEDIATRIC BONE CANCER, 1974-1983. Seer Program, All Races, Both Sexes. Distribution by Age at Diagnosis.

a genetic etiology, also fits this pattern as well as Wilms tumors and acute leukemias although their decline is more gradual and later than the second year of age.

The second predominant pattern shown in Fig 2 is characterized by low postnatal frequencies and gradual elevations in the preschool and school-age years, reaching a peak by the preadolescent years. This pattern is most typically manifested by malignant bone tumors. It is also observed for malignant lymphomas, in marked contrast with leukemias which

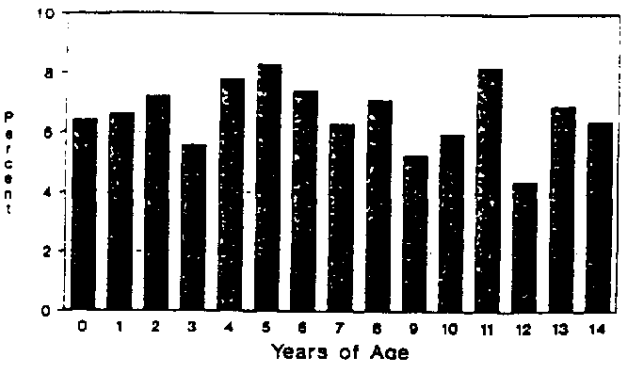


Fig 3. PEDIATRIC BRAIN CANCER, 1974-1983. Seer Program, All Races, Both Sexes. Distribution by Age at Diagnosis.

also originate in the hematopoietic tissue. This pattern suggests postnatal carcinogenic influences and is probably also related, in the case of bone tumors, to the fact that the target tissues are in a state of active proliferation and therefore are most susceptible to carcinogens. A peculiar combination of the postnatal and preadolescent peaks is observed for gonadal tumors, especially the germ-cell neoplasms. In boys, such tumors are predominantly postnatal whereas in girls they are predominantly preadolescent with a smaller peak. The predominant tumor in boys is the infantile embryonal carcinoma (also called "yolk-sac tumor" or endodermal sinus tumor), whereas in girls the predominant tumor is the dysgerminoma which resembles the male seminoma. This observation suggests that the target cell, rather than the timing of the carcinogenic insult, determines the epidemiologic pattern in the case of gonadal tumors.

The absence of postnatal and preadolescent peaks constitutes a third (flat) pattern of pediatric cancer as seen in Fig 3. This pattern is observed in tumors of the central nervous system and in soft-tissue sarcomas. Both tumors represent mostly support tissues, and the flatness of the frequencies suggests random "hits" of carcinogenic forces on nonspecialized tissues at a rather constant rate of replication. Some exceptions to the above rule are the rhabdomyosarcomas and the ependymomas which represent more specialized tissues and have a postnatal peak.