

Data for Addressing Cancer Disparities in Arizona's African-American Community

**-- A Matrix for the Community to
Prioritize Interventions and Research --**

November 14, 2008



Arizona Cancer Control Program
Working Together to Reduce Cancer

Arizona Cancer Coalition
- Disparities Committee
- Arizona Cancer Registry

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the Centers for Disease Control and Prevention (CDC)

Addressing the cancer disparities of the African-American community

Introduction

The Arizona Cancer Coalition brings together many agencies and individuals to reduce the burden of cancer among our state residents. Through discussions among its members, the Coalition is concerned that there may be disparities in cancer occurrence, diagnosis, treatment, and survival. To address these concerns, the Coalition established a Disparities Committee tasked with identifying opportunities to reduce disparities across race and ethnic groups. Through the work of this committee the Coalition is reaching out to various communities to promote cancer-related interventions, especially those that will eliminate avoidable cancers and detect cancer at a curable stage.

Aim:

The Disparities Committee aims to reduce cancer disparities by closing the gap between the community's needs and the benefits of cancer prevention and cure. We will achieve this aim through participatory education, training, and research programs. This project will support that aim by producing community-specific information about cancer rates and the real opportunities for cancer control.

Role of the Disparities Committee and Data Analysts:

Three key roles of the Committee are to

- Encourage community leaders to use relevant data so that they can confidently select topics on which to focus the community's concerns and resources
- Encourage movement toward interventions for controllable cancers
- Where knowledge of successful intervention is lacking, promote community-based participatory research that will advance the health of the community.

Community perspectives and concerns about cancer

The Disparities Committee suggests that a community leader ask these crucial questions:

- 1) Primary Prevention ("avoiding cancer in the first place")
What can I do to reduce my community's risk for developing cancer?
- 2) Secondary Prevention ("early detection and screening")
How do I improve my community's likelihood of being diagnosed in the earliest, curable stage of cancer?
- 3) Tertiary Prevention ("care once diagnosed")
Once diagnosed with cancer, what can be done to maintain a high quality of life for persons in my community?

Background

A cancer disparity can also be called an unequal burden of disease. In cancer control the term refers especially to differences in cancer rates due to both biological and non biological factors. These factors include exposure to carcinogens, e.g., cigarette smoke, and also may include socio-

economic status, educational level, culture, race-based discrimination, access to care, and utilization of health care services. A disparity is important, and even vital, to consider when there is an intervention that can correct the disparity and result in a benefit to the community. If we are to correct cancer disparities, we must ask the following practical questions:

- A) Which measures of cancer disparity are important?
- B) For which cancer sites are they important?
- C) What are the possible interventions to address these important disparities?
- D) How wide might be the impact of the intervention?
- E) What is the relative cost of the intervention?

Comparing the list of choices

To generate a narrowed list of recommended actions that effectively control cancer the participants on the Disparities Committee propose the use of a comparison matrix (shown later on page 10). The list presents scientifically sound actions, their costs, and benefits *to a population at average cancer risk*, but it is not necessarily specific to the African American population.

How to use this document

Decision makers and leaders from the community are expected to review, interpret, and customize these matrices for their particular community. We recommend that community leaders enlist the help of health professionals from their community as they review the document. The health professionals can help interpret the applicability of the data. Together, the community can prioritize the actions that are likely to reduce their community's burden of cancer.

The kinds of conclusions you might make

Based on the information presented here, you might make one of the following conclusions about the status of your community's cancer control program.

1. **Affirmation:** We're comfortable with the emphasis of our current cancer control efforts. Later on we can revisit the issue to see if we can add other activities.
2. **Initiation:** We don't have a cancer control program, but it would make sense to start one by addressing (*choose the topic*).
3. **Prioritization:** We will focus on a particular cancer for the next year.
4. **Research:** We can't make an informed decision because we don't have enough information to a crucial question. We need to know more about (specific issue) and cancer.

YOUR CALL

Upon reviewing this document, the measure of disparity that our community is most interested in addressing now is the (choose one: elevated incidence rate, elevated mortality rate, late stage at diagnosis; poor survival rate) for (specify) _____ cancer.

DATA SECTION

Data Sources

Data concerning cancer incidence and mortality are obtained mostly from the state cancer registry and reports from Arizona's vital statistics (death certificates). Counts of cancer cases in Arizona are obtained from the Arizona Cancer Registry (which records cases seen at non-IHS facilities) and the New Mexico Tumor Registry (which records cases seen at IHS facilities in Arizona and New Mexico). Cases seen at Arizona's V.A. hospitals are included in the data also.

The pages that follow provide graphs and tables for various race and ethnic groups. Wide variability in counts and rates may be seen when looking at rare events or small populations. To stabilize the rates, this report combines data across years where possible. Data for specific sites are presented:

Overview

1) Demographic and overall cancer data (Tables A, B, C & Figures 1-5)

Matrices

- 2) Cancer interventions (Matrix A)
- 3) Lesser opportunity cancers (Matrix B)

Appendices of supportive cancer data

- 4) Leading cancers (Figures 6, 7)
- 5) Cervical Cancer (Figures 8, 9)
- 6) Colorectal Cancer (Figures 10-15; Table D)
- 7) Breast Cancer (Figures 16, 17)
- 8) Lung and Bronchus (Figures 18, 19)
- 9) Kidney (Figures 20, 21)
- 10) Bladder (Figure 22)
- 11) 5-Year Survivorship: colorectal, breast (Figures 23-28)
- 12) Comparative rankings of other clinical services

Arizona Demographics Relative to Cancer

The race/ethnic distribution of Arizona's 6 million residents is shown in the following pie chart. We can compare that distribution to the count of the approximately 24,000 new cancer cases reported. African Americans comprise 3% of Arizona's population, but are diagnosed with 2% of the cancers. Adjusting the incidence rate for the age of cases, we see that Arizona's Black community has an overall cancer incidence rate that is slightly lower than that of the White population. Males of almost all groups have higher cancer rates than females.

Demographic & Cancer Distribution in Arizona, 2001-2004:

Figure 1

Population Distribution by Race/Ethnicity, Arizona, 2001-2004

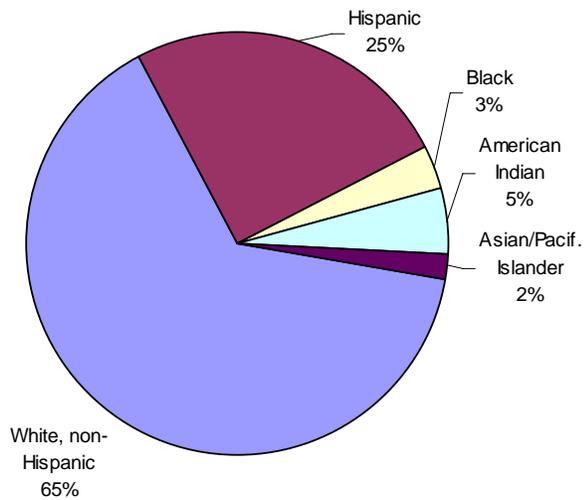


Figure 2

Cancer Count Distribution by Race/Ethnicity, Arizona, 2001-2004

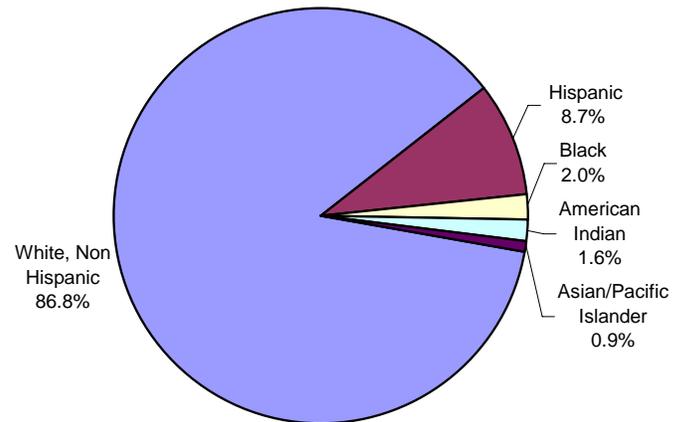
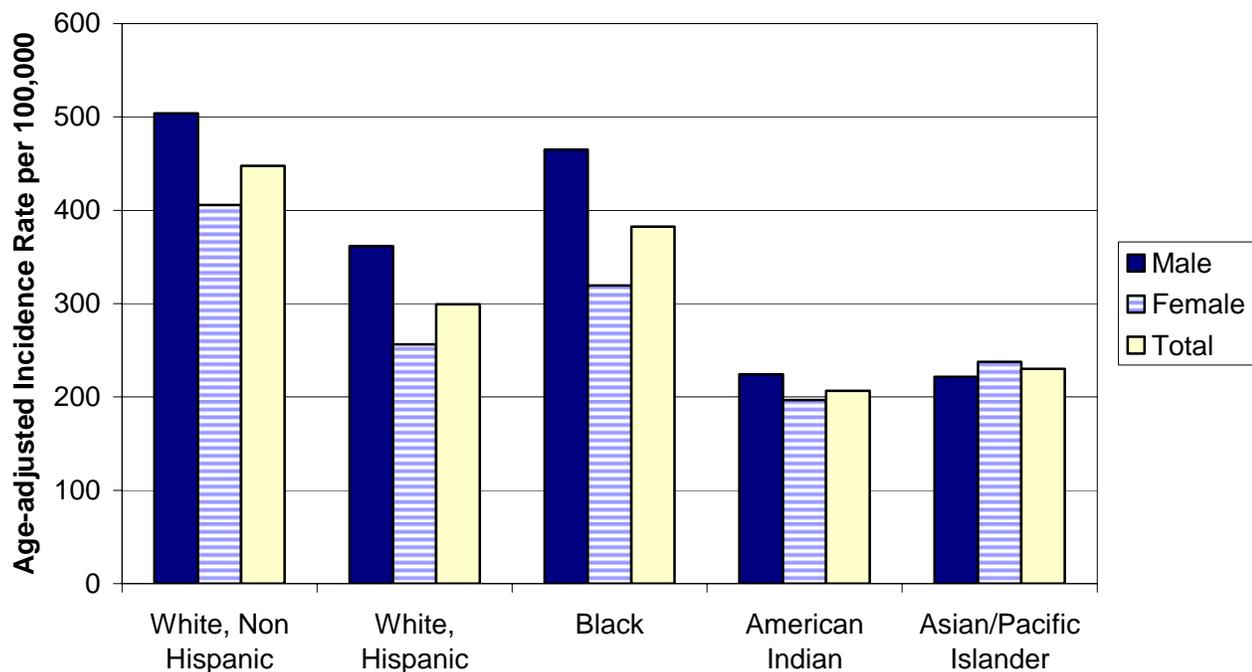


Figure 3

Cancer Rate Distributions by Race/Ethnicity, Arizona, 2001-2004



Overall Cancer Burden in African Americans

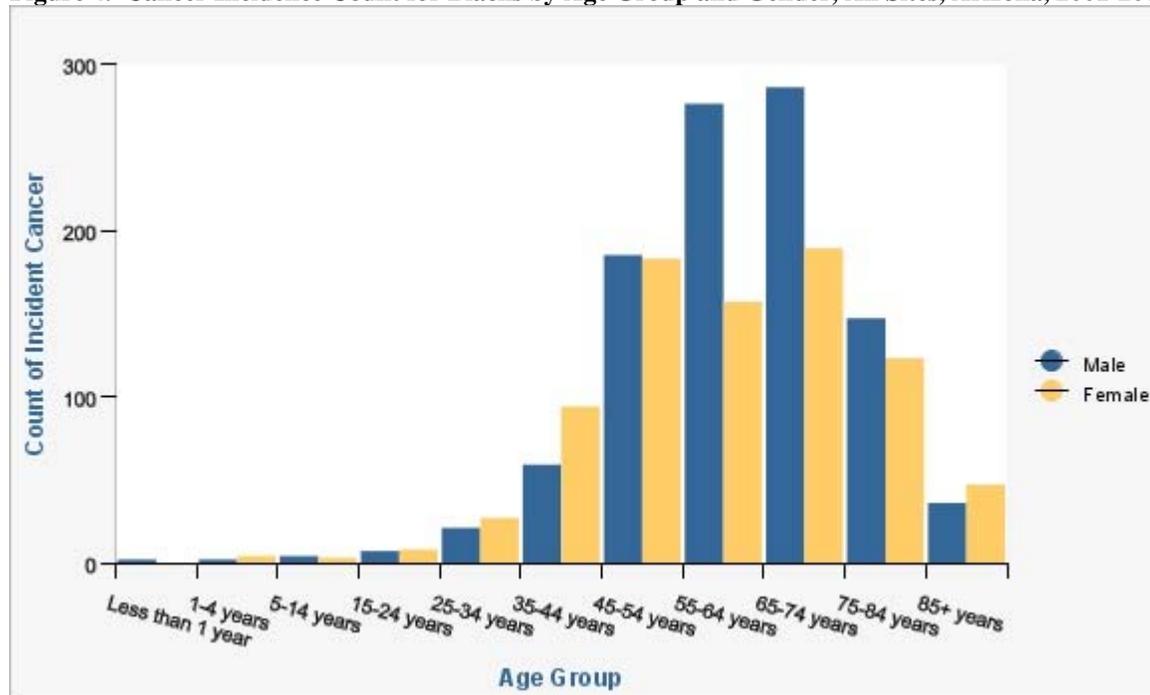
First, we present general information about the burden of cancer in Arizona’s African Americans in *Table A*, showing the count of newly diagnosed cases by year. The distribution by age-group and gender for these cases is shown in the next figure.

Because cancer is not a single disease, it is more instructive to consider its distribution across the various body sites, as shown in the pie chart (Figure 5). The four leading cancer sites in the Black population are prostate, lung, breast, and colorectal. Together, cancers of those four sites account for 60% of all cases. Then, in *Table B & C* we show the count of diagnosis and mortality for specific cancer sites.¹

Table A.

Count of Incident Cancer by Sex and Year; Arizona, Sum of the reported cases diagnosed during 2001-2004; African Americans; All cancer sites. [Source: AZ Cancer Registry, IBIS, ACR pull date 1/15/2008.]			
	Male	Female	Both
2001	247	203	450
2002	250	179	429
2003	240	218	458
2004	288	235	523
Total	1,025	835	1,860

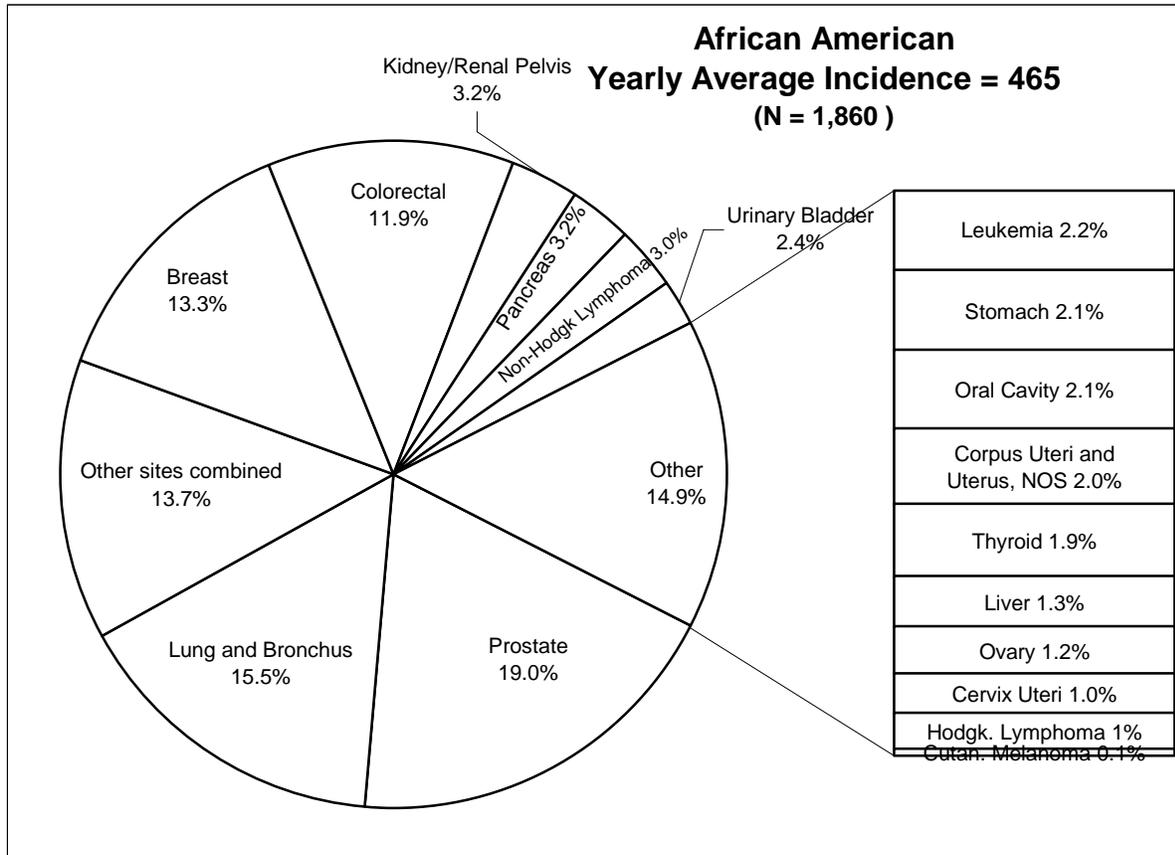
Figure 4. Cancer Incidence Count for Blacks by Age Group and Gender, All Sites, Arizona, 2001-2004.



Source: Arizona Cancer Registry, IBIS. Nov 28, 2007

¹ To generate your own queries see the ACR website <http://www.azdhs.gov/phs/phstats/acr/index.htm>

Figure 5. Distribution of Incident Cancer Case for African-Americans, Arizona, 2001-2004



Source: Arizona Cancer Registry, IBIS. April 24, 2008

Table B.

Count of <u>Incident</u> Cancer by Gender; Arizona, Sum of reported cases diagnosed during 2001-2004 (4-year totals and average); African Americans [Source: AZ Cancer Registry, IBIS, run date 1/15/2008]				
Cancer Sites	4-yr Male	4-yr Female	4-yr Total	Yearly Average
Prostate	353	.	353	88
Lung and Bronchus	156	132	288	72
Other	151	103	254	64
Breast	1	247	248	62
Colorectal	116	106	222	56
Kidney/Renal Pelvis	38	22	60	15
Pancreas	24	35	59	15
Non-Hodgkin's Lymphoma	36	19	55	14
Urinary Bladder	28	16	44	11
Leukemia	25	15	40	10
Oral Cavity	29	10	39	10
Stomach	28	11	39	10
Corpus Uteri and Uterus, NOS	.	37	37	9
Thyroid	7	28	35	9
Liver	20	5	25	6
Ovary	.	23	23	6
Cervix Uteri	.	19	19	5
Hodgkin's Lymphoma	12	6	18	5
Cutaneous Melanoma	1	1	2	1
Total, All Sites	1,025	835	1,860	465

Table C.

Count of Cancer <u>Mortality</u> by Gender; Arizona, Sum of the reported cases diagnosed during 2001-2006 (6-year totals and average); African Americans [Source: AZ Health Status and Vital Statistics]			
Cancer Sites	6-yr Male	6-yr Female	Yearly Average
Trachea, Bronchus And Lung	201	148	58
Colon, Rectum And Anus	84	70	26
Breast	2	137	23
Prostate	88	-	15
Pancreas	35	39	12
Non-Hodgkin's Lymphoma	29	21	8
Stomach	28	20	8
Leukemia	28	12	7
Liver	27	11	6
Esophagus	23	27	5
Ovary	-	28	5
Kidney	16	7	4
Larynx	19	3	4
Corpus Uteri	-	17	3
Bladder	10	5	3
Lip, Oral Cavity And Pharynx	11	4	3
Meninges, Brain, and CNS	7	6	2
Cervix Uteri	-	12	2
Hodgkin's Disease	3	-	1
Skin	2	-	0
Uterus	-	3	
Other	94	77	29
Total, All Sites	707	647	222

Cancer Interventions

Information about the effectiveness of cancer interventions, especially cancer prevention and early detection, is obtained from the recommendations of the **US Preventative Services Task Force**.²

Please visit this website <http://www.ahrq.gov/clinic/uspstfix.htm> for further general information, and the links below for information about specific cancer topics.

Links to USPSTF

Cancer

Bladder Cancer: [Screening](#) (2004)

BRCA Mutation Testing for Breast and Ovarian Cancer: [Screening](#) (2005)

Breast Cancer: [Screening](#) / [Preventive Medication](#) (2002)

Cervical Cancer: [Screening](#) (2003)

Colorectal Cancer: [Screening](#) (2002)

Lung Cancer: [Screening](#) (2004)

Oral Cancer: [Screening](#) (2004)

Ovarian Cancer: [Screening](#) (2004)

Pancreatic Cancer: [Screening](#) (2004)

Prostate Cancer: [Screening](#) (2002)

Skin Cancer: [Screening](#) (2001) / [Counseling](#) (2003)

Testicular Cancer: [Screening](#) (2004)

Thyroid Cancer: [Screening](#) (1996)

Tobacco Use: [Counseling](#) (2003)

Vitamin Supplementation to Prevent Cancer and Coronary Heart Disease: [Counseling](#) (2003)

Obesity in Adults: [Screening and Counseling](#) (2003)

Physical Activity: [Counseling](#) (2002)

Matrix to compare interventions

The matrices on the following pages can be useful in answering the key questions.

² **Guide to Clinical Preventive Services.** [Click here to [link to Guide on web](#)]

Matrix A: List of possible interventions to address African American cancer disparities. (The list is in no particular order.)

Cancer Site and Disparity Measure	Scale of Problem in African Americans (4-year avg.) [^]	Risk Factors & Potential Interventions	Intervention Metric for African Americans [%; baseline*; Target if known]	How well does intervention work? ¹ [USPSTF A, B, C, D, I] Addt'l benefit?	Important cultural aspects to consider (pos or neg)	For an Average-risk Population ...		Research Question to Ask# Ease of implementation in this pop'n	Priority# for Intervention
						Cost and Health Benefit of Intervention	Number to Screen to Save One Life		Priority# for Research
Incidence rate (now not elevated) of: 1) Cervical Cancer	Invasive cervical cancer cases, 2001-2004: 5	<ul style="list-style-type: none"> • Increase utilization of Pap smear; • Provide HPV Vaccination; • Encourage abstinence 	% women aged 21-64 w/ Pap recorded w/in the past 3 years = 87.9% (2004-6); <i>HP2010 goal</i> =3% who never have a pap test for those 18 and older w/in the past 3 years	"A" for women who have been sexually active and have a cervix		\$14,000 per year of life saved from cervical screening at age 20-74 once every 3 years ²	1,254 (range 1,140 - 1,367) All ages	What interventions work?	
High Incidence and mortality rate of: 2) Tobacco-linked cancers	Tobacco-related cancer cases, 2001-2004: Oral: 10 Lung: 72 Bladder: 11	<ul style="list-style-type: none"> • Adult smoking cessation programs • Youth smoking prevention programs 	% of people 18 and older who are current smokers = 22.1% (2004-6); <i>HP2010 goal</i> =at most 12% of adults aged 18 and older who smoke	"A" for adult programs; "A" for pregnant women; "I" for youth interventions. Reduces heart and lung diseases too.		\$1,100/QALY saved for adult counseling by clinician ³		Has the attitude about smoking changed among Black youth?	
High Incidence, mortality, and late stage in Blacks of: 3) Breast Cancer	Invasive breast cancer cases, 2001-2004: 62	<ul style="list-style-type: none"> • Promote mammography 	% women aged 40 and over who had a mammogram in the past 2 yrs = 61.7% (2004-6); <i>HP2010 goal</i> =70% of women 40 and over having a mammogram w/in the past 2 years	"B" for mammo-graphy every 1-2 years starting at age 40		\$22,000/QALY saved for biennial MMG of women age 50-69 ⁴	691 (range 543 - 838) Age 50+		
High Incidence, mortality, and late stage in Blacks of: 4) Colorectal Cancer	Invasive colorectal cancer cases, 2001-2004: 55	<ul style="list-style-type: none"> • Promote colonoscopy 	% of people aged 50 and over who had a CRC screening=51.3% (2004-6) <i>HP2010 goal</i> =50% screening for those 50 years and older (FOBT w/in the preceding 2 years & ever rec'd a sigmoidoscopy)	"A" for colorectal screening of adults age 50+. Removal of benign polyps reduces cancer risk		\$11,900 (range \$7300 to \$22,000) per life-year saved using colonoscopy ⁵	See note. ⁶ 237 (range 42-431) Age 70+; Unknown for Age 45-74	How is colorectal screening perceived?	
Utilization of: 5) end-of-life service [this is difficult to measure or document]	Deaths from all malignant neoplasms: 2004 = 227 2005 = 234 2006 = 229	<ul style="list-style-type: none"> • At-home or institutional hospice services • ?? Patient navigator 	How to measure? Data are needed.	Hard to document a benefit; however, services are well received by families and patients		Not available	Not applicable	-Hospice survey for cultural services. -What works?	
High rate of : (other risk factors) 6) [BRFS; special surveys]		<ul style="list-style-type: none"> • Obesity is linked to cancer of gall bladder, breast, urinary bladder, uterus, kidney, ovary, colon, prostate 	% of adults 18 and over who are overweight or obese=62.3% (2004-6); <i>HP2010 goal</i> =<15 percent of obese adults 20 years and older	"B" for adults. Obesity has proven difficult to control. Modest weight loss lowers risk for diabetes and other diseases.		\$10,000/QALY saved for physician counseling about physical activity ⁷	unknown		

* Data Source: Behavioral Risk Factor Surveillance System (BRFSS), 2002-2004

[^] ACR = Arizona Cancer Registry [#] Community leaders will complete these columns.

Matrix B: Lesser opportunity cancers (The list is in no particular order.)

Disparity Measure	Scale of Problem in African Americans (4-year avg.) [^]	Risk Factors; Potential Interventions	Intervention Metric for African Americans [%; baseline; target]	Relative Effectiveness of Intervention [high-med-low]	Relative Cost and Benefit of the Intervention	Research Question to Ask [#]	Priority [#] for Intervention
							Priority [#] for Research
incidence rate of: 7) Liver Cancer	Invasive liver cancer cases, 2001-2004: 6	<ul style="list-style-type: none"> Alcohol avoidance; CAGE questionnaire Hepatitis B immunization Screen for Hepatitis C 	Not applicable	unknown	unknown		
incidence rate of: 8) Melanoma of skin	Invasive cutaneous melanoma cancer cases, 2001-2004: 1	<ul style="list-style-type: none"> Reduce sun exposure, especially in childhood 	Not applicable	unknown	Not applicable		
incidence rate of: 9) Kidney and renal pelvis Cancer	Invasive kidney & renal pelvis cancer cases, 2001-2004: 15	<ul style="list-style-type: none"> No proven intervention; needs research 	Not applicable	Not applicable	Not applicable		
incidence rate of: 10) Pancreas Cancer	Invasive pancreas cancer cases, 2001-2004: 15	<ul style="list-style-type: none"> No proven intervention; needs research 	Not applicable	Not applicable	Not applicable		
incidence rate of: 11) Prostate Cancer	Invasive prostate cancer cases, 2001-2004: 87	<ul style="list-style-type: none"> Early detection has not been shown to prolong life Many local cancers do not progress 	unknown	Unknown See the separate write-up on this topic.			
incidence rate of: 12) Stomach Cancer	Invasive stomach cancer cases, 2001-2004: 19	<ul style="list-style-type: none"> Avoid alcohol, tobacco, and pickled or salty foods Screen for Helicobacter pylori 	Not applicable	Not applicable	Not applicable		
incidence rate of: 13) Gallbladder Cancer		<ul style="list-style-type: none"> Risk factor = gallstones and obesity 	Not applicable	unknown	Not applicable		

[^] ACR = Arizona Cancer Registry

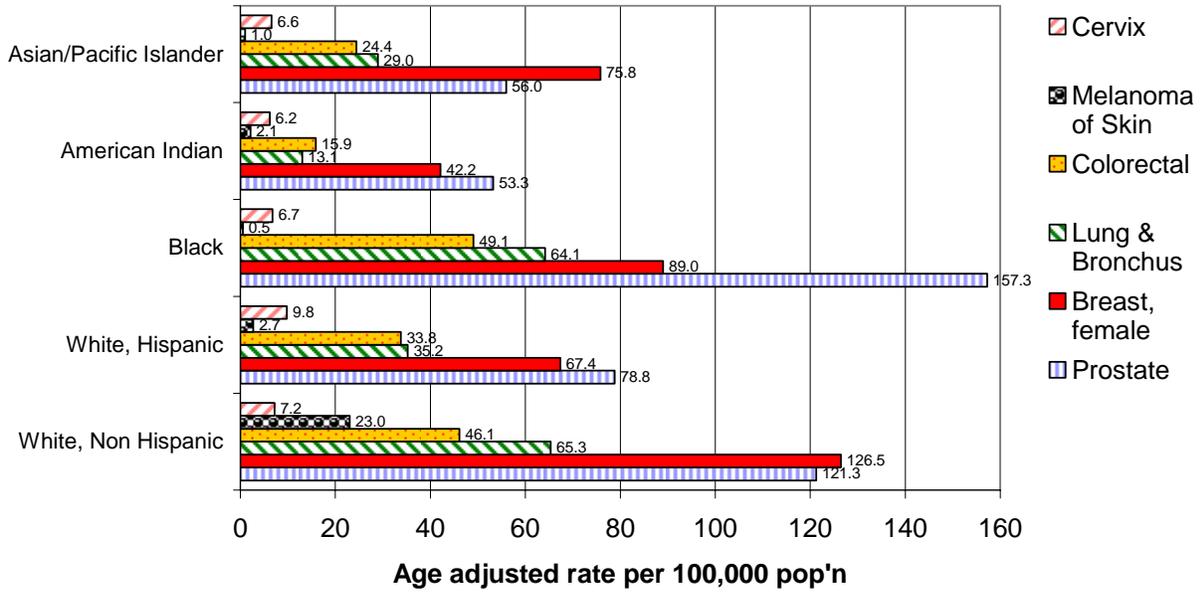
[#] Community leaders may complete these cells.

APPENDICES
SUPPORTIVE CANCER DATA

**APPENDIX A:
LEADING CANCERS BY RACE/ETHNIC GROUPS FOR SELECTED SITES**

Figure 6.

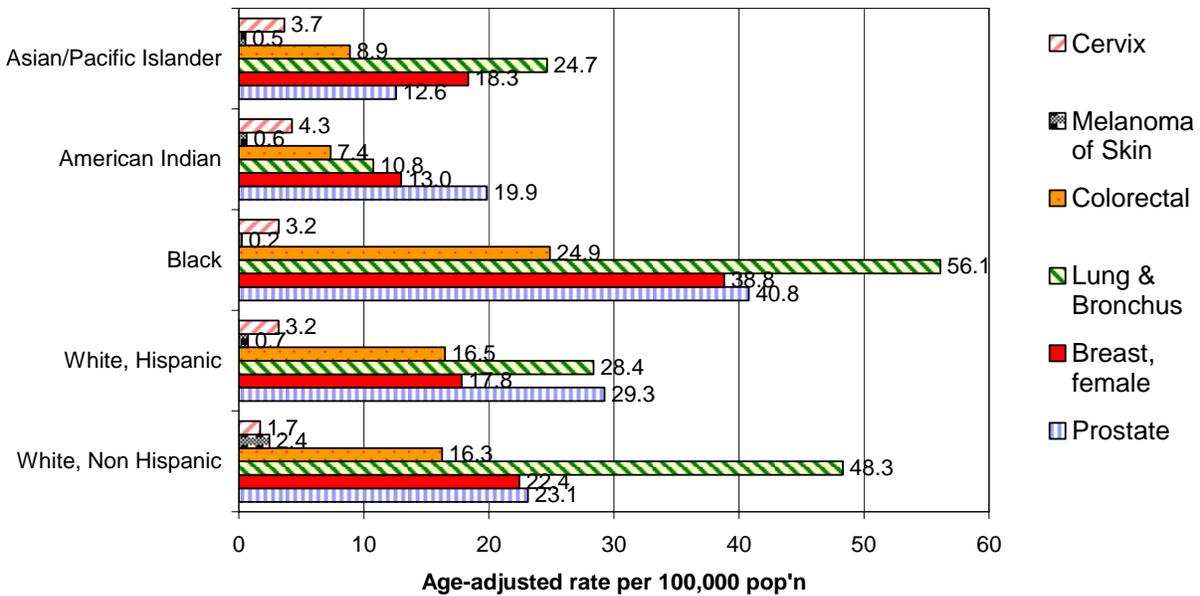
**Cancer Incidence by Race for Selected Sites, Arizona,
2001-2004**



Source: Arizona Cancer Registry, IBIS. Nov 28, 2007

Figure 7.

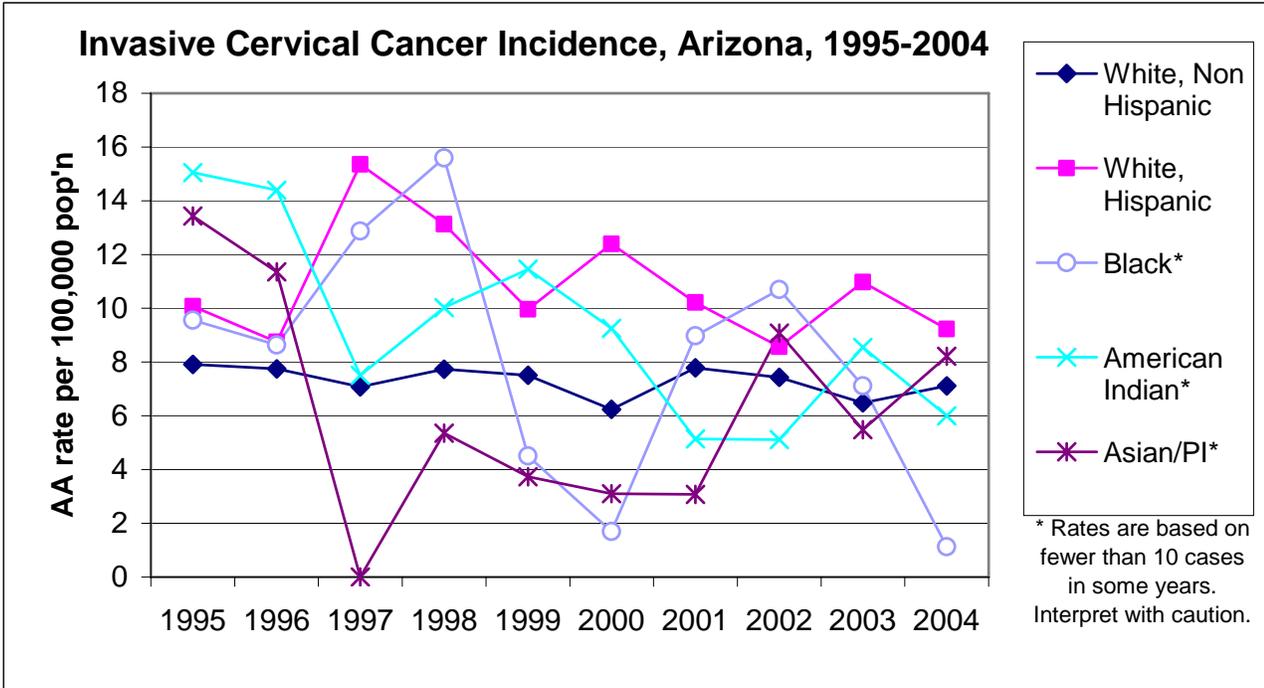
**Cancer Mortality by Race for Selected sites, Arizona,
2001-2006**



Source: Arizona Vital Statistics, Feb. 5, 2008

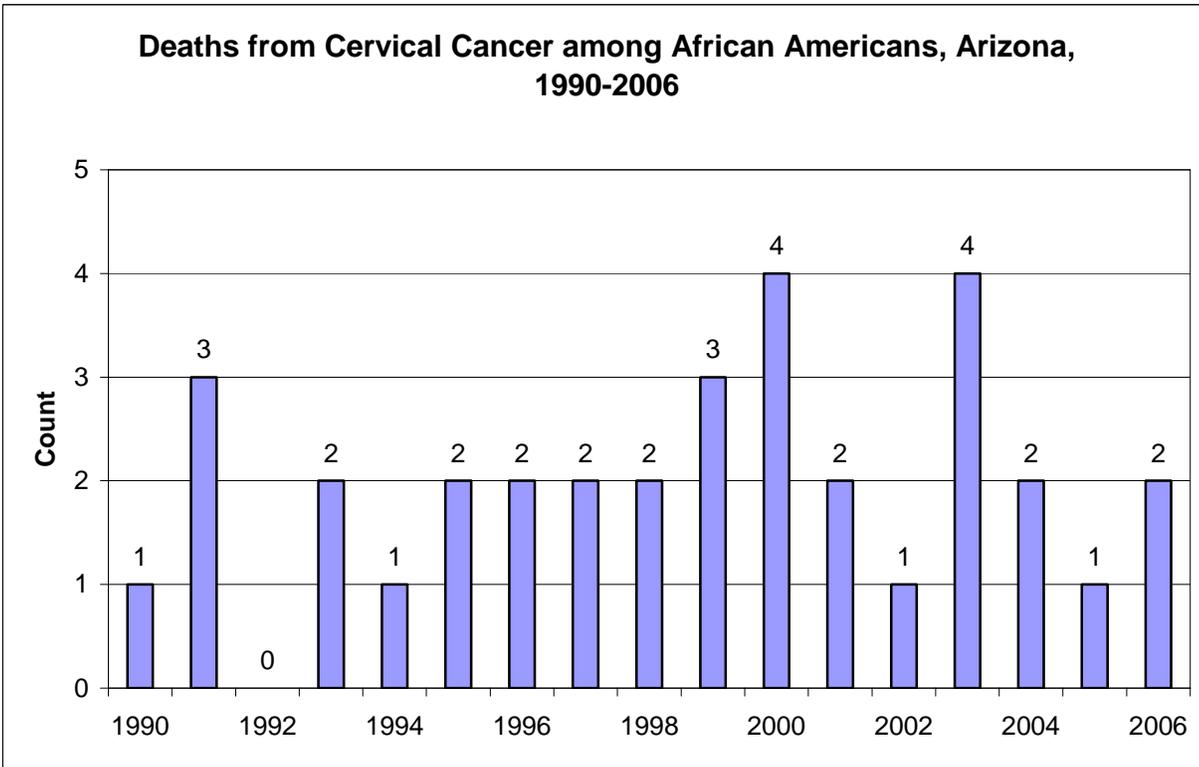
APPENDIX B: CERVICAL CANCER

Figure 8. Cervical Cancer Incidence Rate per 100,000 Population, Arizona residents, 1995-2004



Source: Arizona Cancer Registry, IBIS. Nov 28, 2007

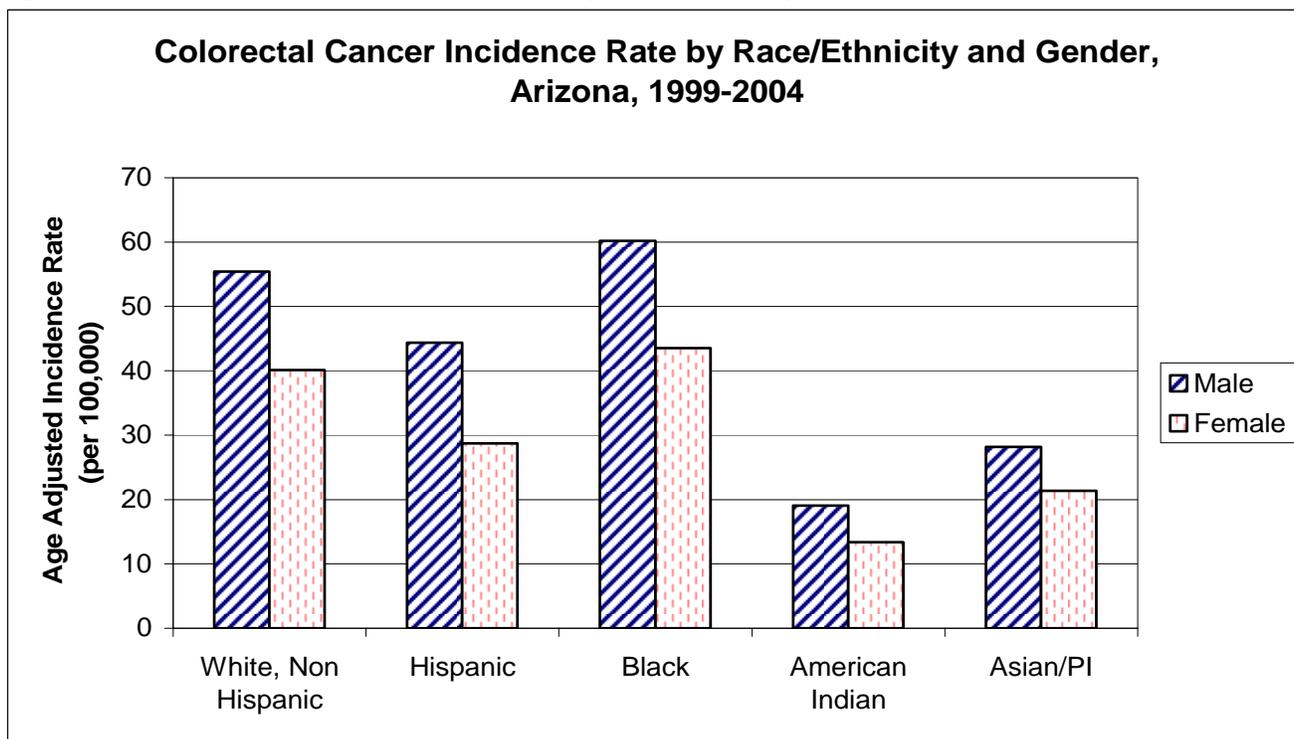
Figure 9. Deaths from Cervical Cancer among African-Americans, Arizona, 1990-2006



Source: Underlying cause of death as listed on death certificates, Arizona Vital Statistics

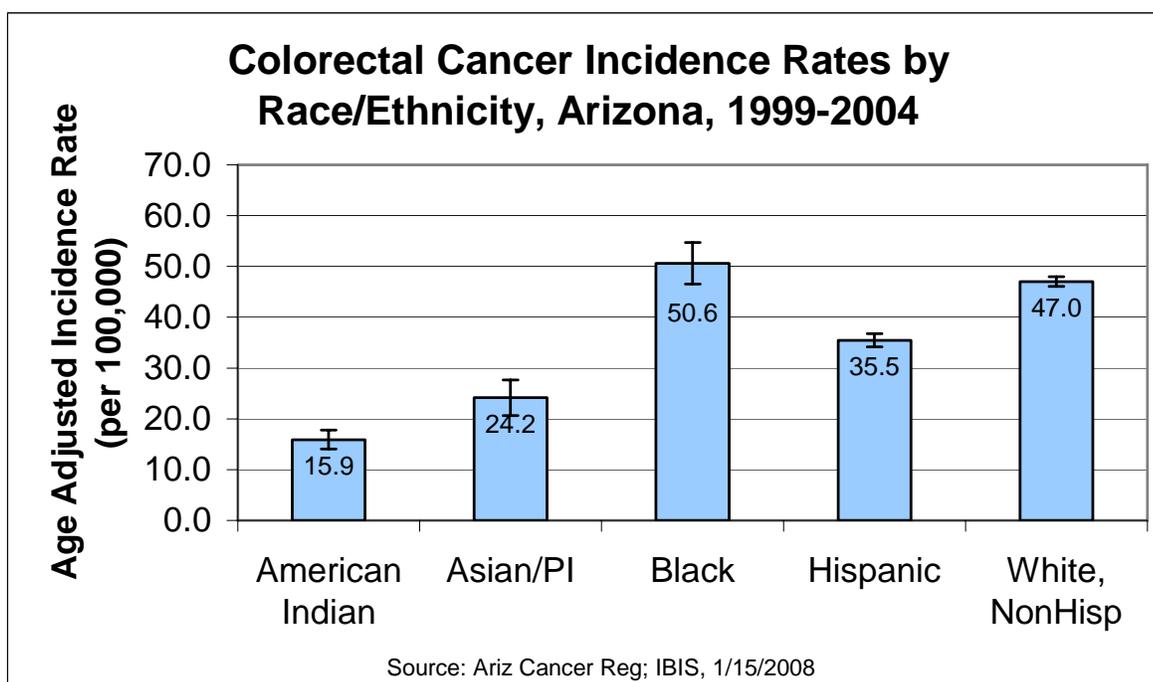
APPENDIX C: COLORECTAL CANCER

Figure 10. Colorectal Cancer Incidence Rate by Race/Ethnicity and Gender, Arizona, 1999-2004



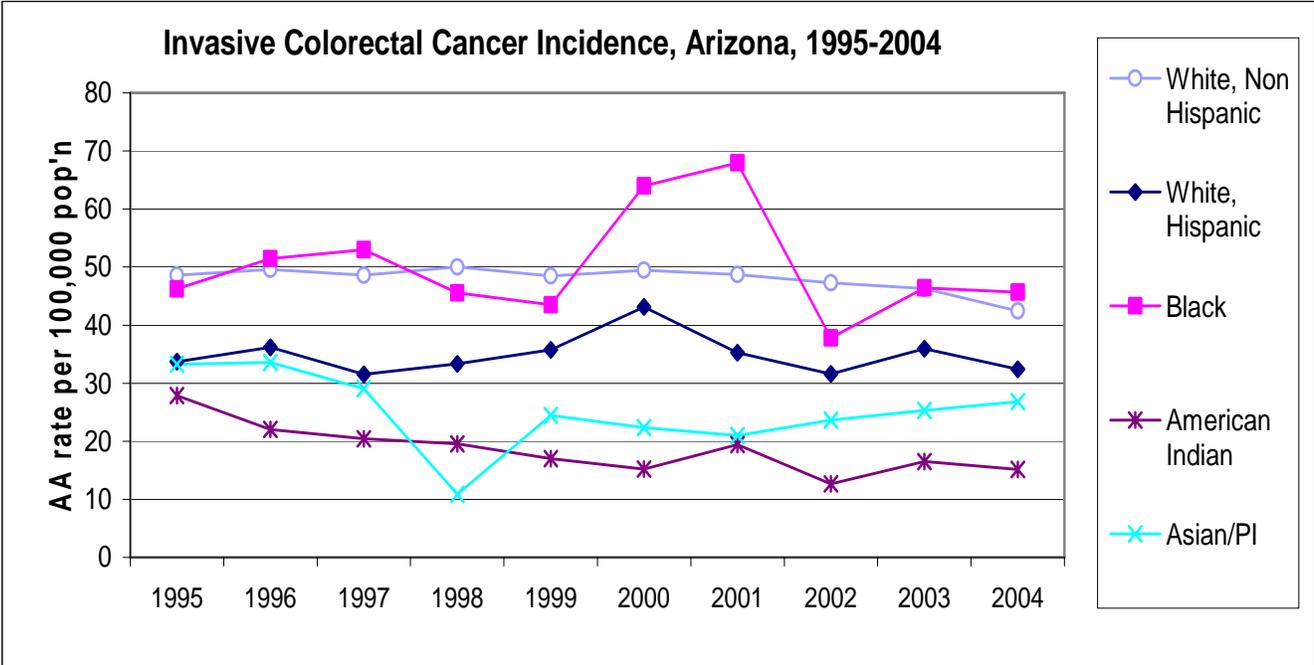
Source: Arizona Cancer Registry, IBIS. Nov 29, 2007

Figure 11. Colorectal Cancer Incidence Rates by Race/Ethnicity, Arizona, 1999-2004



APPENDIX C: COLORECTAL CANCER

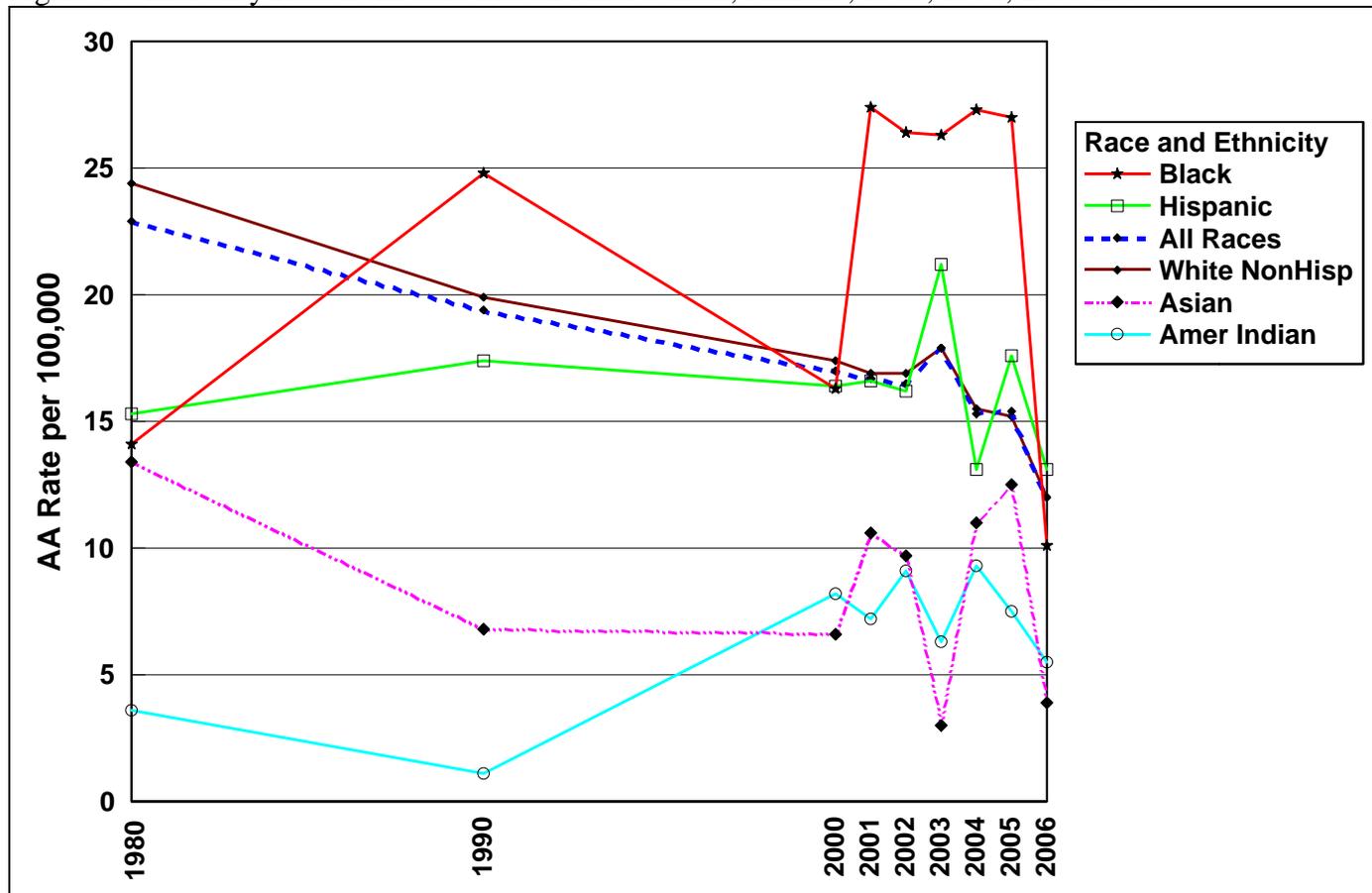
Figure 12. Invasive Colorectal Cancer Incidence, Arizona, 1995-2004



Source: Arizona Cancer Registry, IBIS. Nov 29, 2007

APPENDIX C: COLORECTAL CANCER

Figure 13. Mortality Rate from Colo-Rectal-Anal Cancer, Arizona, 1980, 1990, 2000-2006



Source: Arizona Vital Statistics

Table D. Colorectal Screening rate, BRFSS, 2004-2006. For this table, the term “Meeting Guidelines” is measured as an adult respondent age 50+ who had a FOBT within the past year, or sigmoid/colonoscopy with past 5 years, or both.

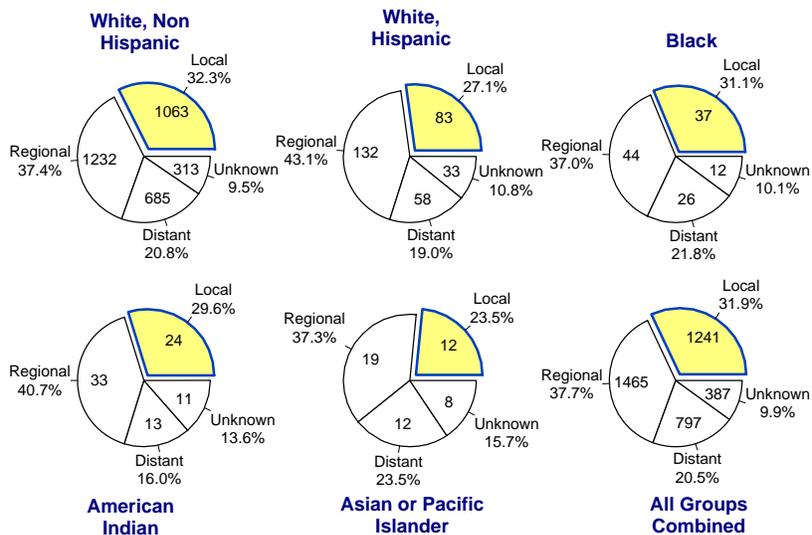
Race group	CR Screening rate, meeting guidelines, in 2004-2006
White non Hispanic	53.6%
Black	51.3%
Asian Pacific Islander	45.1%
White Hispanic	34.4%
American Indian	34.1%

APPENDIX C: COLORECTAL CANCER

Following figures are information about the stage at diagnosis of colorectal cancer (“CR”), Arizona.

Figure 14.

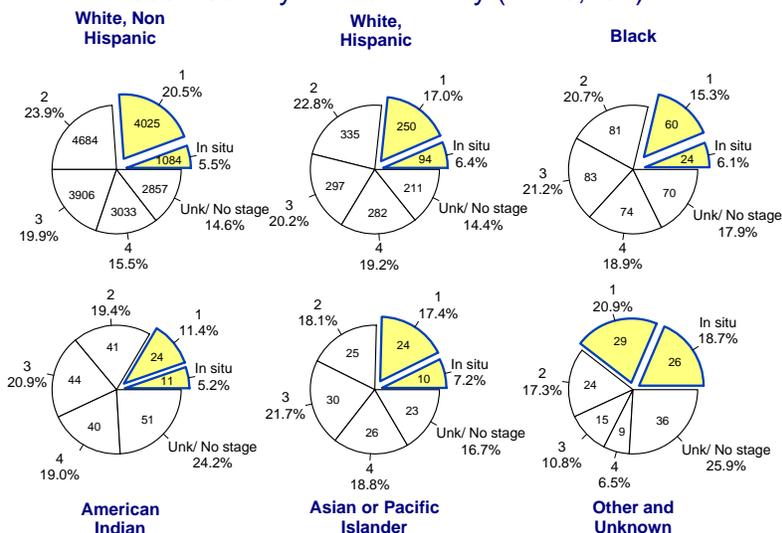
Summary Stage of CR Cancers, Age 50-64, Arizona Residents, 1995-2002 by Race/ethnicity (N=3,890)



Source: Arizona Cancer Registry, 9/27/2006

Figure 15.

AJCC Stage of CR Neoplasm, All ages, Arizona, 1995-2002 by Race/ethnicity (N=19,401)

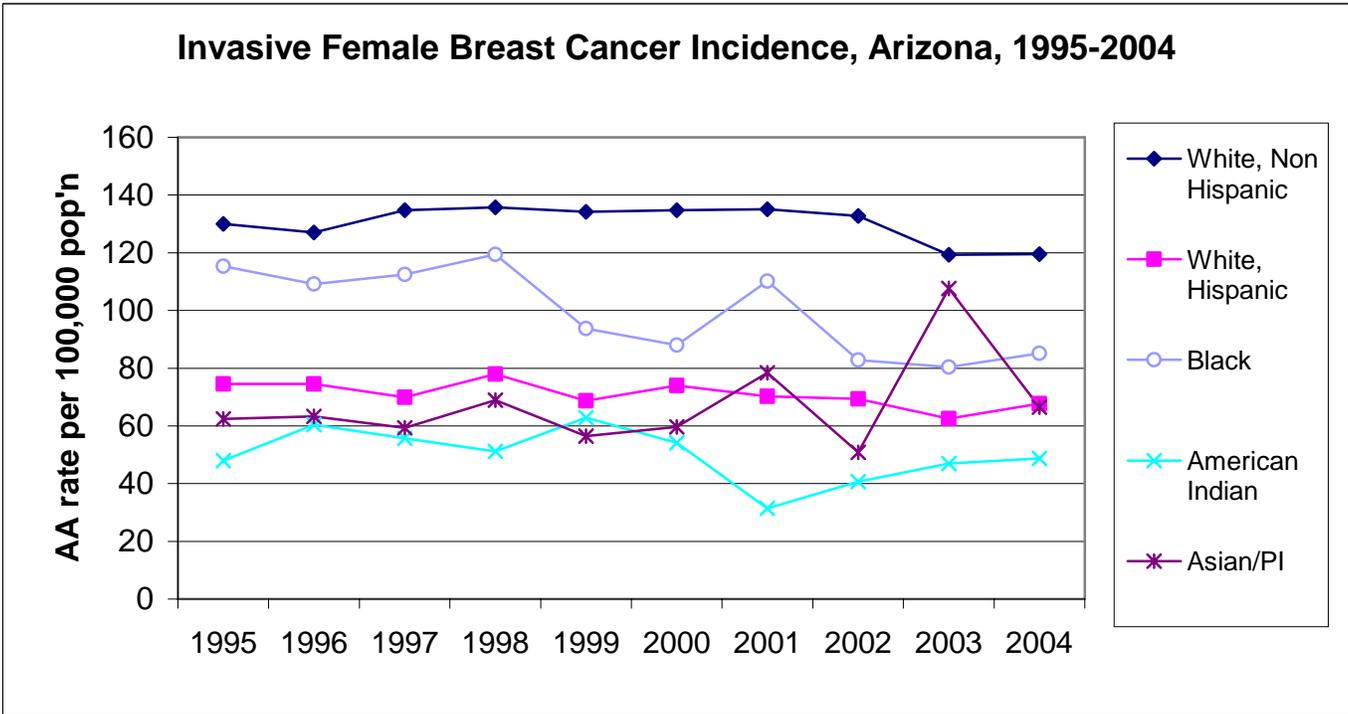


Arizona Cancer Registry, best AJCC Stage, 2005

Source: ACR, TJF unpublished report

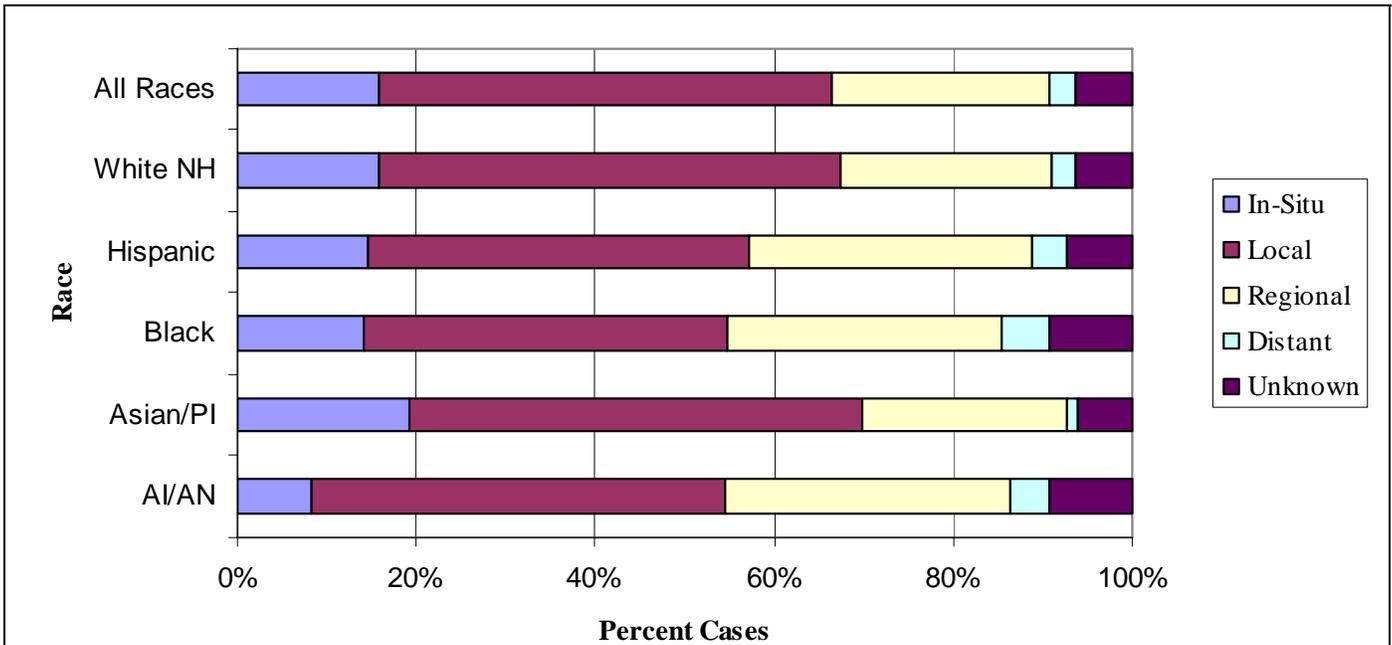
APPENDIX D: BREAST CANCER

Figure 16. Incidence Rate of Breast Cancer, Arizona, 1995-2004



Source: Arizona Cancer Registry, IBIS. Nov 29 2007

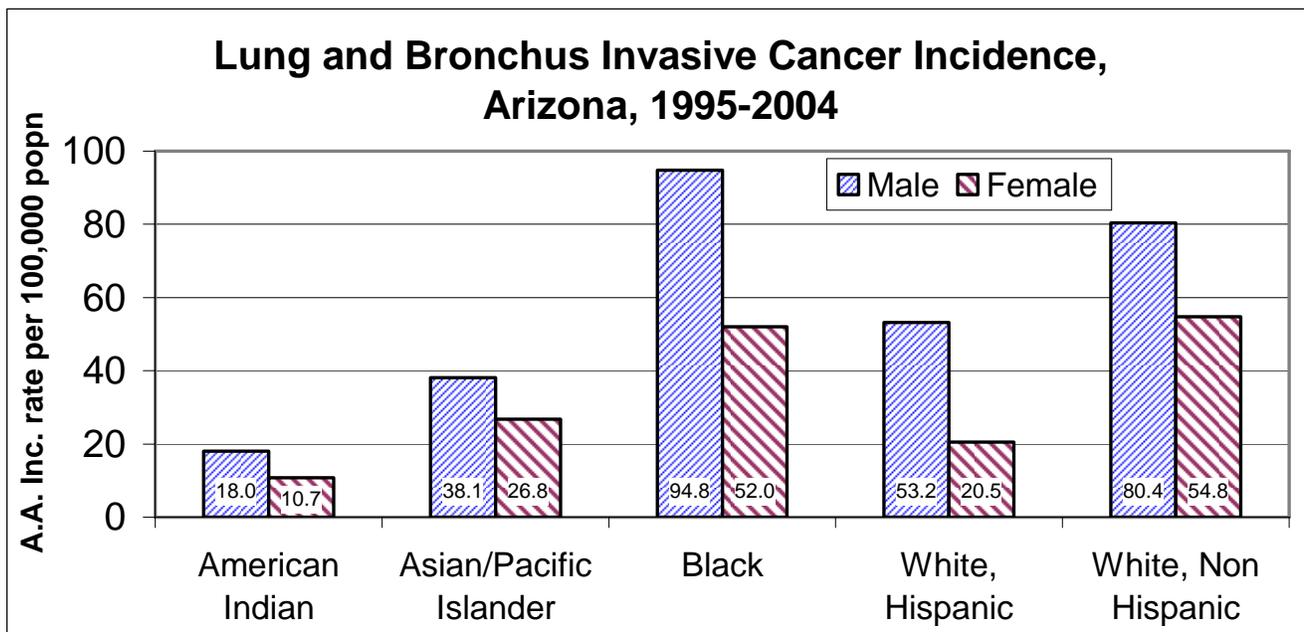
Figure 17. Breast Cancer, Stage at Diagnosis by Race, 1995-2002



Source: Archana Minnal, MPH, 2005, unpublished analysis of ACR data.

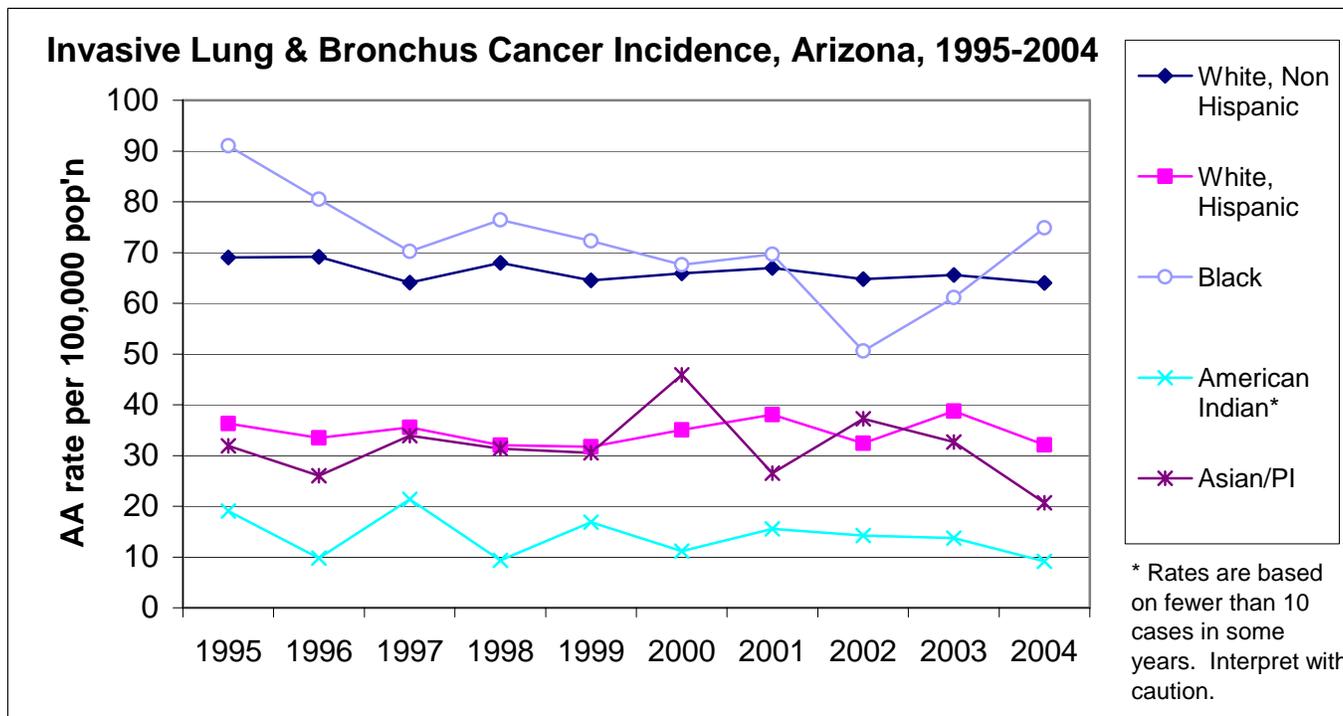
APPENDIX E: LUNG AND BRONCHUS CANCER

Figure 18. Comparison of Rate of Lung & Bronchus Invasive Neoplasm by Racial/Ethnic Group, Arizona, 1995-2004



Source: ACR IBIS, 1/15/2008

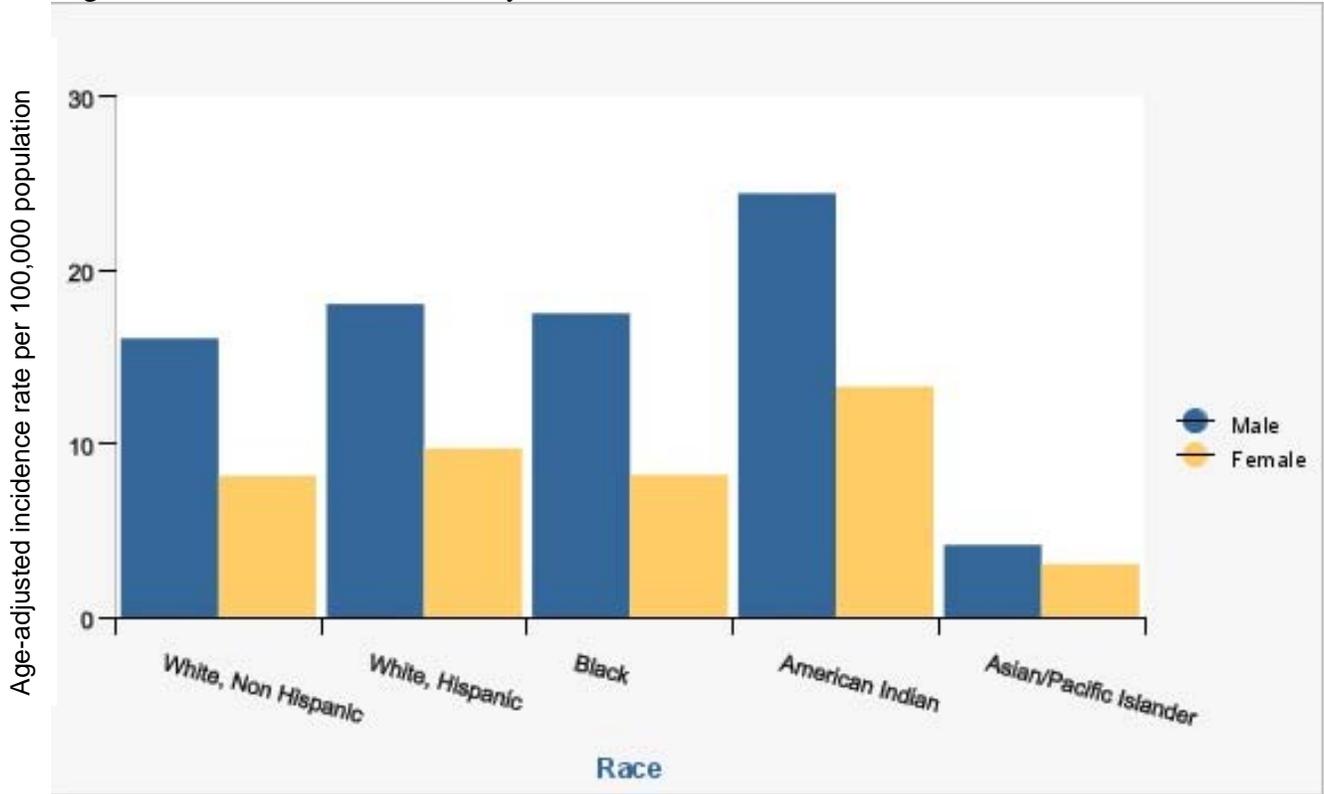
Figure 19. Invasive Lung & Bronchus Cancer Incidence, Arizona, 1995-2004



Source: Arizona Cancer Registry, IBIS. Nov 30, 2007

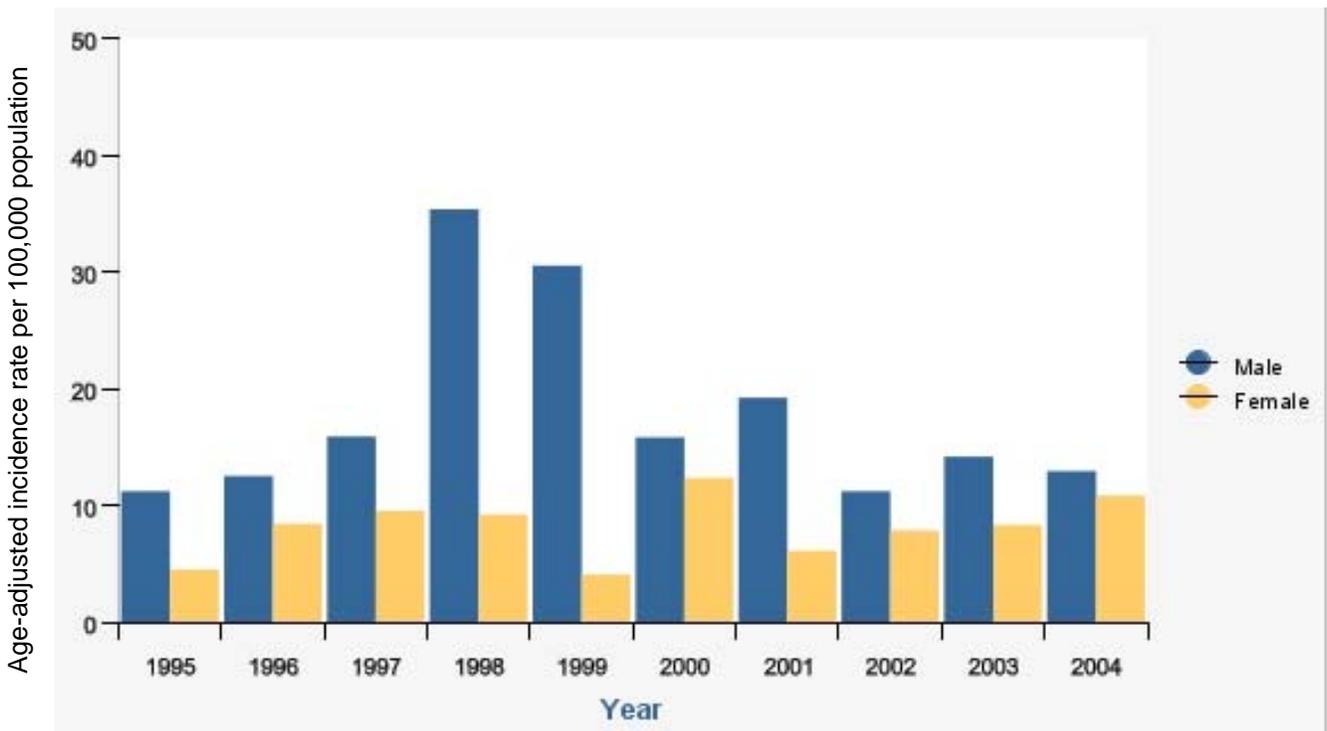
APPENDIX F: KIDNEY CANCER

Figure 20. Incidence Rate of Kidney and Renal Pelvis Cancer, AZ, 1995-2004.



Source: Arizona Cancer Registry, IBIS. Nov 30, 2007

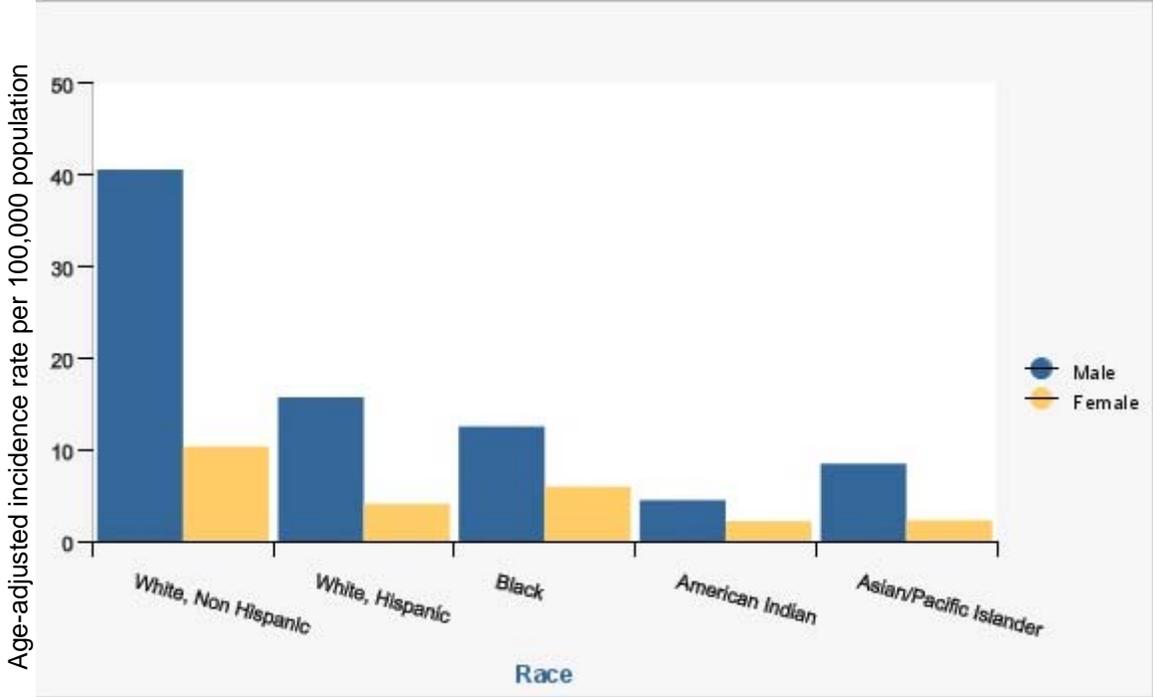
Figure 21. Incidence Rate of Kidney and Renal Pelvis Cancer, Blacks, AZ, 1995-2004.



Source: Arizona Cancer Registry, IBIS. Nov 30, 2007

APPENDIX G: BLADDER CANCER

Figure 22. Incidence Rate of Bladder Cancer, AZ, 1995-2004.



Source: Arizona Cancer Registry, IBIS. Nov 30, 2007

APPENDIX H: SURVIVORSHIP

Figure 23. Colorectal and Breast Cancer 5-year Survivorship

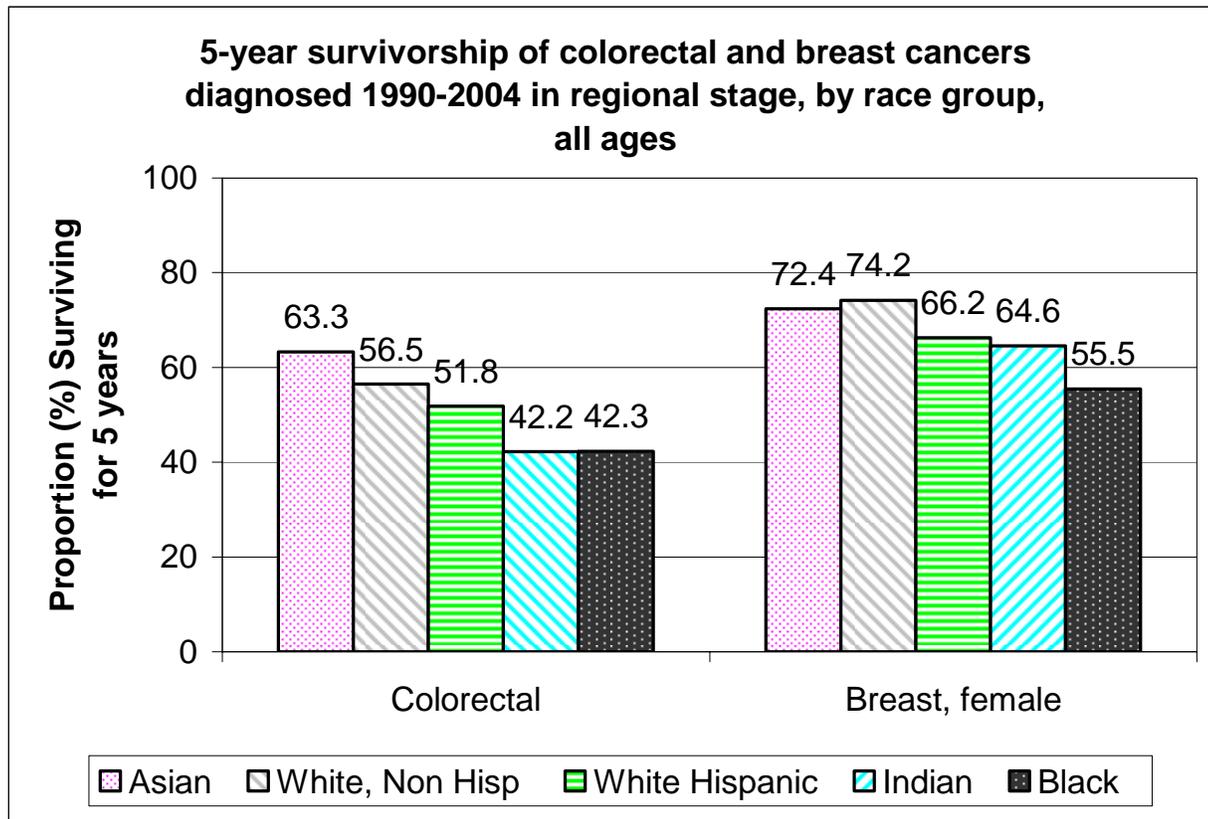
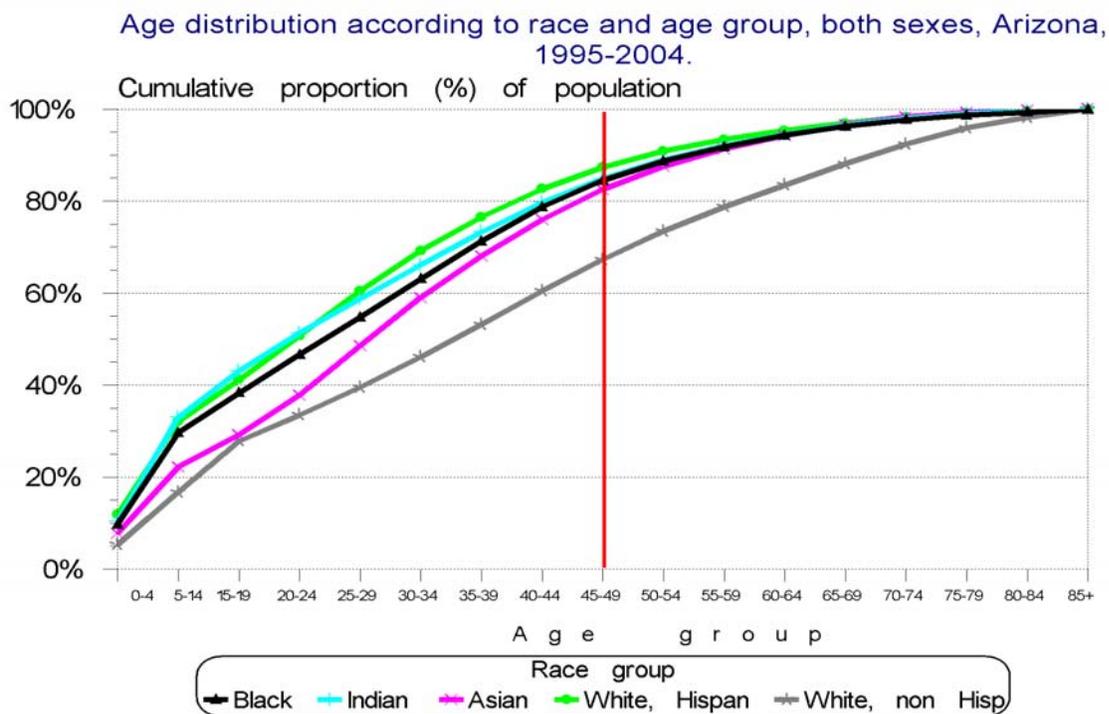


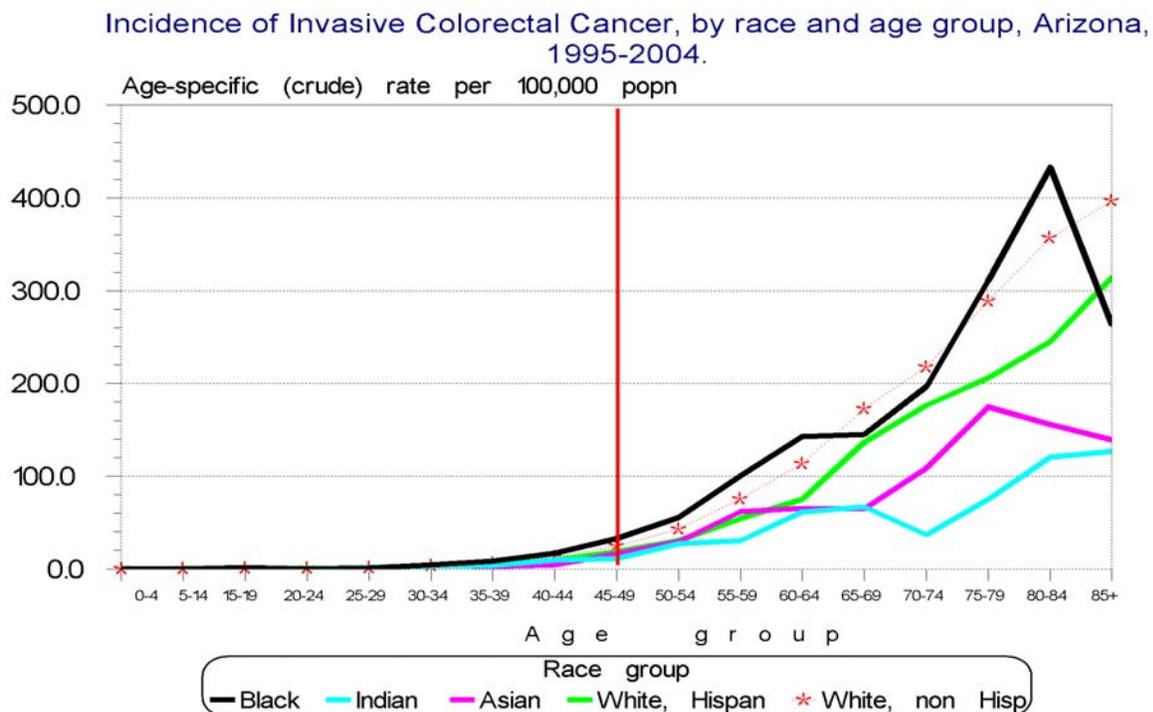
Figure 24. Age Distribution According to Race and Age Group, Both Sexes, Arizona, 1995-2004



Source: Arizona Cancer Registry, 2007Aug31

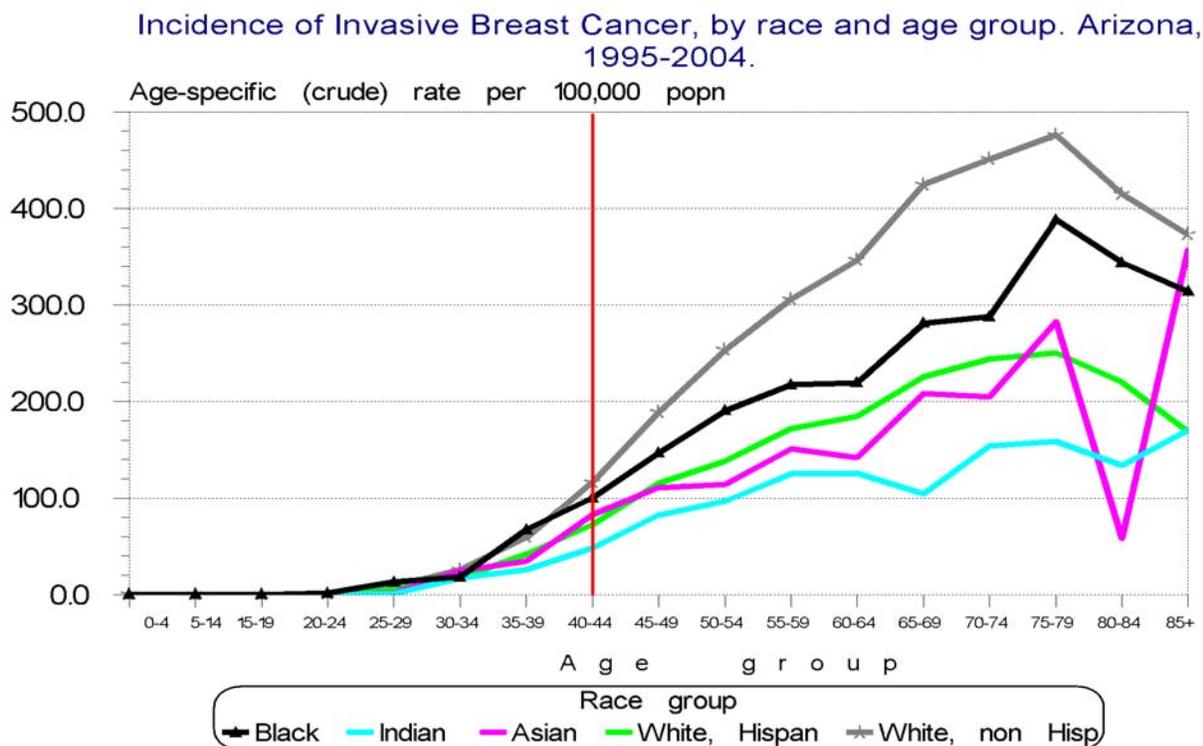
APPENDIX H: SURVIVORSHIP

Figure 25. Incidence of Invasive Colorectal Cancer, by Race and Age Group, Arizona, 1995-2004



Source: Arizona Cancer Registry, 2007Aug31

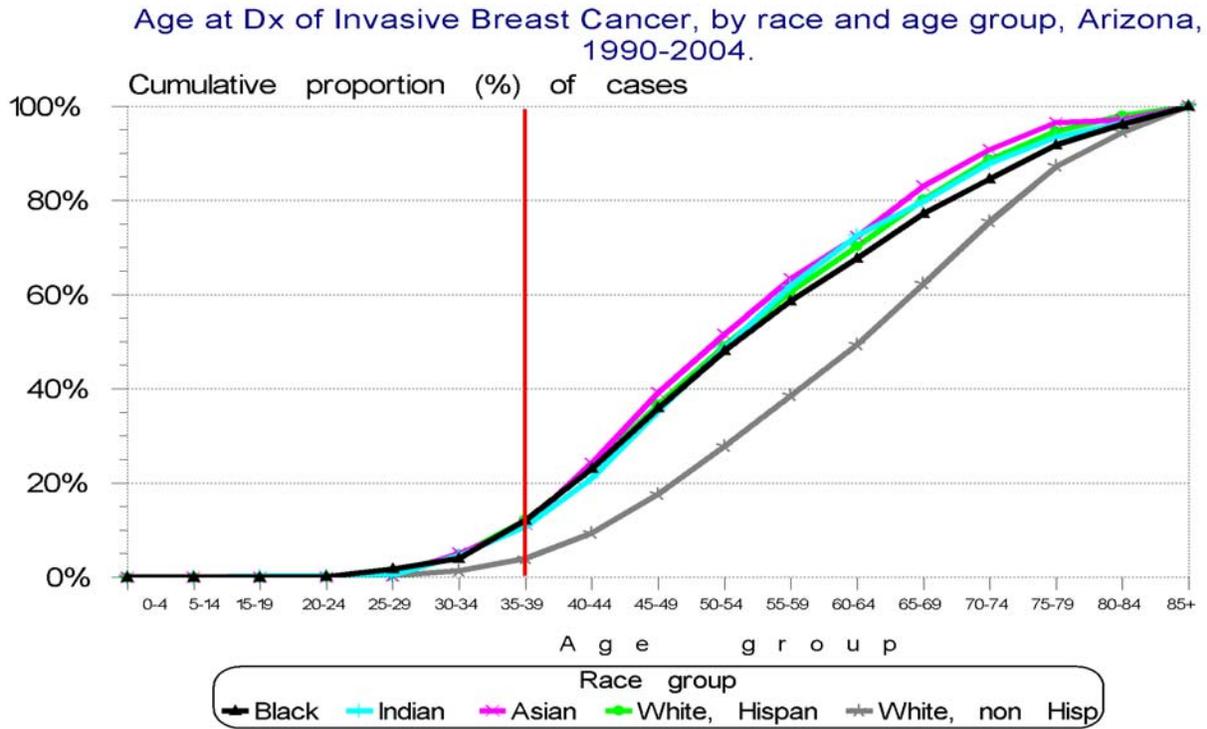
Figure 26. Incidence of Invasive Breast Cancer, by Race and Age Group, Arizona, 1995-2004



Source: Arizona Cancer Registry, 2007Aug31

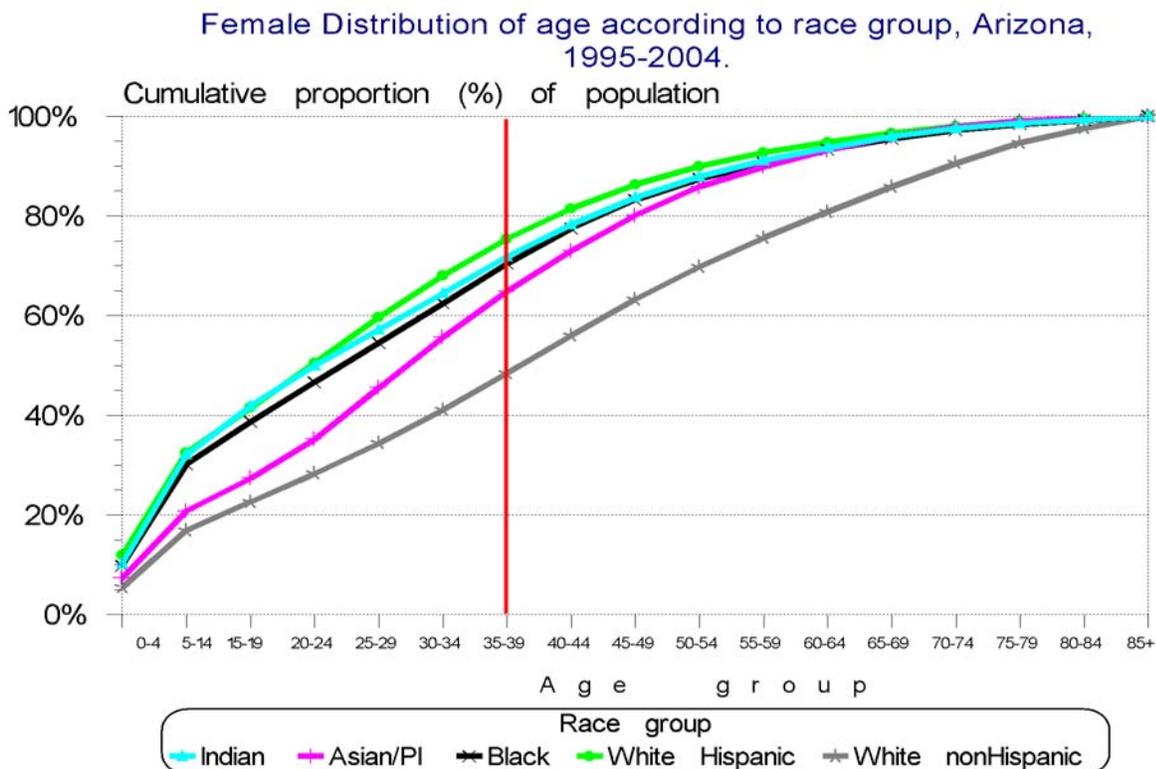
APPENDIX H: SURVIVORSHIP

Figure 27. Age at Diagnosis of Invasive Breast Cancer, by Race and Age Group, Arizona, 1995-2004



Source: Arizona Cancer Registry, 2007Sep25

Figure 28. Female Distribution of Age According to Race Group, Arizona, 1995-2004



Source: Arizona Cancer Registry, 2007-Sep-25

APPENDIX I: COMMENTS AS THE MATRIX WAS DEVELOPED

Comment or Issue	Response
<p>Are we diagnosing cancer early enough? (i.e. age at diagnosis, stage)</p>	<p>We created Figures 24-28, which show that cancers are diagnosed in a high proportion of the younger age groups of non Whites. However, this finding is attributable to the relatively high proportion of younger persons in the non White populations. In general, the age-specific rates are highest in the White population, at least for colorectal and breast cancer.</p>
<p>Is the proportion of “unknown” survivorship or follow-up status the same across all the racial/ethnic groups?</p>	<p>These items also would be good measures of how well cancer patients remain “in the cancer care system.” The ACR will generate these data in a future analysis.</p>
<p>Address controversy around Prostate Cancer Screening</p>	<p>Please see the separate document we prepared that describes some of the issues.</p>

APPENDIX J: COMPARATIVE RANKING OF CLINICAL SERVICES

Partnership for Prevention: Rankings of Clinical Preventive Services in the General Population (2006)



Services (short name)	Clinical Preventive Benefit (CPB)	Cost Effectiveness (CE)	Total Score
Aspirin Chemoprophylaxis	5	5	10
Childhood Immunization Series	5	5	10
Tobacco Use Screening and Brief Intervention	5	5	10
Colorectal Cancer Screening	4	4	8
Hypertension Screening	5	3	8
Influenza Immunization	4	4	8
Pneumococcal Immunization	3	5	8
Problem Drinking Screening and Brief Counseling	4	4	8
Vision Screening-Adults	3	5	8
Cervical Cancer Screening	4	3	7
Cholesterol Screening	5	2	7
Breast Cancer Screening	4	2	6
Chlamydia Screening	2	4	6
Calcium Chemoprophylaxis	3	3	6
Vision Screening-Children	2	4	6
Folic Acid Chemoprophylaxis	2	3	5
Obesity Screening	3	2	5
Depression Screening	3	1	4
Hearing Screening	2	2	4
Injury Prevention Counseling	1	3	4
Osteoporosis Screening	2	2	4
Cholesterol Screening-High Risk	1	1	2
Diabetes Screening	1	1	2
Diet Counseling	1	1	2
Tetanus-diphtheria Booster	1	1	2

Maciosek MV et al. [Priorities among effective clinical preventive services: results of a systematic review and analysis.](#) Am J Prev Med 2006; 31(1):52-61. www.prevent.org

APPENDIX K: ENDNOTES

Endnotes

¹ <http://www.prevent.org/content/view/51/104/>

² Partnership for Prevention, 2001, citing Eddy, *Ann Int Med* 1990;133(3):214-226.

³ Solberg, *Am J Prev Med* 2006;31(1):62-71

⁴ op cit 2, citing Salzman, *Ann Intern Med* 1997;127(11):955-65.

⁵ Maciosek, *Am J Prev Med* 2006;31(1):80-89

⁶ See Taylor WC. A 71-year-old woman contemplating a screening colonoscopy. *JAMA* March 8, 2006. V.295(10):1161-1167.

⁷ op cit 2, citing Coffield, *Am J Prev Med* 2001;21(1):1-9