NAACCR Data Quality Indicators

NAACCR 2011-2012 Webinar Series

June 14, 2012

Q&A

- Please submit all questions concerning webinar content through the Q&A panel.

Reminder:

- If you have participants watching this webinar at your site, please collect their names and emails.
  - We will be distributing a Q&A document in about one week. This document will fully answer questions asked during the webinar and will contain any corrections that we may discover after the webinar.

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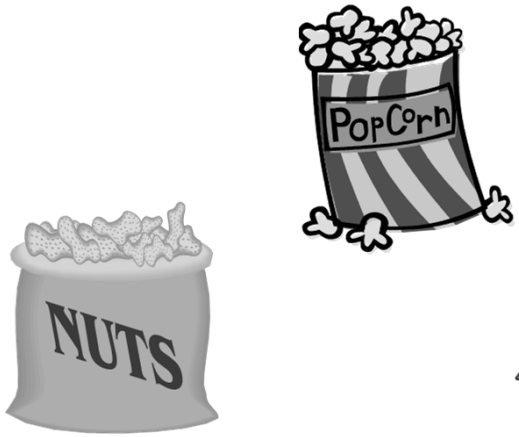
Fabulous Prizes



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Agenda

- NAACCR Data Quality Reports
  - Glenn Copeland, Director of the Michigan Cancer Surveillance Program, CINA Chair
- Evaluation of NAACCR Survival Data
  - Hannah K Weir, PhD, Division of Cancer Prevention and Control Centers for Disease Prevention and Control
  - Chris J Johnson, MS Cancer Data Registry of Idaho
- Stage data profile
  - Brad Wohler, Florida Cancer Data System, Manager, Statistical Analysis
- Factors associated with unknown stage prostate cancer
  - Maria Schymura, PhD, Director New York State Cancer Registry

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NAACCR Data Quality Reports

Using NAACCR DQI
Reports to Assess Submitted Call for Data

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Objectives

- Explain Data Quality Indicators Report
  - What does the DQI include
  - Why they are generated
  - What they can tell you
- Review New DQI Analytical Summary
  - Introduced this year
  - Explanation of statistics and presentation

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General Information

- Annual Call-for-Data submissions are analyzed
  - Assess submission for data problems
- NAACCR Certification
  - Determines Certification
- CINA Editorial
  - Inclusion in CINA Combined

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Confidentiality

- IMS Receives the data submissions
  - Responsible for data file assessments
  - Designs and Produces DQI reports for NAACCR
  - Provides DQI to Certification and CINA Committees only
- Reports by registry are privileged
  - Available to committee members only
  - To be used to carry out committee duties

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Provided to Submitting Registry

- Shared with each submitting registry
  - Provides summary data used by NAACCR committees
  - Delineates certification and inclusion measures
  - Offers tool for registry to review their data

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DQI Contents

- Series of tables by year of diagnosis
- Incidence counts by year and by site
- Certification and inclusion criteria
- Field Specific tables of submitted variables by year

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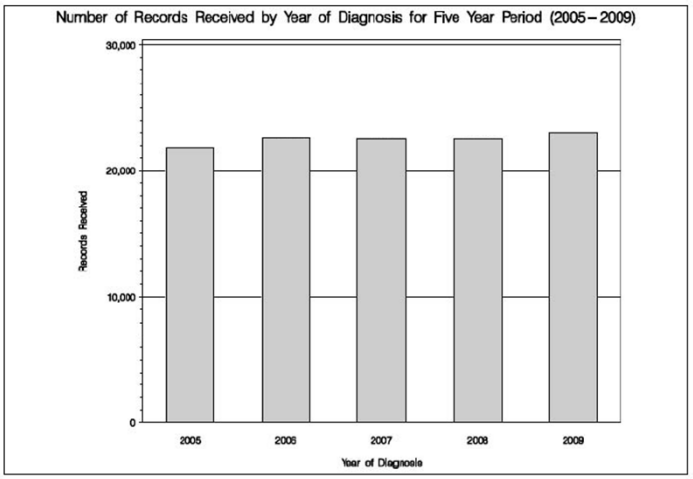
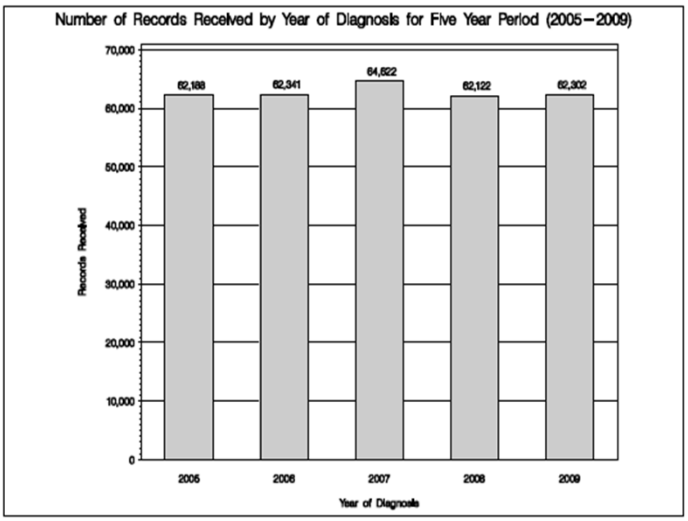
NAACCR Call For Data 2012
Data Quality Indicator Report:
December 28, 2011

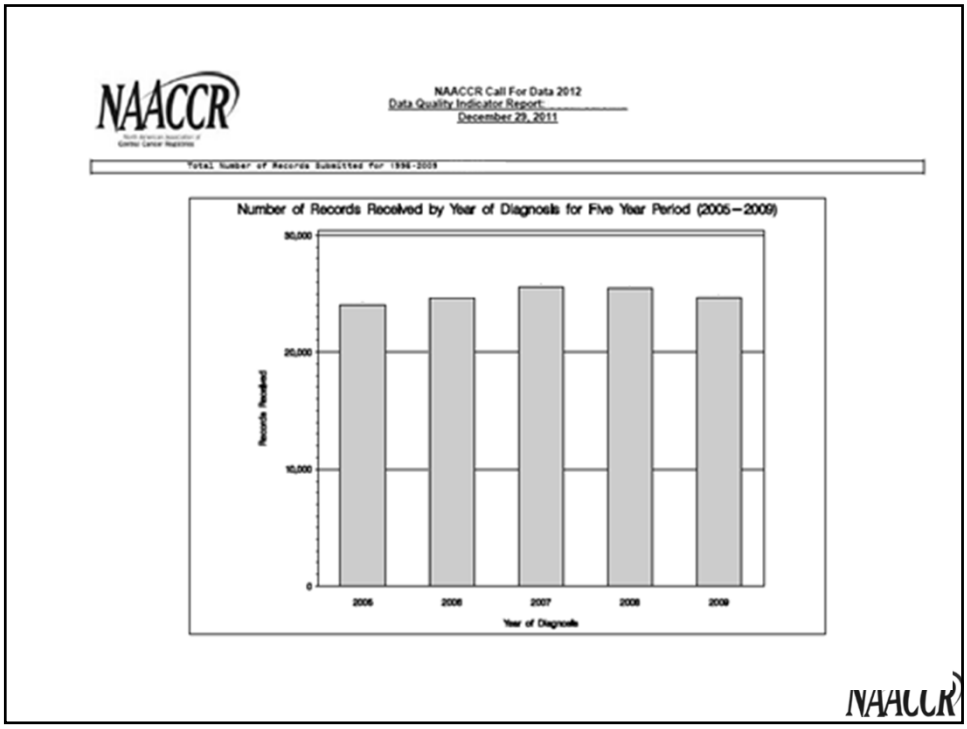
Total Number of Records Submitted for 1995-2009:

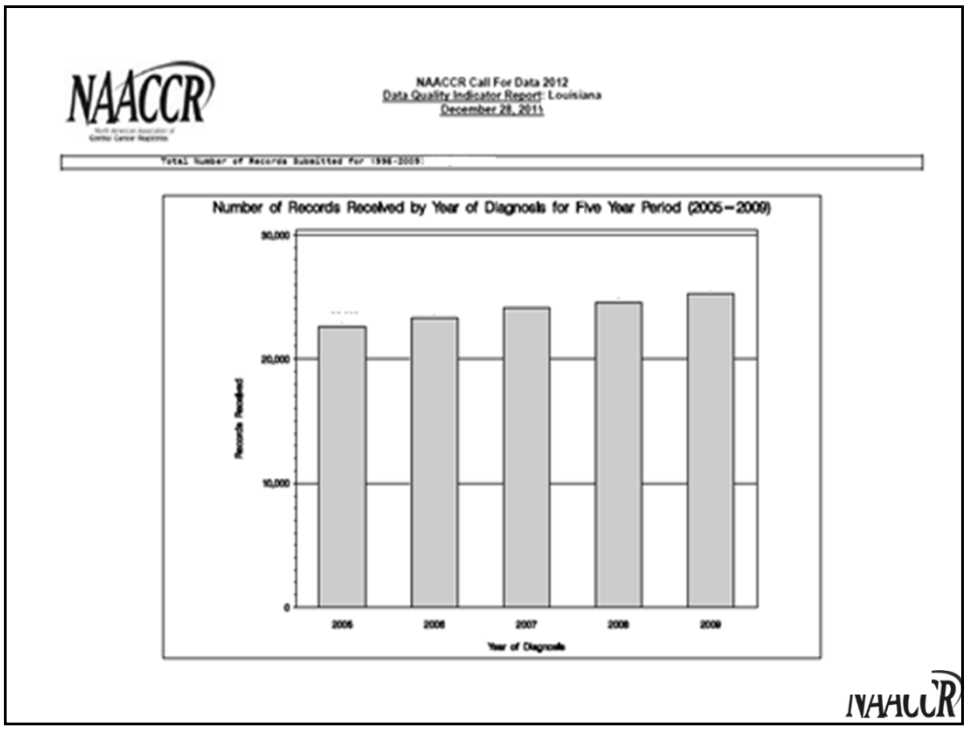


NAACCR Call For Data 2012
Data Quality Indicator Report: Michigan
February 7, 2012

Total Number of Records Submitted for 1995-2009: 892,907




NAACCR
NAACCR Call For Data 2012
Data Quality Indicator Report:
December 29, 2011
Total Number of Records Submitted for 1996-2009
Number of Records Received by Year of Diagnosis for Five Year Period (2005–2009)
30,000
20,000
10,000
0
Records Received
2005
2006
2007
2008
2009
Year of Diagnosis
NAACCR


NAACCR
NAACCR Call For Data 2012
Data Quality Indicator Report: Louisiana
December 29, 2011
Total Number of Records Submitted for 1996-2009:
Number of Records Received by Year of Diagnosis for Five Year Period (2005–2009)
30,000
20,000
10,000
0
Records Received
2005
2006
2007
2008
2009
Year of Diagnosis
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Inclusion Criteria Information

Percent Unknown Sex, Race, County, Age and Percent DCO by Year of Diagnosis (Malignant Only)

Year of Diagnosis	Sex			Race			County			Age			Reporting Source		
	Unk	Valid	% Unk	Unk	Valid	% Unk	Unk	Valid	% Unk	Unk	Valid	% Unk	DCO	Other	% DCO
2005	11	53,934	0.02	1,201	52,744	2.23	1,235	52,710	2.29	5	53,940	0.01	672	53,273	1.25
2006	9	54,388	0.02	1,313	53,084	2.41	1,258	53,139	2.31	9	54,388	0.02	998	53,399	1.83
2007	32	56,537	0.06	1,402	55,167	2.48	1,160	55,409	2.05	2	56,567	0.00	682	55,887	1.21
2008	47	53,843	0.09	1,300	52,590	2.41	1,067	52,823	1.98	2	53,888	0.00	952	52,938	1.77
2009	41	53,489	0.08	1,105	52,425	2.06	990	52,540	1.85	0	53,530	0.00	693	52,837	1.29

Inclusion Criteria Information

Percent Unknown Sex, Race, County, Age and Percent DCO by Year of Diagnosis (Malignant Only)

Year of Diagnosis	Sex			Race			County			Age			Reporting Source		
	Unk	Valid	% Unk	Unk	Valid	% Unk	Unk	Valid	% Unk	Unk	Valid	% Unk	DCO	Other	% DCO
	0	34,389	0.00	373	34,016	1.08	0	34,389	0.00	0	34,389	0.00	595	33,794	1.73
	0	35,128	0.00	224	34,904	0.64	1	35,127	0.00	0	35,128	0.00	998	34,130	2.84
	0	36,884	0.00	449	36,435	1.22	1	36,883	0.00	0	36,884	0.00	198	36,686	0.54
	0	36,641	0.00	329	36,312	0.90	5	36,636	0.01	0	36,641	0.00	1,174	35,467	3.20
	1	35,465	0.00	360	35,106	1.02	4	35,462	0.01	1	35,465	0.00	2,015	33,451	5.68

Screening Item Details

- Code Distributions
- Illegal/Inappropriate
- IHS Link
- Cancer Sequence
- Pre 2004 Benign
- Blank and Unknown %
- Trends in Unknowns
- Edit Override Usage

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Spot Incorrect – Nonstandard Coding

Description	2007	2008	2009
	64,622	62,122	62,302
0	0	3	0
9	1	0	0
30	0	1	0
43	0	0	0
45	0	0	0
91	1	1	0
115	0	0	0
145	0	0	0
223	2	0	0
224	0	0	0
226	0	0	0
641	0	0	0
999	27	43	31
Inv. State unable to identify cnty	39	43	32
Unknown	1,212	1,092	1,056
Valid County	63,340	60,939	61,183

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Processing Assessments – IHS Link

Description	1995	1996	1997	1998	1999	2000
	52,966	53,833	54,993	56,407	58,047	59,306
Record sent for linkage, IHS match	80	83	105	105	111	106
Record sent for linkage, no IHS match	52,886	53,750	54,888	56,302	57,936	59,200

	2001	2002	2003	2004	2005	2006
	59,808	61,149	61,393	61,430	62,188	62,341
Record sent for linkage, IHS match	118	139	146	143	137	148
Record sent for linkage, no IHS match	59,690	61,010	61,247	61,287	62,051	62,193

	2007	2008	2009	Total
	64,622	62,122	62,302	892,907
Record sent for linkage, IHS match	122	137	182	1,862
Record sent for linkage, no IHS match	64,500	61,985	62,120	891,045

Data Quality Priorities - Derived Stage

Description	2003	2004	2005	2006	2007	2008	2009
	61,393	61,430	62,188	62,341	64,622	62,122	62,302
IS	0	7,765	8,070	7,774	7,885	8,059	8,503
L	0	20,160	21,087	21,979	25,102	23,716	24,165
RE	0	3,452	3,665	3,839	4,008	3,840	3,836
RN	0	3,444	3,450	3,702	3,824	3,842	3,838
RE+RN	0	2,028	2,150	2,316	2,282	2,261	2,300
RNOS	0	83	101	246	556	527	525
D	0	9,646	11,031	11,607	12,924	11,960	12,099
NA	0	1,443	1,502	1,410	1,461	1,428	1,536
U	0	13,409	11,132	9,468	6,580	6,489	5,499
Blank	61,393	0	0	0	0	0	1

Issues

- Registry Specific
- Lacks Comparisons
- Missing effects of other factors
  - Population changes

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Needed Something Better

- Statistical relevance
- Rates and proportions
- Easy to compare across registries

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CINA Submission Summary Report

- Summary of total records used in CINA.
- "Fit For Use" Criteria
- Frequency distributions and bar charts
- Compare counts across submissions
- Box and whisker plots.

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Cases Received/Cases Included in CINA

Summary of Data Received for the 2012 NAACCR Call For Data by Year of Diagnosis

Total Case Records Received (1995-2009)	892,907
Case Exclusions for 1995-2009 (In Order of Exclusion)	
Invalid Year, State Code, County Code = 998	19,547
In-situ, Benign, Borderline Malignant (1995-2009)	77,975
Year of Diagnosis not 2005-2009	519,359
Invalid Site, Missing Age, Non-Male/Female Cases	354
Total Cases Excluded	617,235
Cases Included for CINA 2005-2009	
Malignant Cases (Inc. In situ Bladder)	265,899
In Situ Breast Cases	9,773
Total Cases Included in CINA	275,672

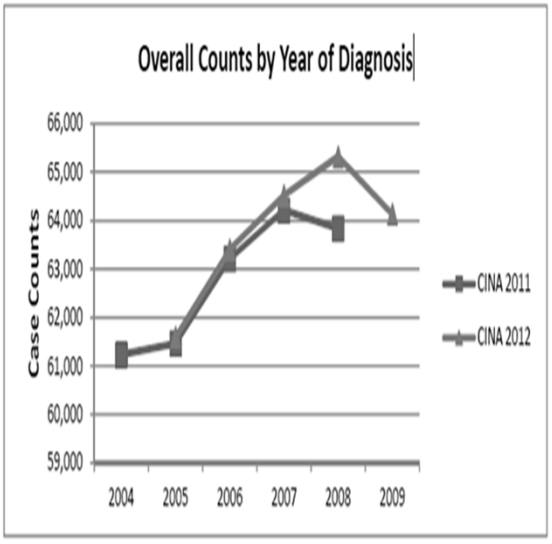
Data Quality Inclusion Criteria

Data Quality Indicators (2005-2009)

Indicator (%)	2005	2006	2007	2008	2009
Completeness of Case Ascertainment	106.5	104.6	106.3	100.9	97.4
Missing Age	0.0	0.0	0.0	0.0	0.0
Missing Sex	0.0	0.0	0.0	0.0	0.0
Missing Race	1.7	1.8	2.1	2.2	1.9
Missing County	0.1	0.2	0.9	1.2	0.6
Death Certificate Cases Only (DCO)	1.2	1.7	1.1	1.7	1.2
Passing Edits	100.0	100.0	100.0	100.0	100.0
Duplicate case reports per 1,000 records:		0.80			

Meets the Inclusion Criteria for Combined Volume?	Yes

Call to Call Comparison - Cases

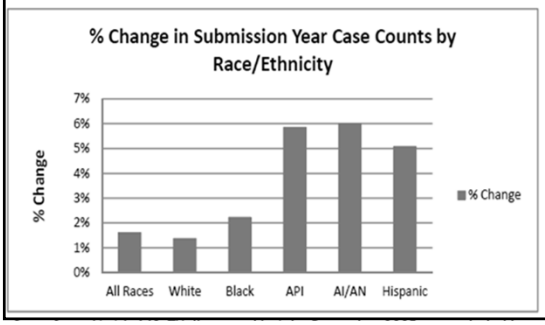


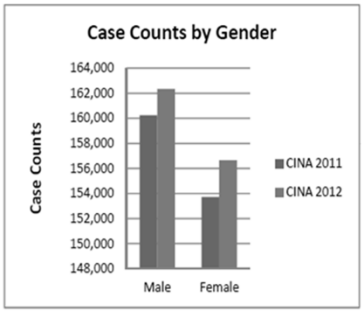
Overall Counts by Year of Diagnosis			
	CINA 2011	CINA 2012	% Change
2004	61,234	NA	N/A
2005	61,468	61,599	0.21%
2006	63,213	63,403	0.30%
2007	64,213	64,521	0.48%
2008	63,837	65,321	2.32%
2009	NA	64,135	N/A
Total	313,965	318,979	1.60%

Call to Call Comparison - Race

Counts by Race*/Ethnicity			
	CINA 2011	CINA 2012	% Change
All Races	313,965	318,979	1.60%
White	261,943	265,536	1.37%
Black	41,373	42,290	2.22%
Asian or Pacific Islander	6,002	6,353	5.85%
Am. Indian/Alaska Native	183	194	6.01%
Hispanic	15,268	16,042	5.07%

Case Counts by Gender			
	CINA 2011	CINA 2012	% Change
Male	160,250	162,335	1.30%
Female	153,715	156,644	1.91%
Total	313,965	318,979	1.60%





Relative Rates – Box and Whisker Plots

- Intended to provide a quick comparative look
- Displays the distribution of rates for all registries
  - Identifies the Median
  - Identifies the interquartile range
  - Shows maximum values
  - Identifies registry rate within the overall distribution
- Displays rates by race/ethnicity by sex
  - All cancers, lung, colorectal, breast, prostate

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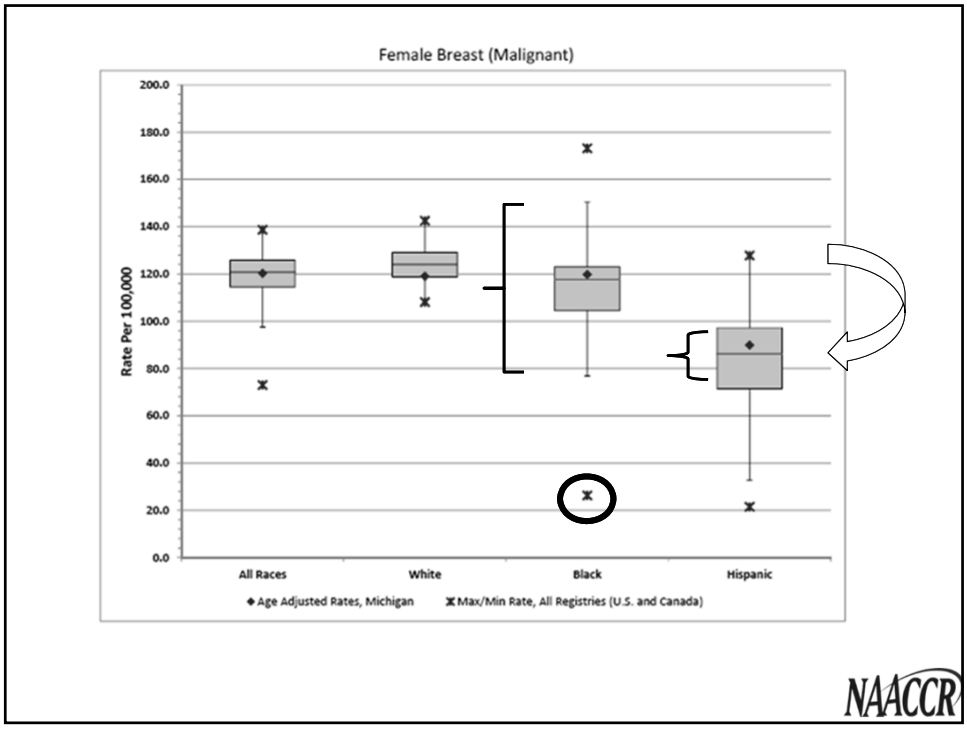

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Companion Data Table

	All races	White**	Black**	Hispanic**
Rate	120.3	119.0	119.8	89.9
Count	34,967	29,591	4,283	500
Rate Percentile	49.2%	30.9%	54.5%	56.3%

Note: ~ indicates no data available; ^ indicates fewer than 6 cases; shading indicates rate is outside 25-75% Percentile Range (IQR)

Rate Statistics For All Submitting Registries (U.S. and Canada)				
	All races	White**	Black**	Hispanic**
25-75% Percentile (IQR)	114.5 - 125.8	118.7 - 129.1	104.5 - 122.9	71.4 - 97.2
Minimum-Maximum Range	73.0 - 138.7	108.1 - 142.5	26.3 - 173.2	21.5 - 127.8
Median	120.8	124.0	117.7	86.2
Upper Whisker Range	125.8 <- 138.7	129.1 <- 142.5	122.9 <- 150.5	97.2 <- 127.8
Lower Whisker Range	97.6 -< 114.5	108.1 -< 118.7	76.9 -< 104.5	32.7 -< 71.4

*Rates are per 100,000 population and are age-adjusted by five-year age groups to the 2000 U.S. standard population based on single years of age.

Issues or problems:

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NAACCR, Inc.
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Fax: (217) 698-0188
jhofferkamp@naaccr.org

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Please submit questions through the Q&A Panel

QUESTIONS?

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Evaluation of NAACCR Survival Data

June 14, 2012

Chris J Johnson, MS
Cancer Data Registry of Idaho
Boise, ID

Hannah K Weir, PhD
Division of Cancer Prevention and Control
Centers for Disease Prevention and Control
Atlanta, GA

And the NAACCR Survival Analysis Workgroup (SAWG)

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NAACCR Survival Analysis Workgroup Members

Name	State, Province or Agency
Deb Hurley	SC (co-chair)
Chris Johnson	ID (co-chair)
Glenn Copeland	MI
Larry Ellison	Stat Cam
Monique N. Hernandez, Ph.D.	FL
Bin Huang	KY
Angela Mariotto	NCI
Zoran Miladinovic	Stat Can
Cyllene Morris	CA
Xiaoling Niu	NJ
Arti Parikh-Patel	CA
Paulo S. Pinheiro, MD PhD	NV
Trevor Thompson	CDC
Donna Turner	MB
Baozhen Qiao	NY
Zhenguo Qiu	AB
Kevin Ward	GA
Hannah Weir	CDC
Reda Wilson	CDC
Brad Wohler	FL
Kevin Zhang	MACRO

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Overview

- What is population-based survival and how is It used?
- Data evaluation
- Putting it all together
- Next steps

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What is Population-Based Survival

- Measures survival ***achieved*** in the population regardless of age, race, stage of disease, access to health care, etc.
- Can be used to:
  - Target and monitor cancer control and health policy initiatives
  - Evaluate the effectiveness of healthcare delivery (measure of cancer system performance)

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Innovative Uses of Survival Data

- Compare survival by geographic area, race, ethnicity, SES, etc.
- Estimate the number of avoidable deaths within a specified time period if there were no disparities
- Estimate the population "cure" fraction
- Estimate "current" survival using period analysis

EUROCARE: Survival of Cancer Patients in Europe
http://www.eurocare.it/

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Types of Population-based Survival

- Observed survival:
  … how many individuals diagnosed with cancer are
  years?
  … endpoint is death from any cause
- Cause-specific survival:
  … how many individuals diagnosed with cancer ha
  cancer after xx years?
  … endpoint is death from cancer only

Both Cause Specific and Relative are a way of comparing survival of people who have cancer with those who don't— they shows how much cancer shortens life

Relative survival:
… compares the survival experience of individuals with cancer to individuals without cancer (of the same age, race, gender, etc.) *
… measure excess mortality among cancer patients
… endpoint is death from any cause

* *Uses life tables*

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Advantages and Disadvantage of Relative vs. Cause Specific Survival

	Advantages	Disadvantages
Relative	Relies on fact of death not cause of death	Life tables may not be available for all populations
Cause Specific	Not limited to populations with life tables	Death Certificates may not be reliable (e.g., may be coded to site of mets or recurrence)

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Overview

- What is population-based survival and how is It used?
- Data evaluation
- Putting it all together
- Next steps

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Data

- CINA (1995-2008) 2010 data submission
- First year requested follow-up data
- Excluded Canadian data due to coding of vital status variable
- Registries
  - SEER: CA (LA, SF), Detroit, HI, IA, KY, LA, NJ, NM, UT, Seattle
  - NPCR: remaining states
    - 2 NPCR state cancer registries not included

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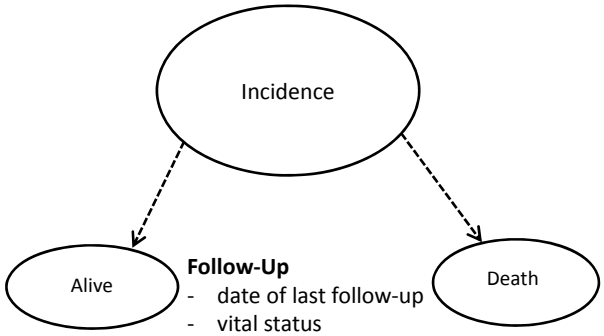
Data Elements

- **Patient Demographics**
  - date of birth
  - sex
  - race/ethnicity
  - name
  - SS#
- **Tumor Record**
  - site
  - histology
  - behavior
  - stage
  - date of diagnosis
  - type of reporting source

-



Follow-Up
- date of last follow-up
- vital status
- cause of death
- follow-up source central

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Evaluation Criteria

CONCORD

- Coleman MP and CONCORD Working Group. Cancer survival in five continents: a worldwide population-based study (CONCORD). Lancet Oncology. 2008 Aug;9(8):730-56.

EUROCARE

- De Angelis R and EUROCARE Working Group. The EUROCARE-4 database on cancer survival in Europe: data standardization, quality control and methods of statistical analysis. European J Cancer. 2009 Apr;45(6):909-30.

C-SPAN (*Cancer Survival and Prevalence Analytic Network) in Canada*

- *C-SPAN* Data Quality Assessment Protocol for Survival Analysis

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Evaluation Criteria

- % Sex, Age or Race Unknown
- % DCO/Autopsy
- % Vital status Unknown
- % Edi Errors
- % MV
- % Missing Cause of Death
- % Multiple Primaries
- % Alive with 0 Survival Time
- % Death within 1 Month of Diagnosis
- % Dead 0 Survival Time not reported by DCO/Autopsy

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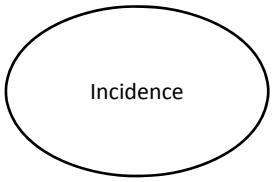
The Foundation for Population-Based Survival



The validity of population-based survival comparisons is clearly dependent on the validity of the incidence data. Berrino, 2003

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Factors that Impact Incidence

- NAACCR Certification
  - Completeness of case ascertainment
  - DCO/ autopsy
  - Missing critical information (age, sex, race)
  - Edits
  - Duplicates

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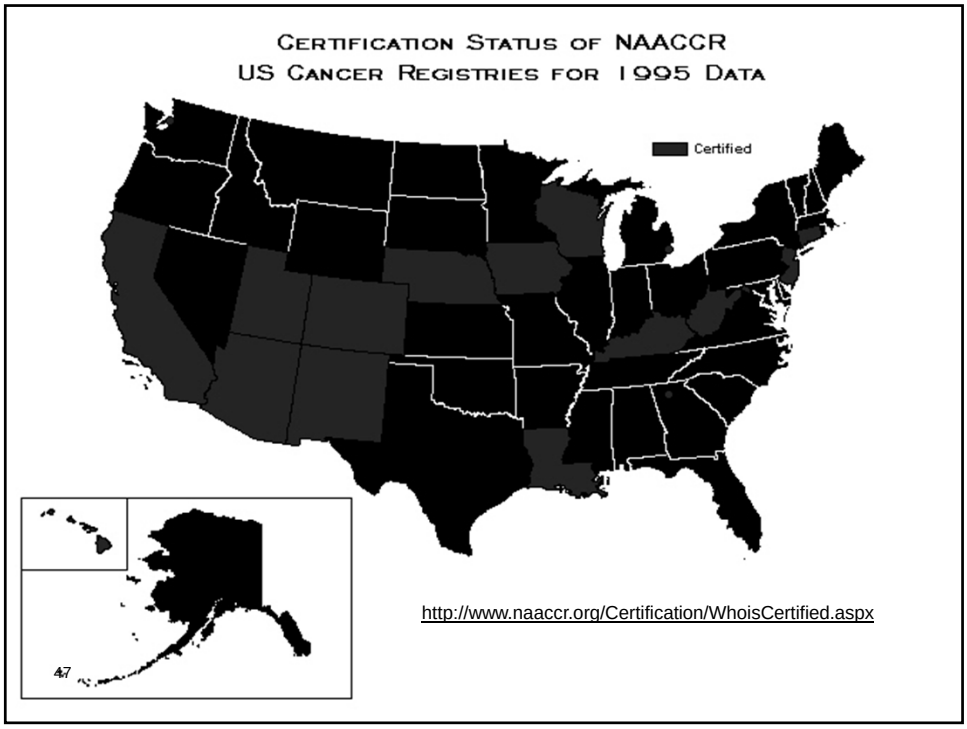
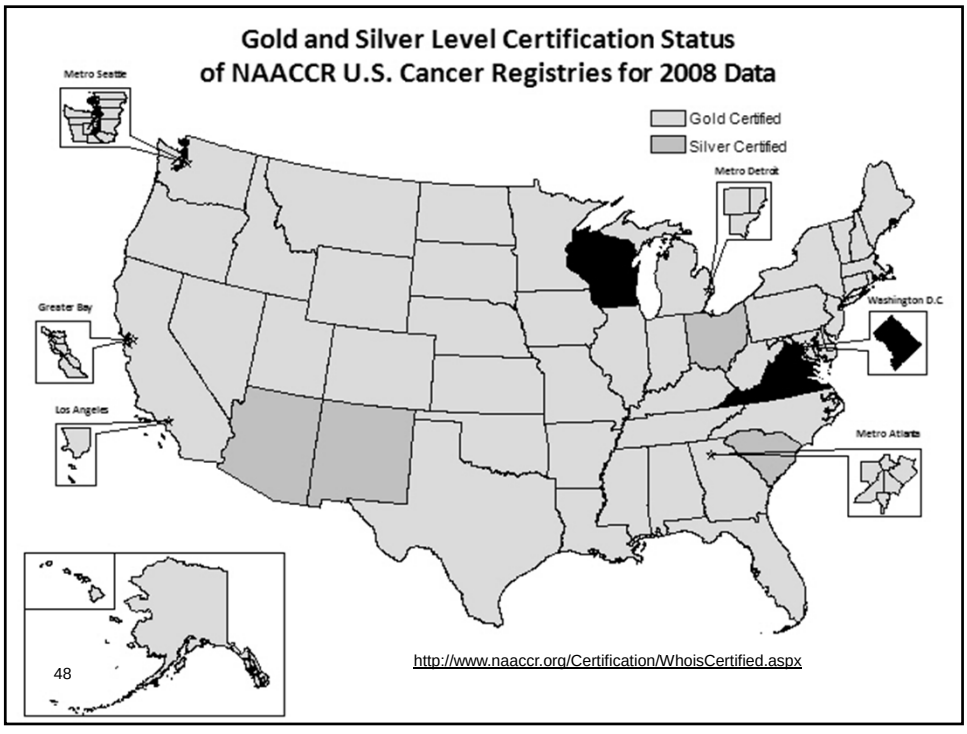

Certification Status of NAACCR
US Cancer Registries for 1995 Data
Certified
47
http://www.naaccr.org/Certification/WhoisCertified.aspx


Gold and Silver Level Certification Status
of NAACCR U.S. Cancer Registries for 2008 Data
Metro Seattle
Gold Certified
Silver Certified
Metro Detroit
Greater Bay
Washington D.C
Los Angeles
Metro Atlanta
48
http://www.naaccr.org/Certification/WhoisCertified.aspx

Factors that Impact Incidence

- NAACCR Certification
  - Completeness of case ascertainment
  - DCO/ autopsy
  - Missing critical information (age, sex, race)
  - Edits
  - Duplicates
- Population Coverage
  - 1995 - 19 US registries NAACCR Certified
  - 2008 - 53 US registries Certified

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Factors that Impact Incidence

- NAACCR Certification
- Completeness of Case Ascertainment
  - Clinical vs. Microscopically Verified (MV)

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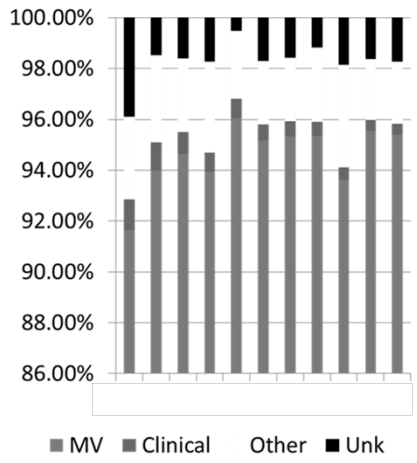
% Type Diagnostic Confirmation SEER (1992-2008)



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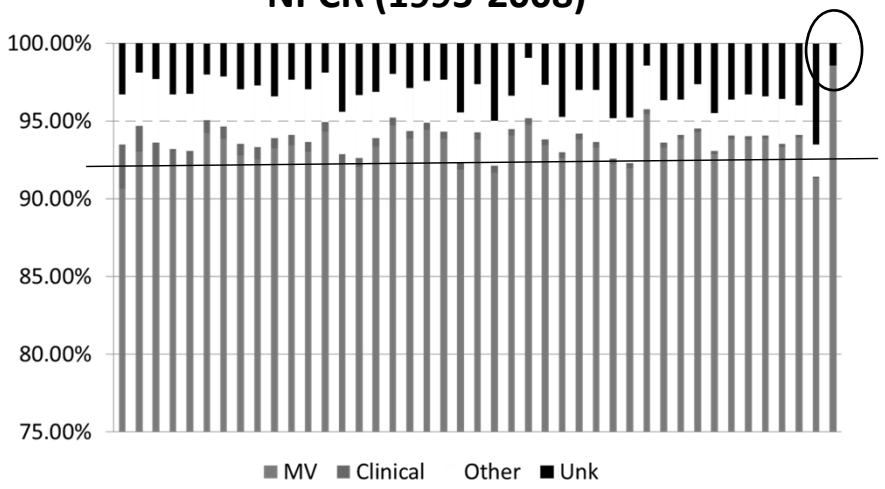
% Type Diagnostic Confirmation NPCR (1995-2008)



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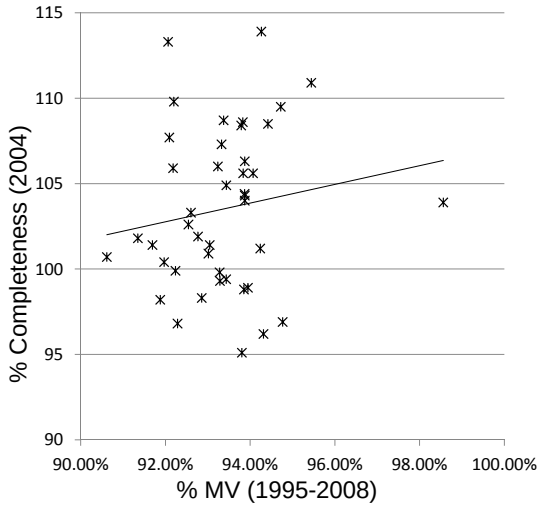
Case Completeness and % MV



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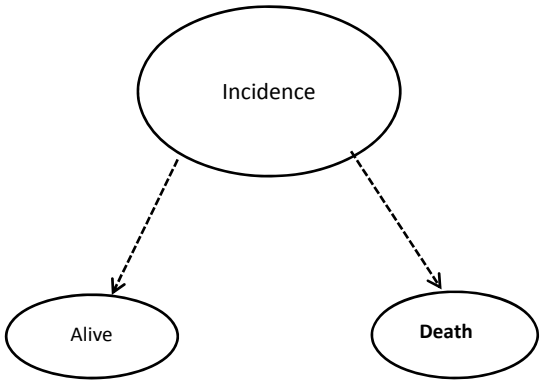
Follow-Up



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Demographic Variables

- Variable: Name (last, first), Sex, Date of birth, Social Security No (SS#)
- Critical for enhancing race/ethnicity, follow-up information through linkage
- Results from Melissa Jim – IHS linkage project

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% Missing - Linkage Variables

	SS#	Birth Date	Sex	Last Name	First Name
SEER - range	0.00-3.93	0.00-0.09	0.00-0.02	0.00-<0.00	0.00-<0.00
- No. states w/missing	7/10	4/10	3/10	1/10	3/10
NPCR - range	0.00-2.58	0.00-0.07	0.00-0.03	0.00-<0.02	0.00-<0.02
- No. states w/missing	30/41	21/41	22/41	9/10	15/41

Source: M Jim, IHS linkage data, variable years of diagnosis

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Follow-Up Variables: Inter-Field and Intra-Record Edits

Data Variables and Edits

- Date of last contact
- Vital status
- Cause of death
- ICD revision number
- Follow-up source central
- Types of reporting source

- All NPCR and SEER registries reported <1% edit errors for any individual edits

Edits associated with vital status variables needed for survival analysis
Age, Histologic Type, COD, ICDO3 (SEER IF43)
Cause of Death (SEER COD)
Date of Last Contact (NAACCR DATEEDIT)
Date of Last Contact Flag (NAACCR)
Date of Last Contact, Date Flag(NAACCR)
Date of Last Contact, Date of Diag. (NAACCR IF19)
Follow-Up Source (COC)
Follow-up Source Central (NAACCR)
Follow-Up Source Central, Vital Status (NPCR)
Follow-Up Source, Vital Status (COC)
ICD Revision Number (NPCR)
ICD Revision Number, Cause of Death (SEER IF37)
ICD Revision, Vital Stat, Date Last Contact (NPCR)
Type of Rep Srce(DC),Seq Num--Cent,ICDO3(SEER IF04
Type of Report Srce (AO), Date of Dx (SEER IF02)
Type of Report Srce(DC/AO), COD (SEER IF09)
Type of Report Srce(DC/AO), Diag Conf (SEER IF05)
Type of Report Srce(DC/AO), Vital Stat (SEER IF08)
Type of Reporting Source (SEER RPRTSRC)
Vital Status (Subm)
Vital Status, Cause of Death (Subm)
Verify cause of death same on all records for a patient (SEER IR11)
Verify date of follow-up same on all records for a patient (SEER IR08)
Verify vital status same on all records for a patient (SEER IR10)

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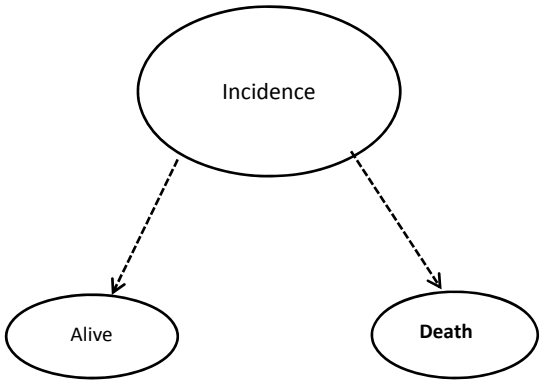
Events in Follow-UP



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Vital Status

- All NPCR and SEER registries reported <1% missing vital status information

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Follow-Up Requirements

Alive Status

- SEER Program requires all SEER registries to follow alive patients
  - 95% patients have last contact date within 18 months of the annual date of submission
- NPCR registries are not required to follow patients

Death Staus

- All Registries conduct death clearance with state DC
- SEER and NPCR provide support for registries to link with the National Death Index and the Social Security Death Index

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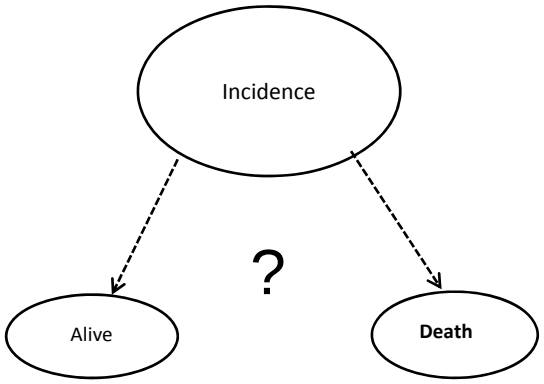
Events in Follow-UP



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Immediately Lost to Follow UP Alive

- SEER 11 database (not CINA)
- 1992-2006
- Information obtained from SEER survival session
- Alive with “0” survival time
- Contribute no follow-up information
- Survival time could be 0-<1 months
- <1% survival time = 0 months (range 0.1- 0.3%)

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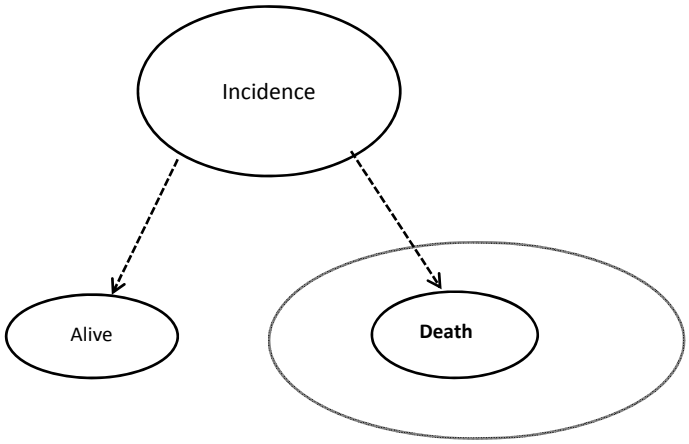
Events in Follow-Up



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The Importance of Death Ascertainment

Johnson CJ, Weir HK, Yin D, Niu X. *The impact of patient follow-up on population-based survival rates.* J Registry Manag. 2010 Fall;37(3):86-103.

OBJECTIVE: designed to measure the impact of variation in patient follow-up on survival statistics.

METHODS: SEER data used to construct datasets simulated scenarios of complete (SEER), incomplete, and no follow-up (NPCR) of alive patients; and complete and incomplete death ascertainment.

CONCLUSIONS:

- Complete death ascertainment important for producing accurate cancer survival statistics, and
- Ascertainment of deaths only should generally be sufficient for survival analysis.

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Full Dates vs. Partial Dates

- Date of Birth
- Date of diagnosis

} Age at diagnosis needed for Life Tables

- Date of diagnosis
- Date of last contact

} Survival interval

SEER Program uses month and year

Example: Patient diagnosed April 2000 and dies May 2000 . Survival interval could be 1 – 60 days

NAACCR / NPCR uses month, day and year

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Survival Interval
Full Dates vs. Partial Dates

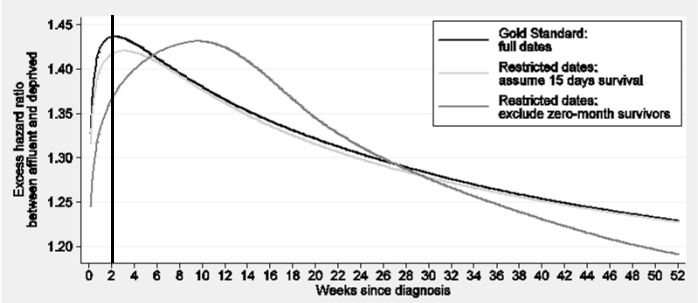

Fig 2 - colorectum (Females)

Woods LM, Rachet B, Ellis L, Coleman MP
Full dates (day, month, year) should be used in population-based cancer survival studies

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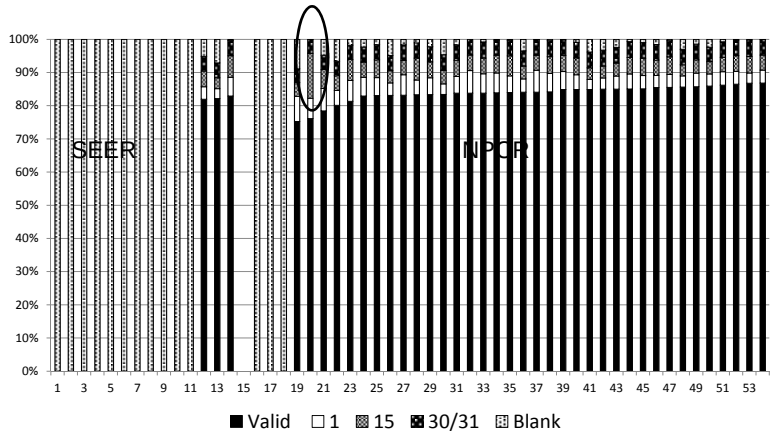
Day of Diagnosis (2004-2008)



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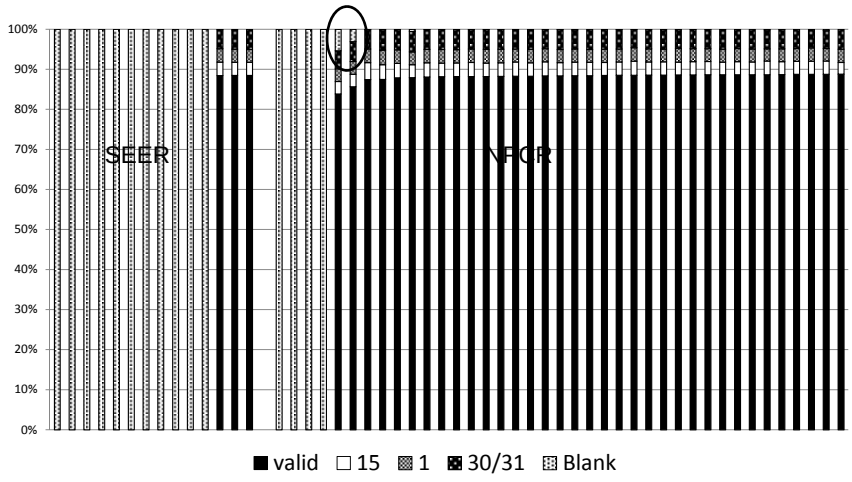
Day of Death among Decedents (2004-2008)



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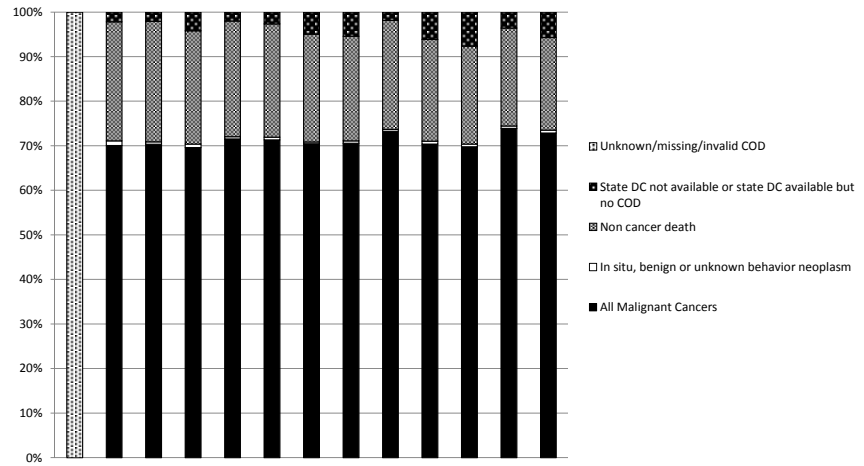
Cause of Death among Decedents SEER 1995-2008



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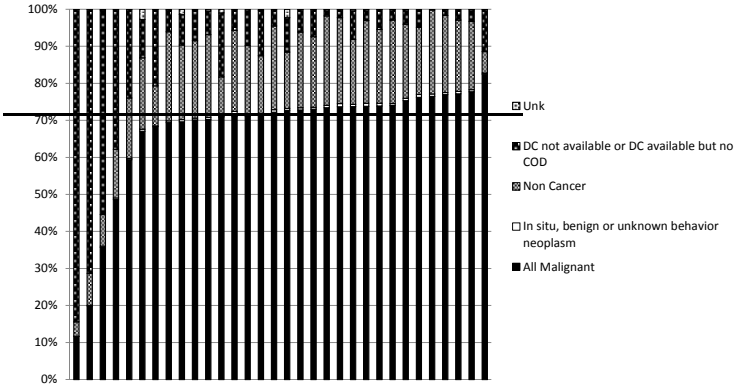
Cause of Death among Decedents NPCR 1995-2008



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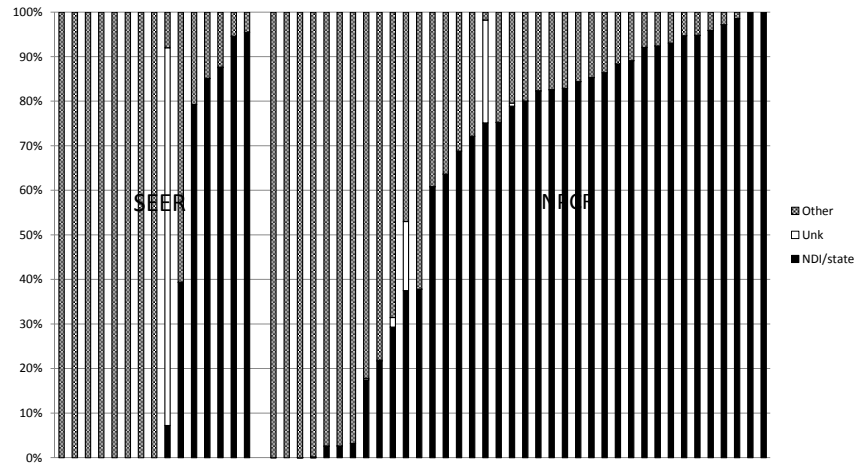
Decedents Dx 2006-2008 by Follow-Up Source Central



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Overview

- What is population-based survival and how is It used?
- Data evaluation
- Putting it all together
- Next steps

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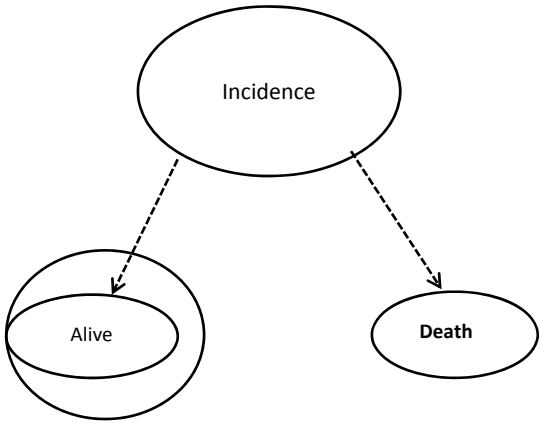
Events in Follow-UP



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Follow-Up Requirements

Alive Status

- SEER Program requires all SEER registries to follow alive patients
  - 95% patients have last contact date within 18 months of the annual date of submission
- NPCR registries are not required to follow patients

Death Staus

- All Registries conduct death clearance with state DC
- SEER and NPCR provide support for registries to link with the National Death Index and the Social Security Death Index

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Follow-Up Requirements

Alive Status

- SEER Program requires all SEER registries to follow alive patients
  - 95% patients have last contact date within 18 months of the annual date of submission
- NPCR registries are not required to follow patients
  - impute follow-up date to be the end of study (e.g., 12/31/08)

Death Staus

- All Registries conduct death clearance with state DC
- SEER and NPCR provide support for registries to link with the National Death Index and the Social Security Death Index

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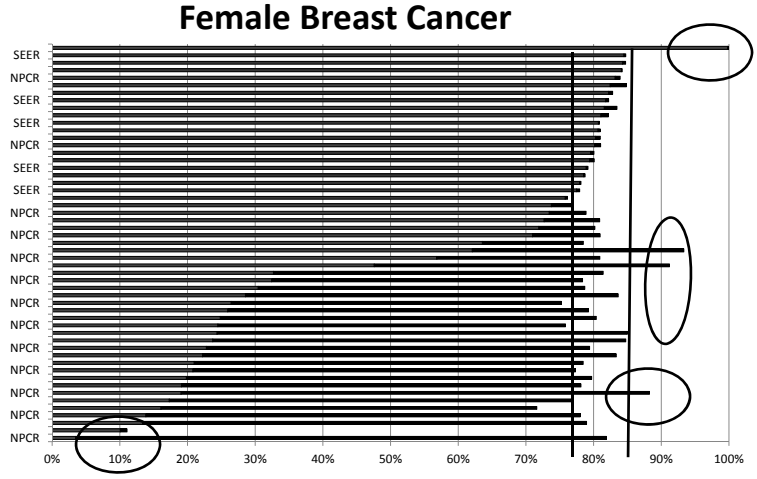
60-Month Observed Survival 2003-2007 Cases Followed Through 2008

Female Breast Cancer



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SEER NPCR

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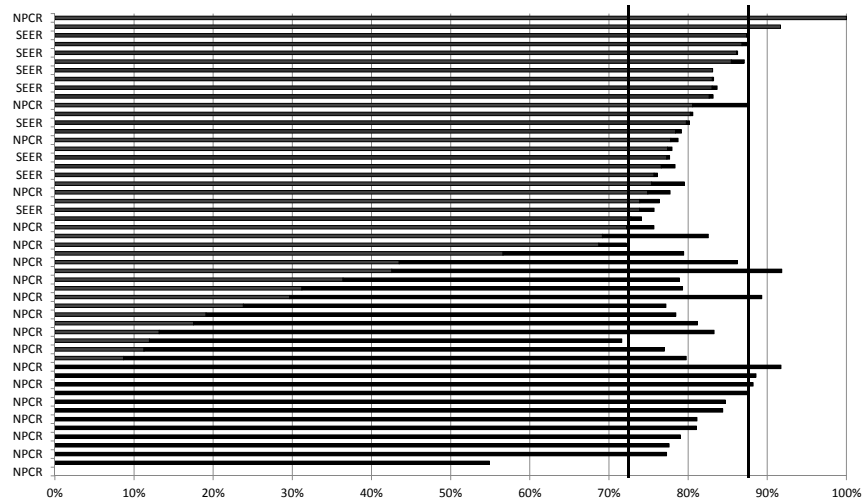
Leukemia (Ages 0-19)



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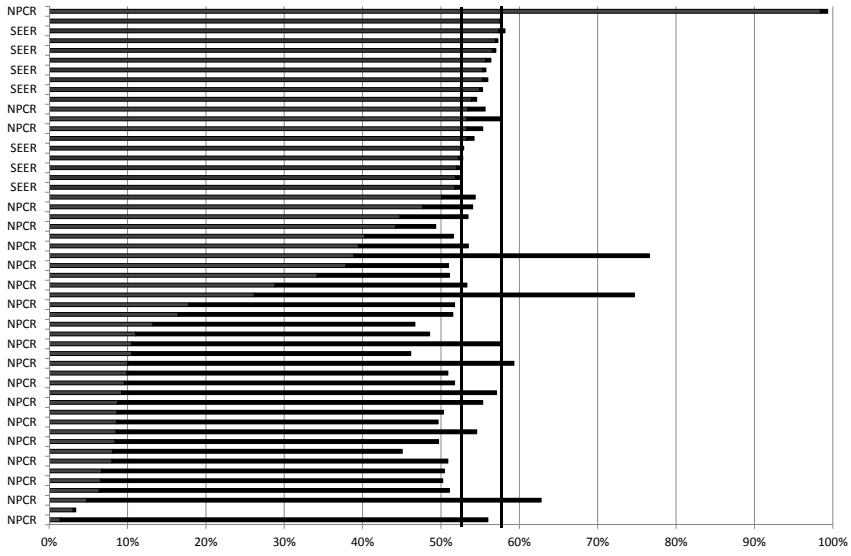
Colorectal Cancer



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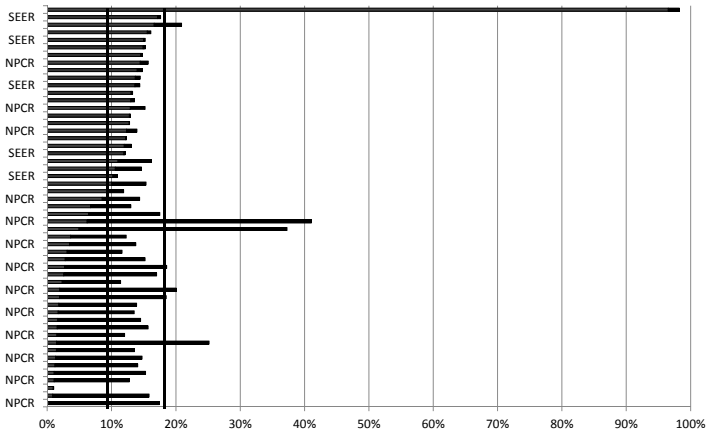
Lung & Bronchus Cancer



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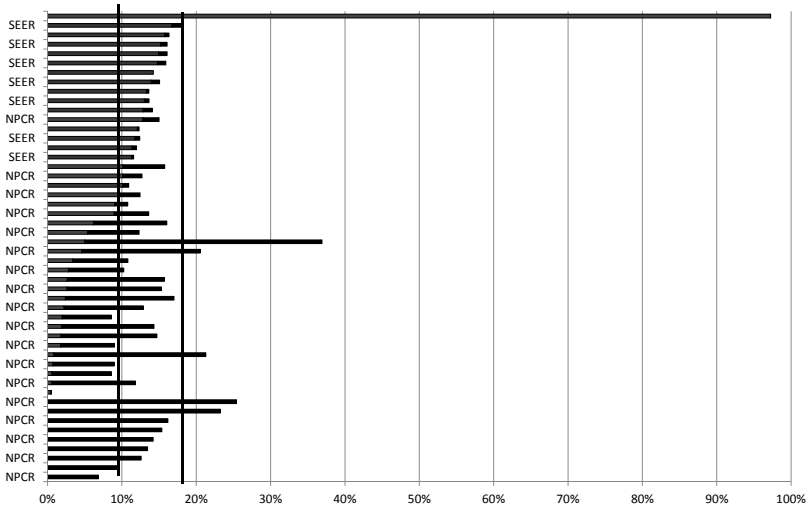
Liver & Bile Duct Cancer



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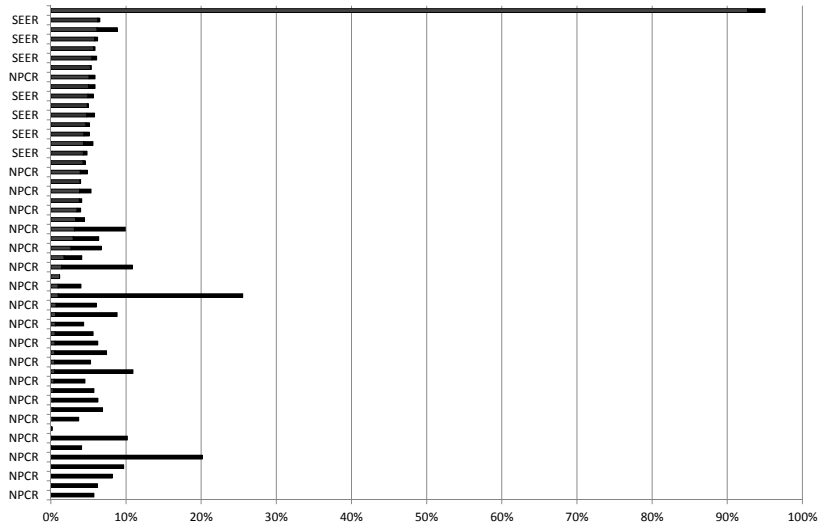
Pancreatic Cancer



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Overview

- What is population-based survival and how is It used?
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What to do with Multiple Primaries in Survival

- **Background:** Historic use of first cancers only in survival
- **Objective:**
  - Compare first cancers vs. all cancers
  - Evaluate the impact of SEER and IACR MP rules on survival
- **Methods and Materials**: SEER data, SEER MP rules and IACR MP rules

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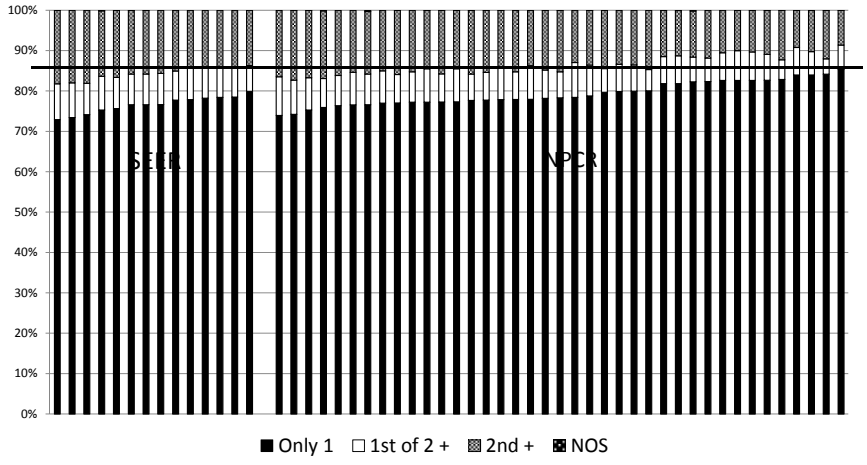
Multiple Primaries (MP) Available for Analysis (2004-2008)



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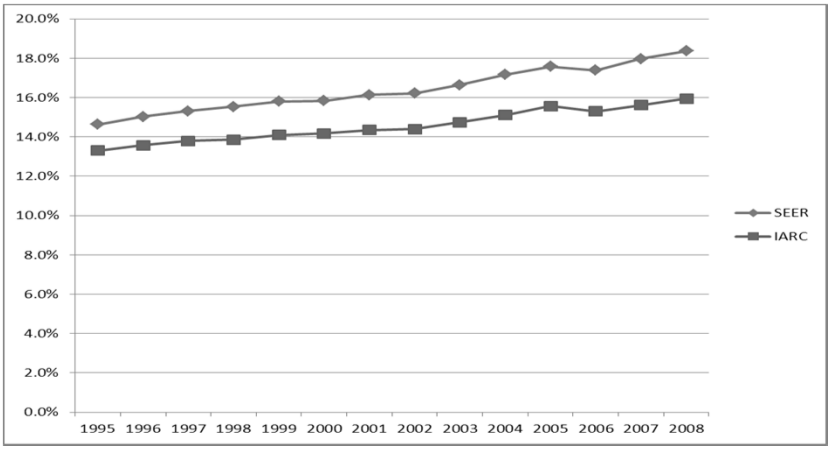
% MP (all sites, both sexes) by IACR and SEER Rules: SEER 11 (1995-2008)



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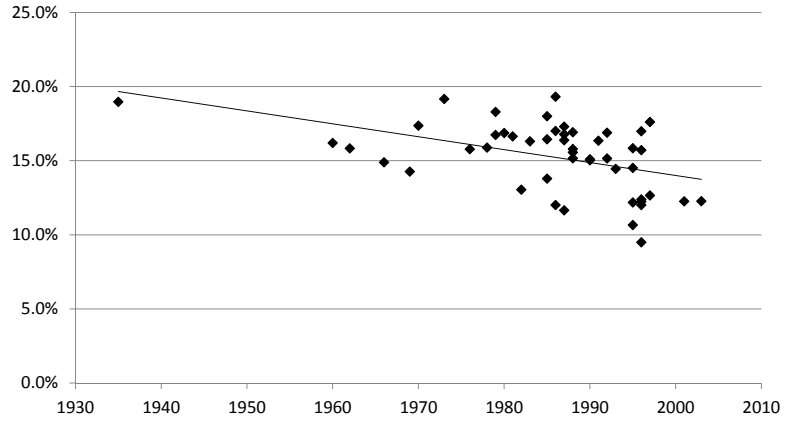
% Multiple Primaries (1995-2008) by Years of Operation among Statewide Population-based Cancer Registries



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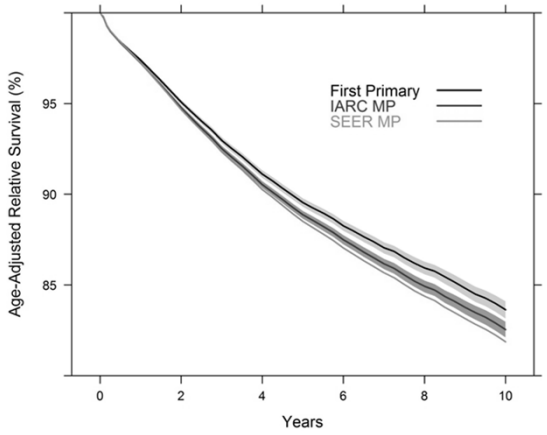
5 Yr. Survival Female Breast Cancer



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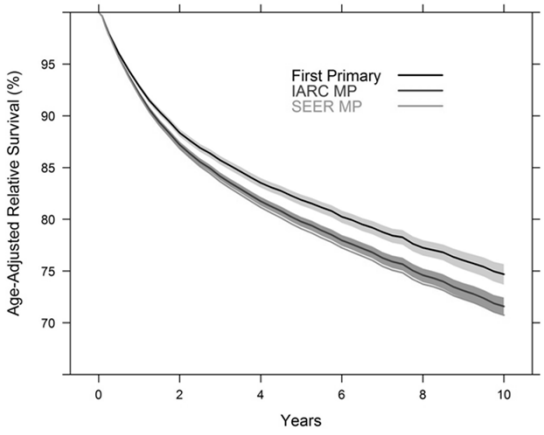
5 Yr. Survival Urinary Bladder, Males



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What to do with Multiple Primaries in Survival

- **Background:** Historic use of first cancers only in survival
- **Objective:**
  - Compare first cancers vs. all cancers
  - Evaluate the impact of SEER and IACR MP rules on survival
- **Methods and Materials**: SEER data, SEER MP rules and IACR MP rules
- **Results:**
  - First cancers only excludes a large and increasing number of cancers
  - First cancer only survival higher than survival using all primaries (SEER or IACR MP rules)
  - Using all cancers, survival with SEER MP lower than IACR MP for female breast and urinary bladder (males) cancer
- **Conclusion**:
  - NAACCR registries should include all primary cancers in comparative survival studies using IACR MP rules

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Overview

- What is population-based survival and how is It used?
- Data evaluation
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- Next steps

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Next Steps

- Deceased with 0 survival time (and not a DCO/AO case)
  - E.g., Physician only reporting source, follow up source central (State or NDI). These events are included in analysis whereas DCO/AO cases are excluded
- Immortal cases
- Survival using full dates - SEER*Stat enhancement
- State specific life tables – available in 2012
- Participation in CONCORD Study

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The findings and conclusions in this presentation are those of the presenter and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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Brad Wohler, Florida Cancer Data System, Manager, Statistical Analysis

STAGE DATA PROFILE

NAACCR

Maria Schymura, PhD, Director New York State Cancer Registry

FACTORS ASSOCIATED WITH UNKNOWN STAGE PROSTATE CANCER

NAACCR

Please submit all questions through the Q&A panel

QUESTIONS?

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Coming up!

- 7/12/12
  - ICD-10-CM and Cancer Surveillance
- 8/2/12
  - Collecting Cancer Data: Hematopoietics

And the winners of the fabulous prizes are….

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