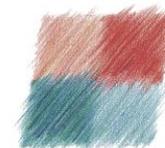


# HEALTH DATA ON RARE AND HETEROGENEOUS DISEASES: INCIDENCE OF SARCOMAS AND HISTOLOGICAL SUBTYPES IN GERMANY

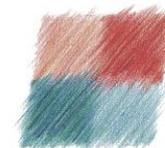
Zeissig SR, Wardelmann E, Hohenberger P, Jakob J, Kasper B, Emrich K, Eberle A,  
Blettner M, Ressing M

38th IACR Conference, Marrakech  
October 20, 2016



## BACKGROUND

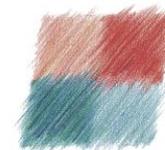
- Sarcomas: Rare and heterogeneous (origin, morphology, molecular genetic changes)
- Two main groups:
  - Soft tissue sarcomas (< 1% of all invasive cancers)
  - Bone sarcomas (0,02% of all invasive cancers)
- Routine analyses in cancer registration are mostly not stratified according to histology and only consider specific sites
  - The population-based incidence of sarcoma and its histological subtypes in Germany is unknown
- Aim: Incidence of sarcoma of all sites with data from the German epidemiological cancer registries



## METHODS

- Pooled data from the German Centre for Cancer Registry Data at the Robert Koch Institute, Berlin
- Inclusion criteria
  - » Year of diagnosis 2012, for trend analyses 2003-2012 (Data call: December 2014);
  - » Trend analyses: Annual Percentage Changes (APC; Joinpoint)
  - » All German cancer registries with sufficient completeness → 10 out of 11, covering 87% of the German population
  - » All malignant sarcomas according to the RARECARE Project and to the WHO classification
  - » Gastrointestinal stromal tumours (GIST) of uncertain behaviour
- Sensitivity analysis (Exclusion of certain histologies)

\* Stiller CA et al. Descriptive epidemiology of sarcomas in Europe: report from the RARECARE project. Eur J Cancer 2013; 49: 684-95

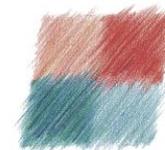


## RESULTS (1)

Absolute frequencies and incidence of sarcoma subtypes in Germany, 2012, Men

Sarcoma entity	n	%	Incidence per 100,000		Age (Median)
			Crude	Age standardized*	
Soft tissue sarcoma	2068	67.9	6.1	4.6	67.9
Bone sarcoma	283	9.3	0.8	0.8	50.3
GIST	694	22.8	2.0	1.4	69.3
<b>All</b>	<b>3045</b>	<b>-</b>	<b>8.9</b>	<b>6.8</b>	<b>67.3</b>

\*European Standard

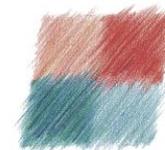


## RESULTS (2)

Absolute frequencies and incidence of sarcoma subtypes in Germany, 2012, Women

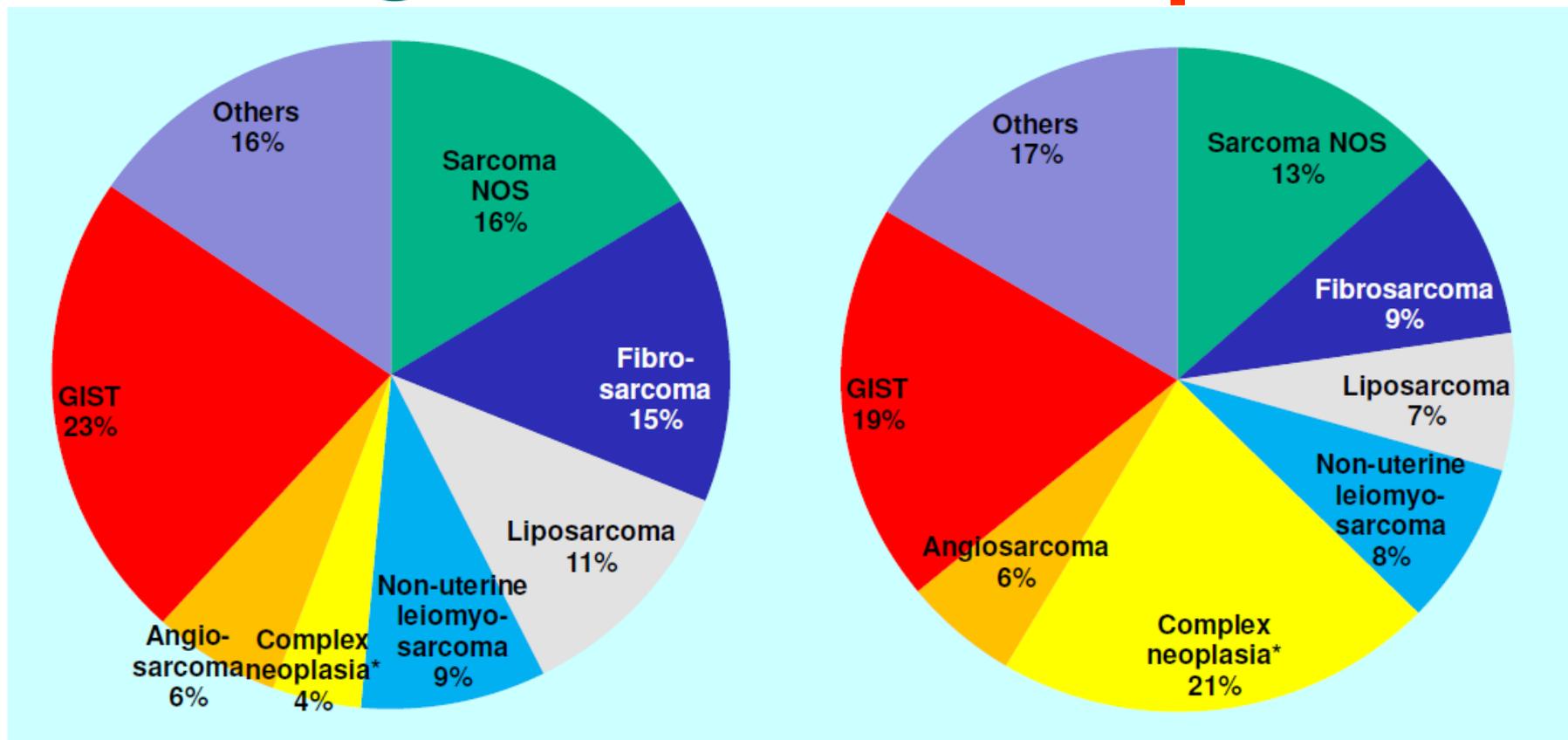
Sarcoma entity	n	%	Incidence per 100,000		Age (Median)
			Crude	Age standardized*	
Soft tissue sarcoma	2486	73.4	7.0	4.7	68.4
Bone sarcoma	241	7.1	0.7	0.6	51.5
GIST	658	19.4	1.8	1.1	71.9
<b>All</b>	<b>3385</b>	<b>-</b>	<b>9.5</b>	<b>6.4</b>	<b>68.7</b>

\*European Standard

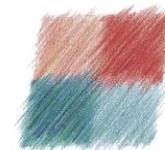


## RESULTS (3)

Percental distribution of histological subtypes, Germany, 2012

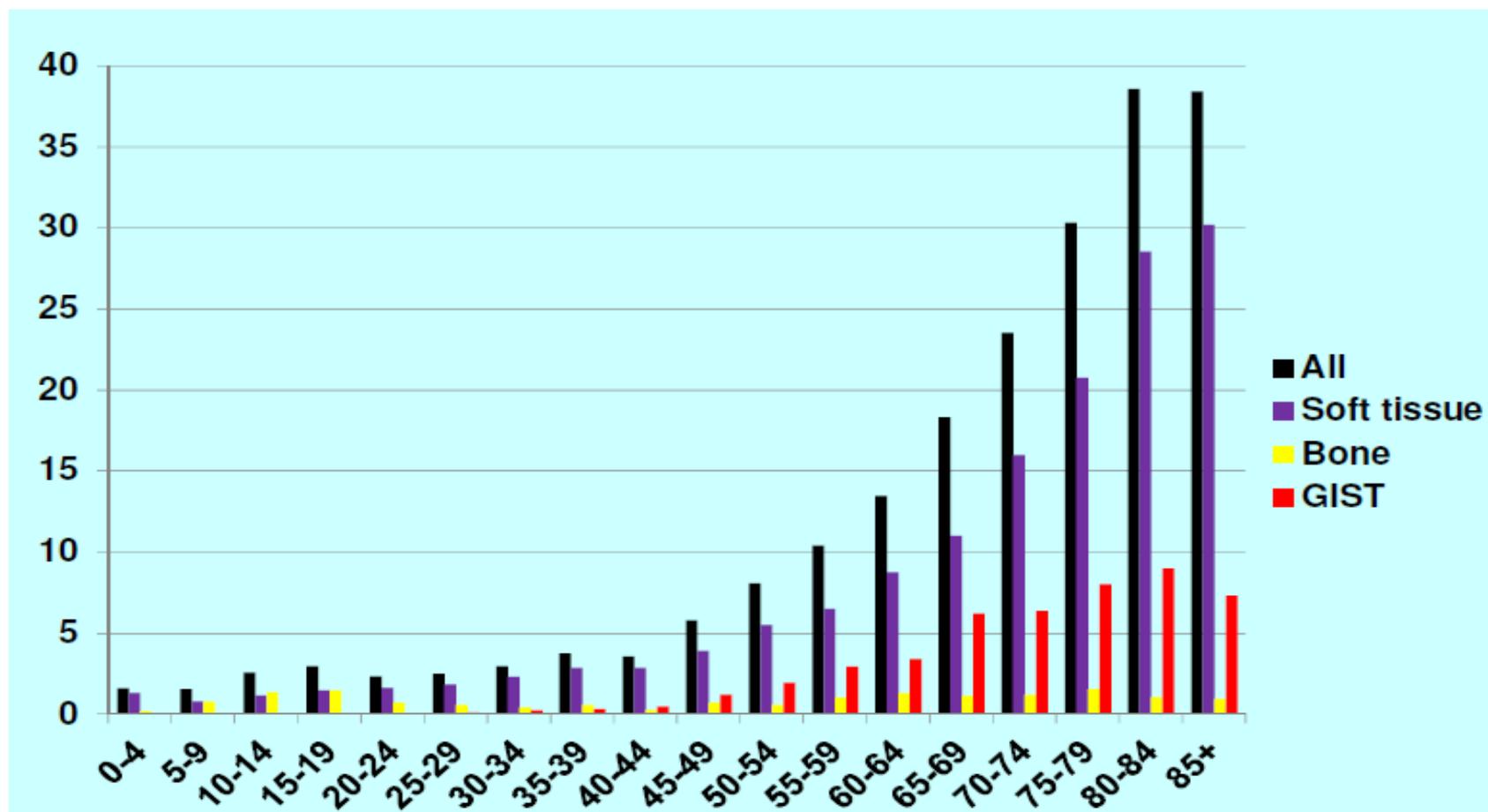


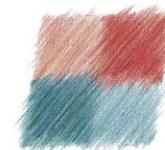
\*Mixed and stromal neoplasia



## RESULTS (4)

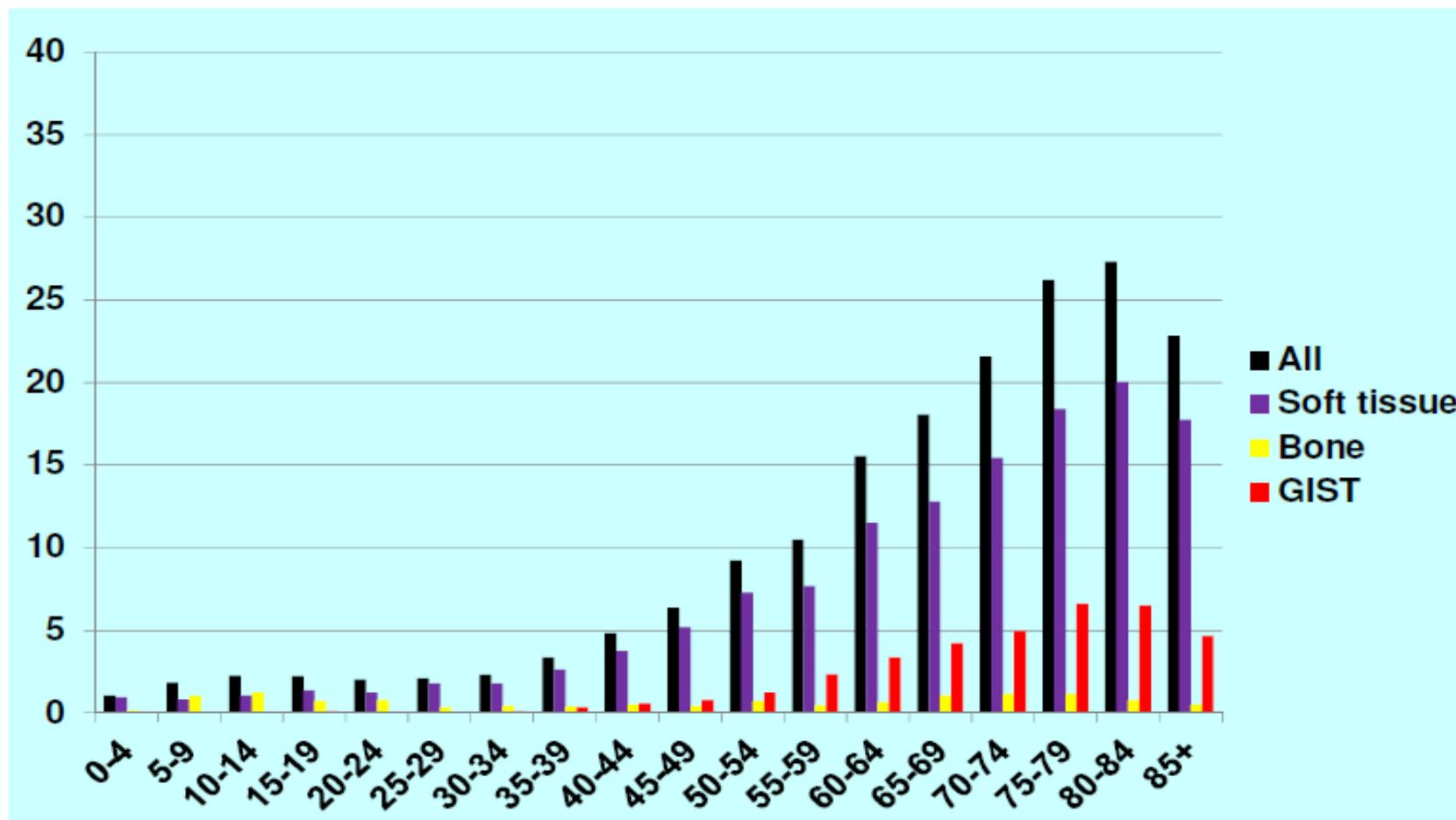
Age specific incidence per 100,000 in sarcoma subtypes in Germany, 2012, Men

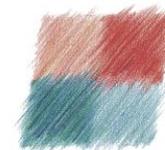




## RESULTS (5)

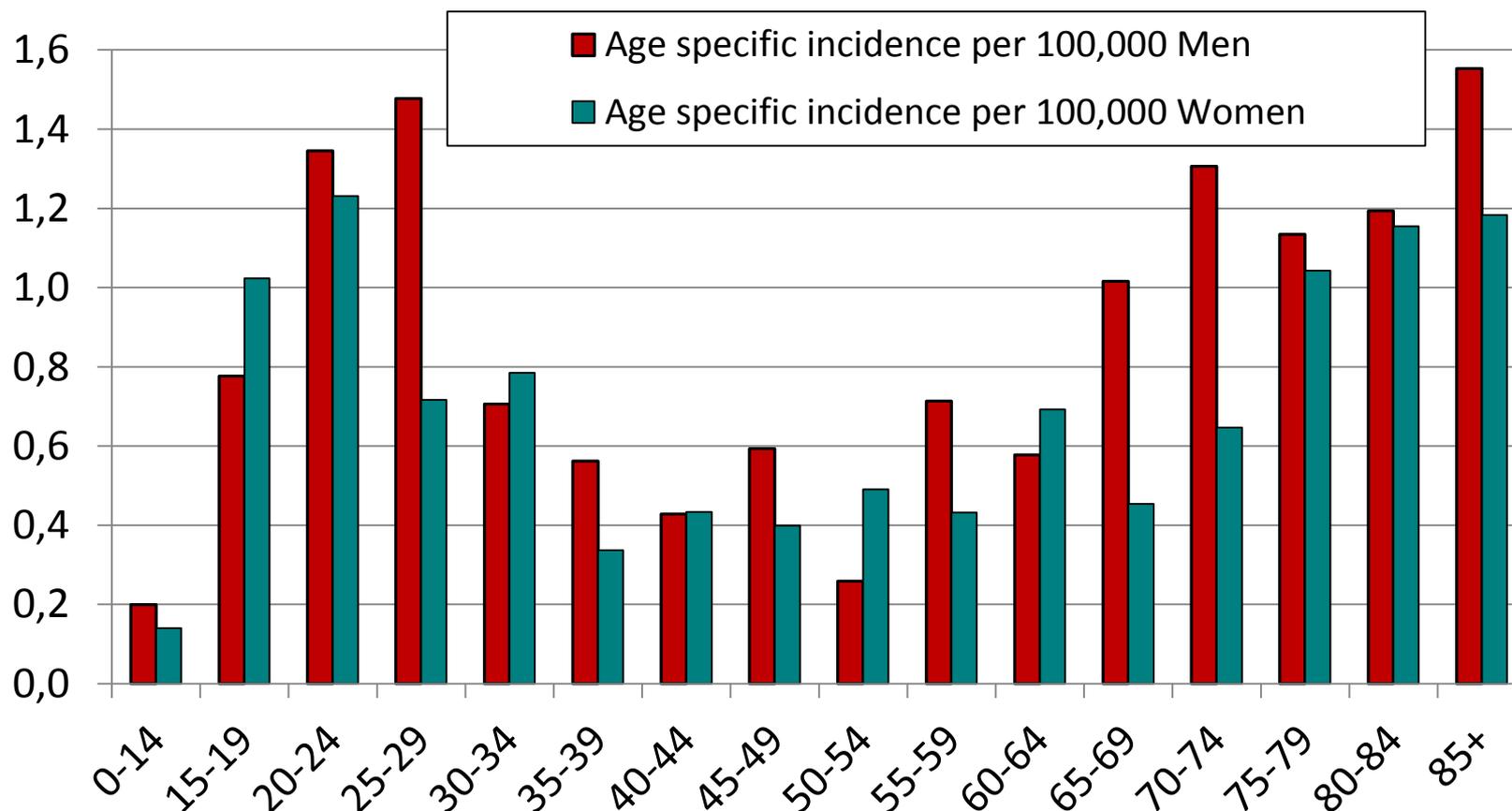
Age specific incidence per 100,000 in sarcoma subtypes in Germany, 2012, Women

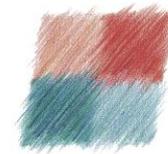




## RESULTS (6)

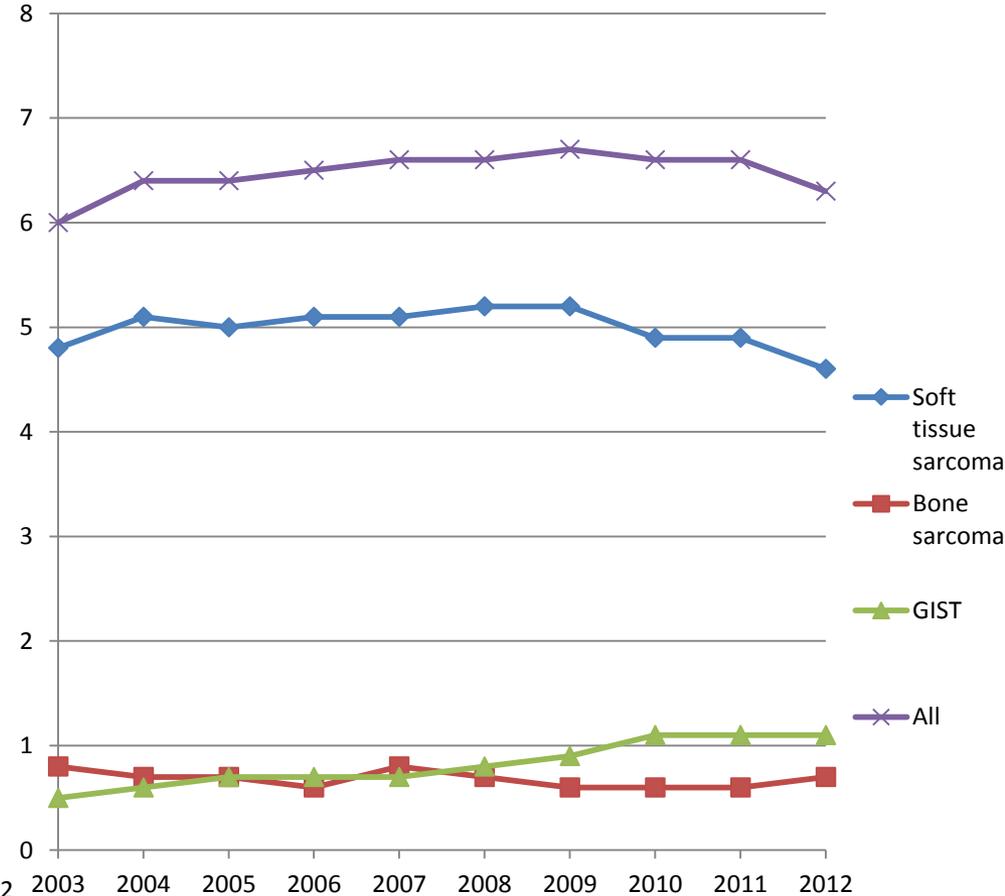
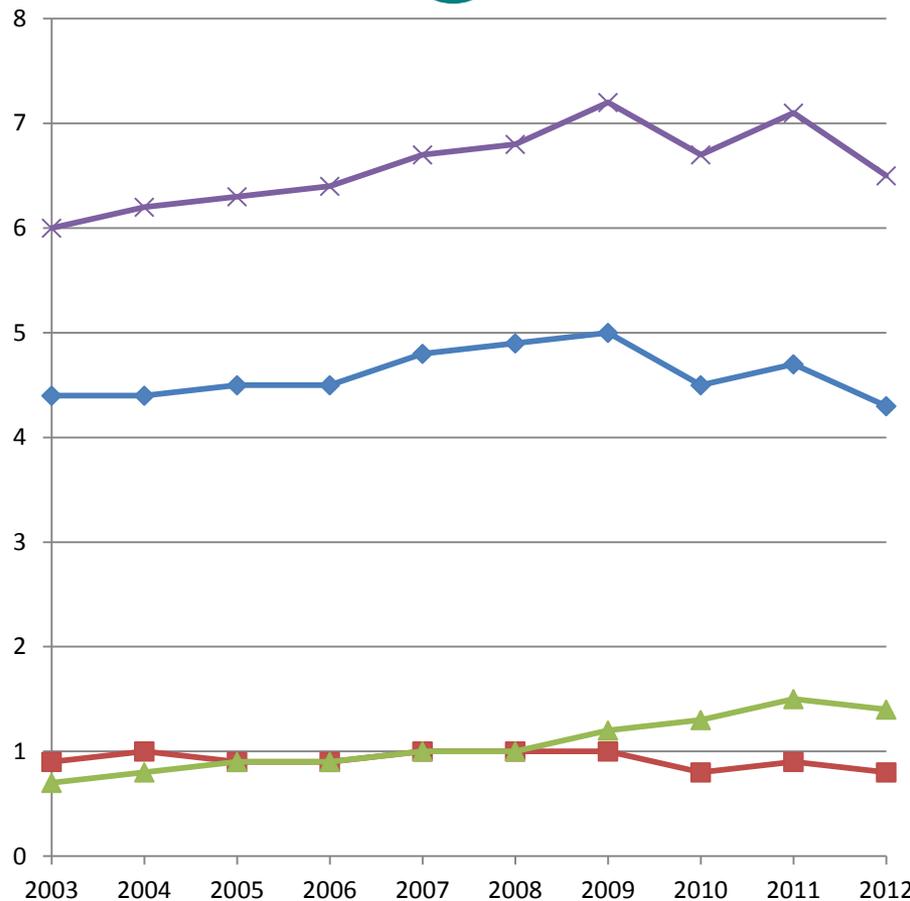
### Age specific incidence in bone sarcoma, Germany, 2012



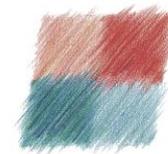


# RESULTS (7)

Trends of incidence rates for sarcoma entities (per 100,000; age-standardized\*), 2003-2012

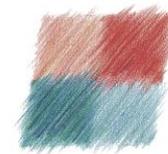


\*European Standard



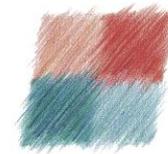
## DISCUSSION

- Limitations:
  - Possible lack of completeness (estimates only for ICD-10 C41-C49)
  - High proportion of “sarcomas not otherwise specified”
  - Exclusion of cases with unknown histology
  
- Strength:
  - First detailed analysis of a German wide population-based incidence of sarcomas being comparable to the incidence detected in the RARECARE Project and other studies
  - High external validity: 87% of the German population covered
  - High number of cases allowed for detailed stratified analyses, e.g. by individual histologies



## DISCUSSION

- First detailed analysis of a German wide population-based incidence of sarcomas being comparable to the incidence detected in the RARECARE Project and other studies
- Significant increase in incidence for all sarcomas due to a significant increase in incidence of GIST for both sexes, which corresponds well with results of other studies
- median age at diagnosis: five to ten years higher than in the literature for all entities. (partly due to the present study reporting more recent data with an ageing society in general?)



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