universitäts klinikum bonn

Zentrum für Geburtshilfe und Frauenheilkunde

CIO Centrum für Integrierte Onkologie Köln Bonn

Cancer treatment in geriatric women - how to find the right balance

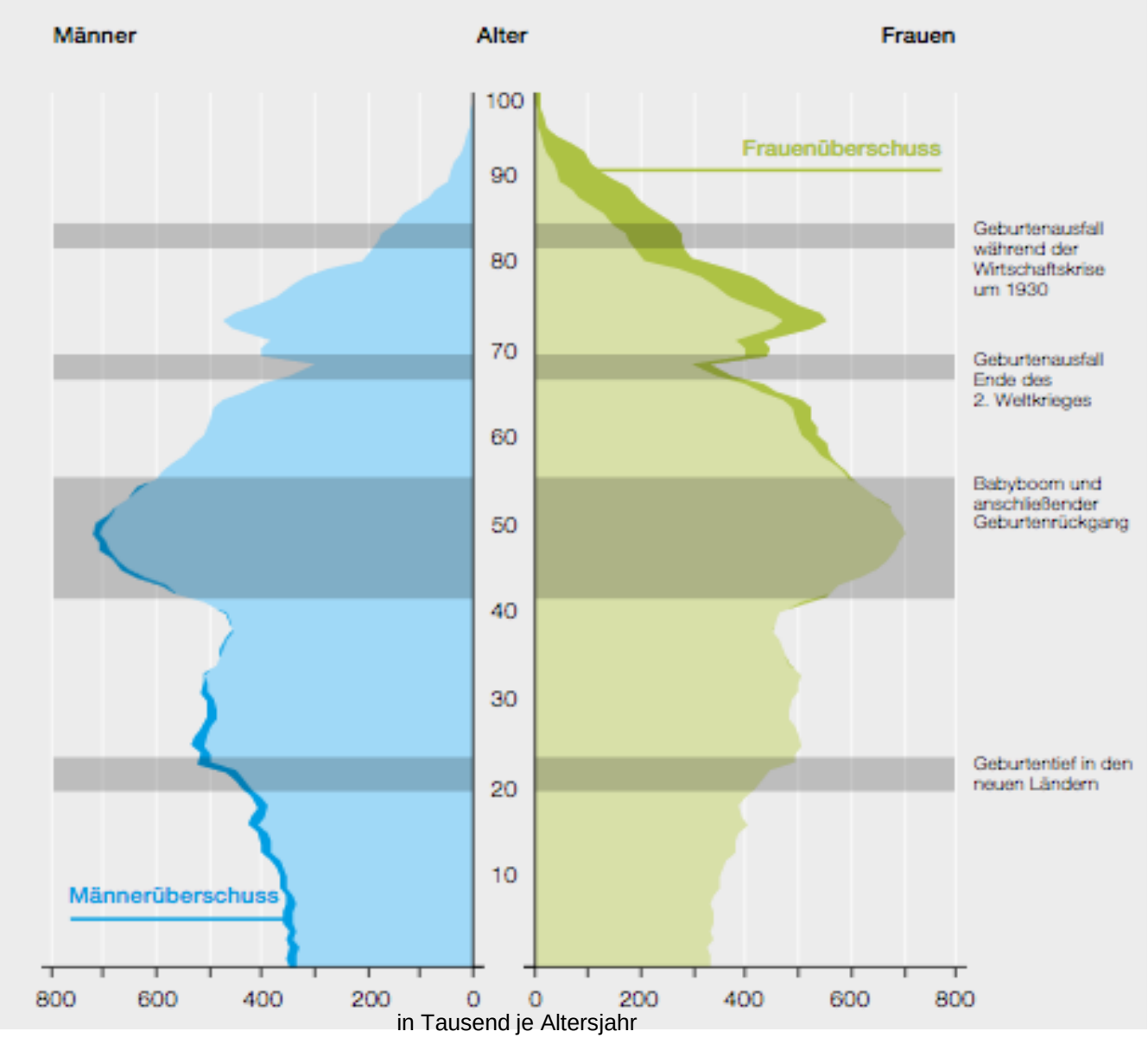
22. Japanese-German Symposium

Japan Society for the Promotion of Science

Ulm, 2017

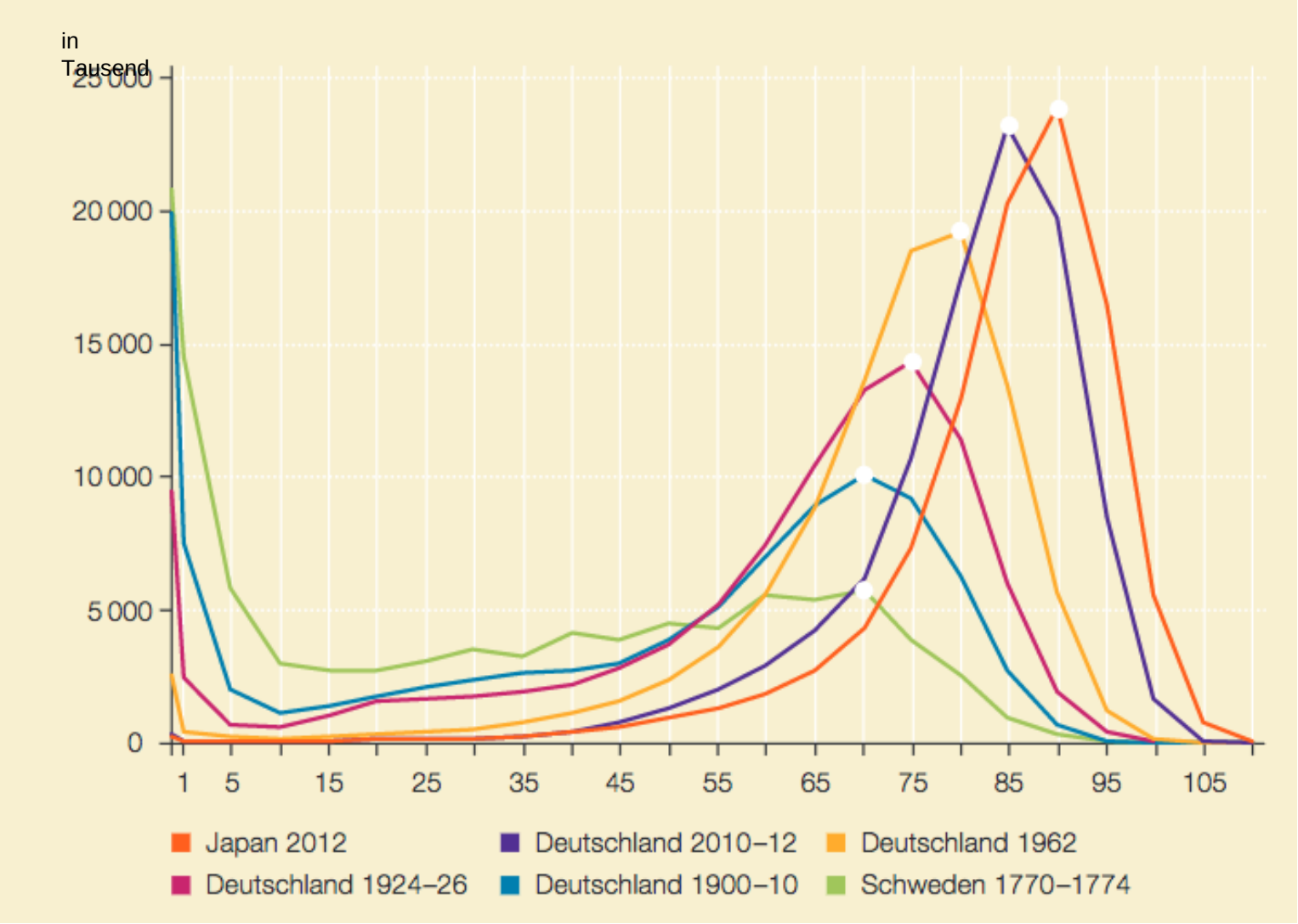
W. Kuhn
University Women‘s Hospital Bonn

Age development of German population 2014



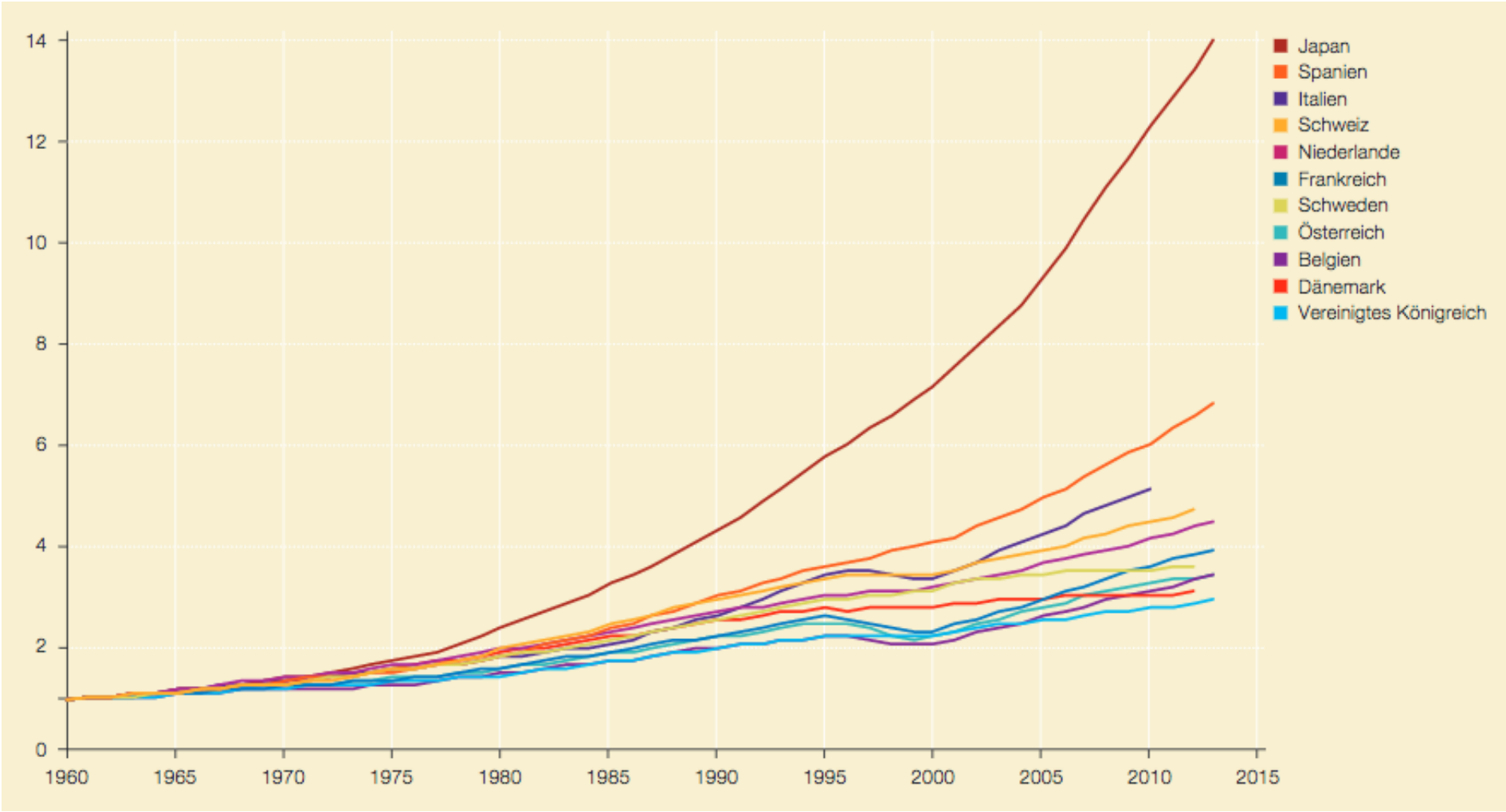
Data Report 2016, BPB

Age distribution of deceased and mean of normal lifespan of women in Germany, Sweden and Japan



Federal Office of Statistics 2015, Human Mortality Database 2016

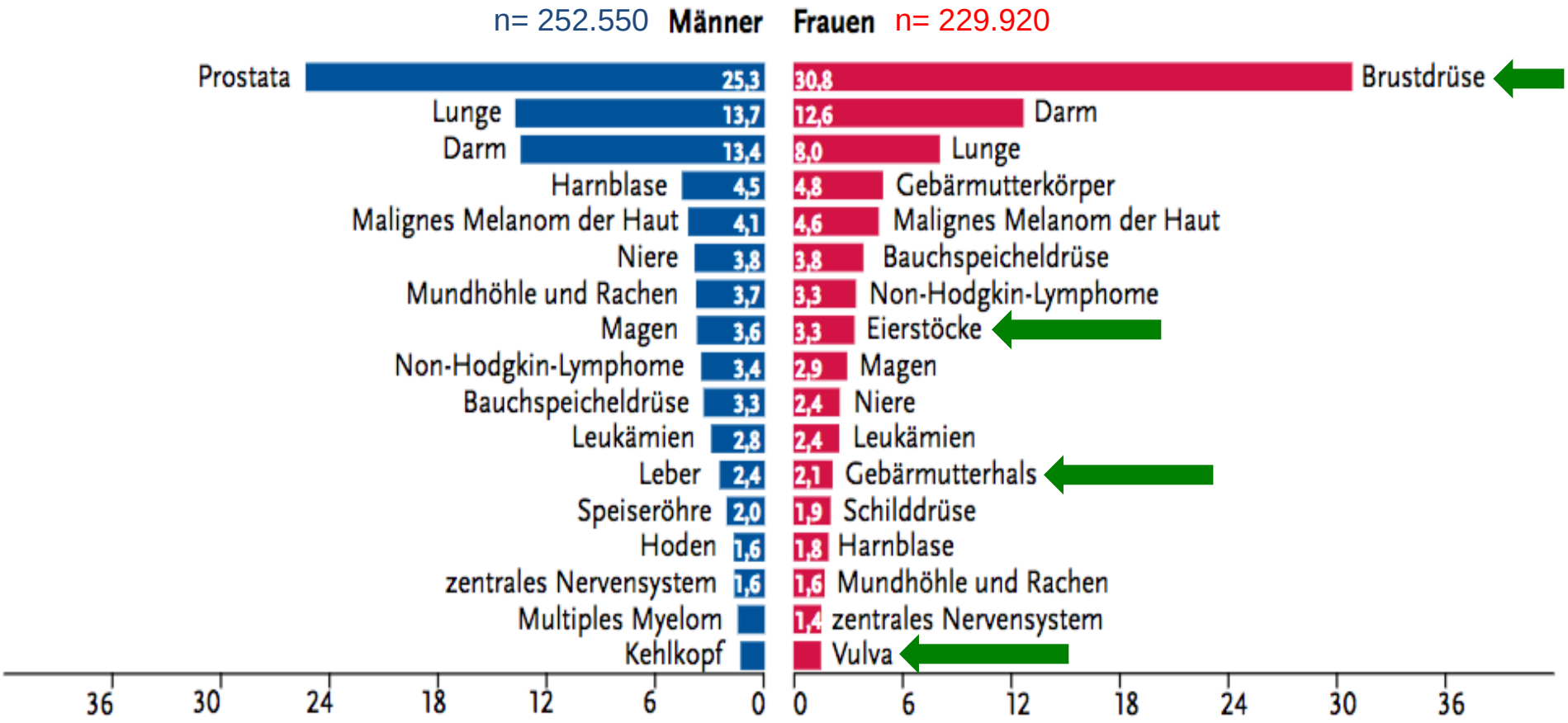
Increase of persons aged 80 years and older for selected countries



Federal Office of Statistics 2015, Human Mortality Database 2016

High incidence of gynecological malignancies

Percentage of the most common tumor lesions in all cancer cases in Germany 2012

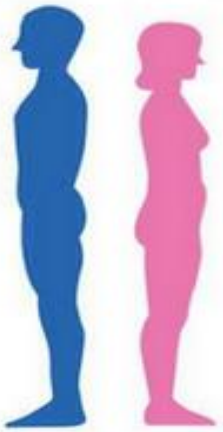


Health Report RKI, 2015

Ten leading Cancer Types in the United States 2016

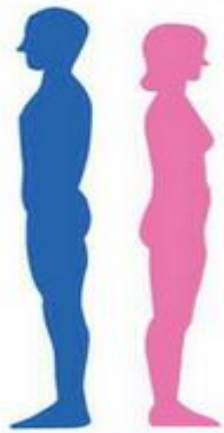
Estimated New Cases

Males			Females		
Prostate	180,890	21%	Breast	246,660	29%
Lung & bronchus	117,920	14%	Lung & bronchus	106,470	13%
Colon & rectum	70,820	8%	Colon & rectum	63,670	8%
Urinary bladder	58,950	7%	Uterine corpus	60,050	7%
Melanoma of the skin	46,870	6%	Thyroid	49,350	6%
Non-Hodgkin lymphoma	40,170	5%	Non-Hodgkin lymphoma	32,410	4%
Kidney & renal pelvis	39,650	5%	Melanoma of the skin	29,510	3%
Oral cavity & pharynx	34,780	4%	Leukemia	26,050	3%
Leukemia	34,090	4%	Pancreas	25,400	3%
Liver & intrahepatic bile duct	28,410	3%	Kidney & renal pelvis	23,050	3%
All Sites	**841,390**	**100%**	**All Sites**	**843,820**	**100%**



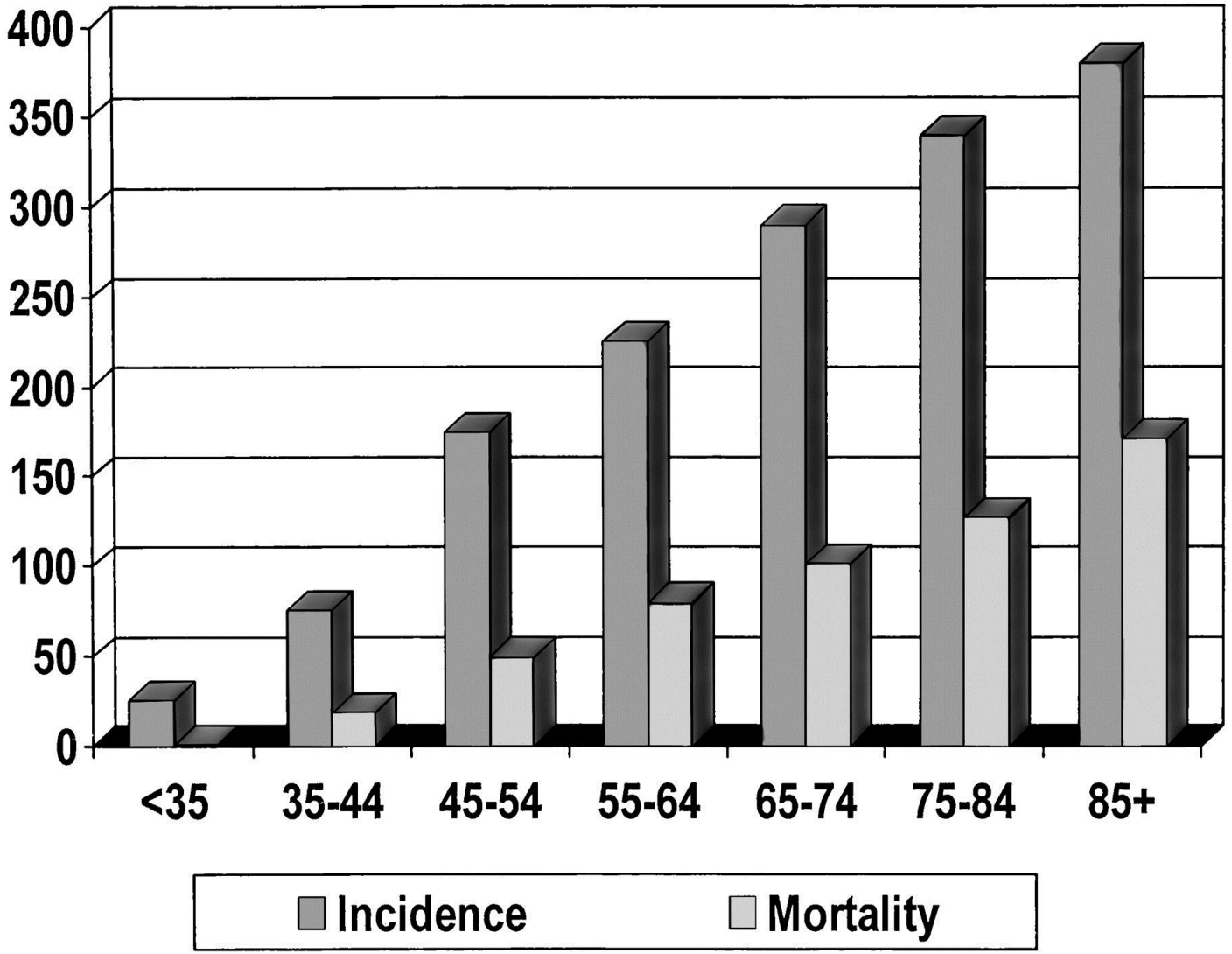
Estimated Deaths

Males			Females		
Lung & bronchus	85,920	27%	Lung & bronchus	72,160	26%
Prostate	26,120	8%	Breast	40,450	14%
Colon & rectum	26,020	8%	Colon & rectum	23,170	8%
Pancreas	21,450	7%	Pancreas	20,330	7%
Liver & intrahepatic bile duct	18,280	6%	Ovary	14,240	5%
Leukemia	14,130	4%	Uterine corpus	10,470	4%
Esophagus	12,720	4%	Leukemia	10,270	4%
Urinary bladder	11,820	4%	Liver & intrahepatic bile duct	8,890	3%
Non-Hodgkin lymphoma	11,520	4%	Non-Hodgkin lymphoma	8,630	3%
Brain & other nervous system	9,440	3%	Brain & other nervous system	6,610	2%
All Sites	**314,290**	**100%**	**All Sites**	**281,400**	**100%**



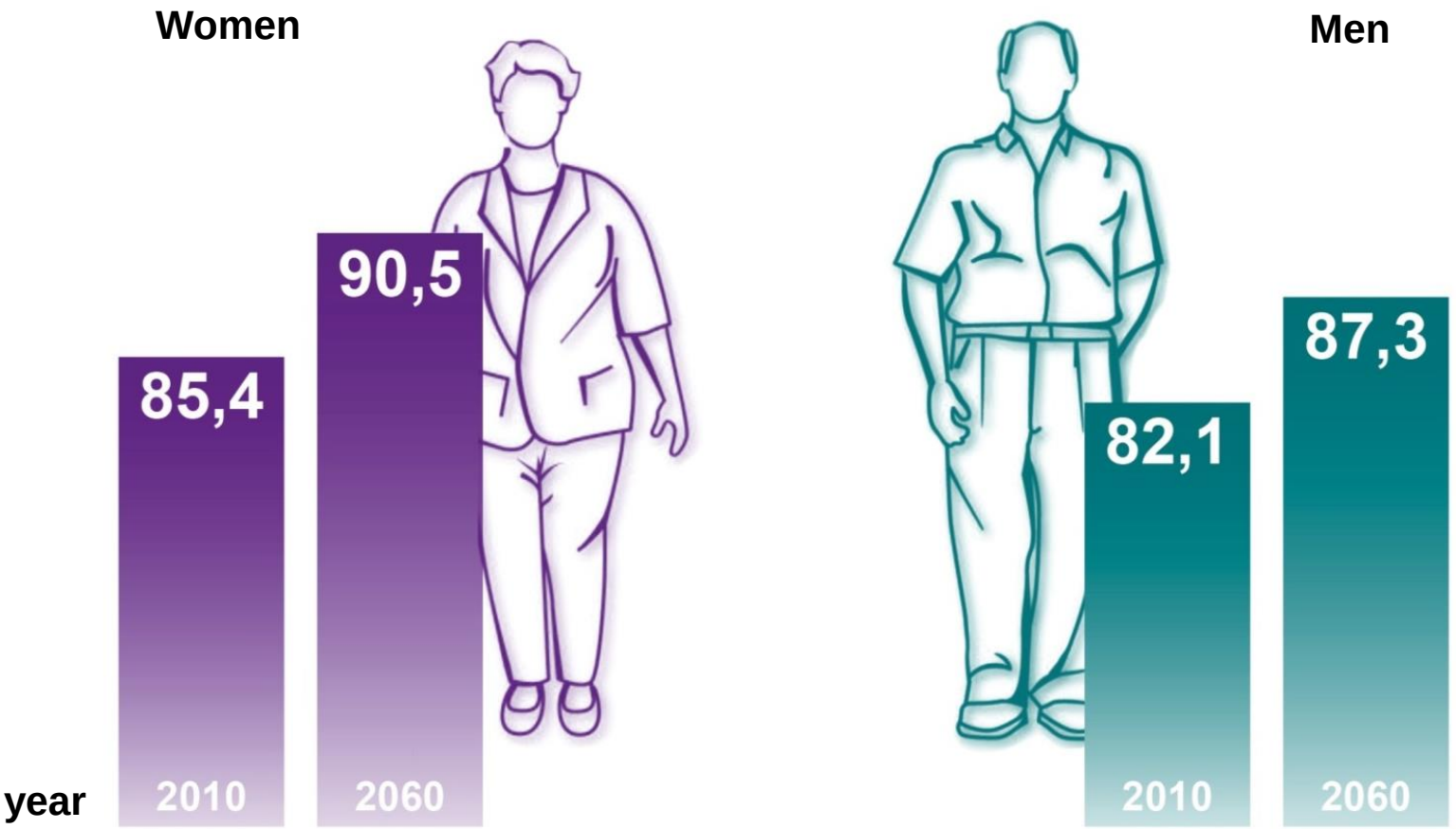
Cancer Statistics, 2016

Age-related incidence and mortality of malignant diseases



Monfardini S et al, JNCI 1993

Mean life expectancy of 65-year-old patients



Federal Office of Statistics 2013

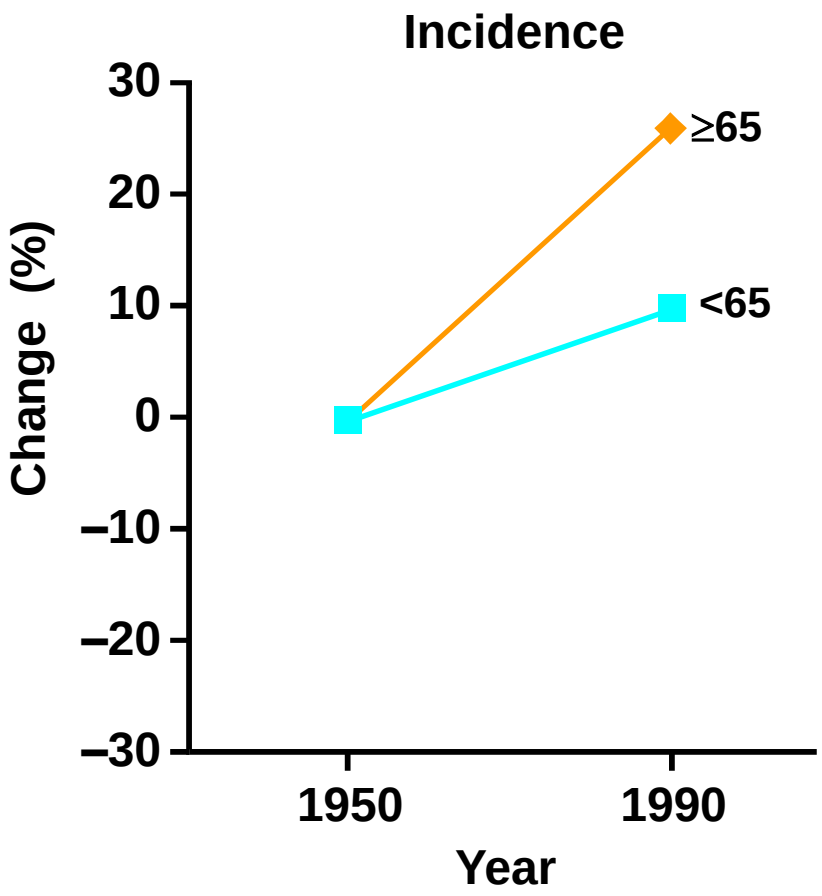
Life expectancy in elderly patients with comorbidities

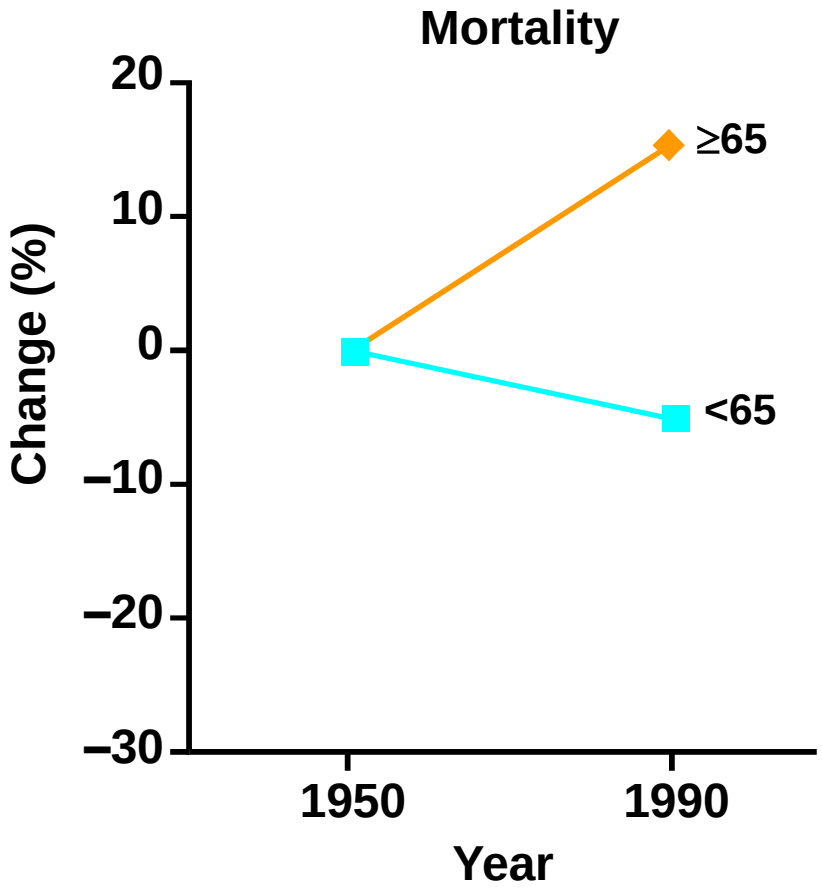
life expectancy in years

Age (y)	Healthy women	Women with serious comorbidity
65	20.0	9.7
70	16.2	8.6
75	12.8	7.4
80	9.8	6.9
85	7.2	4.5
90	5.2	
95	3.7	
100	2.6	

Kimmick G et al., Geriatric Oncology 2011

Incidence and mortality of malignant diseases



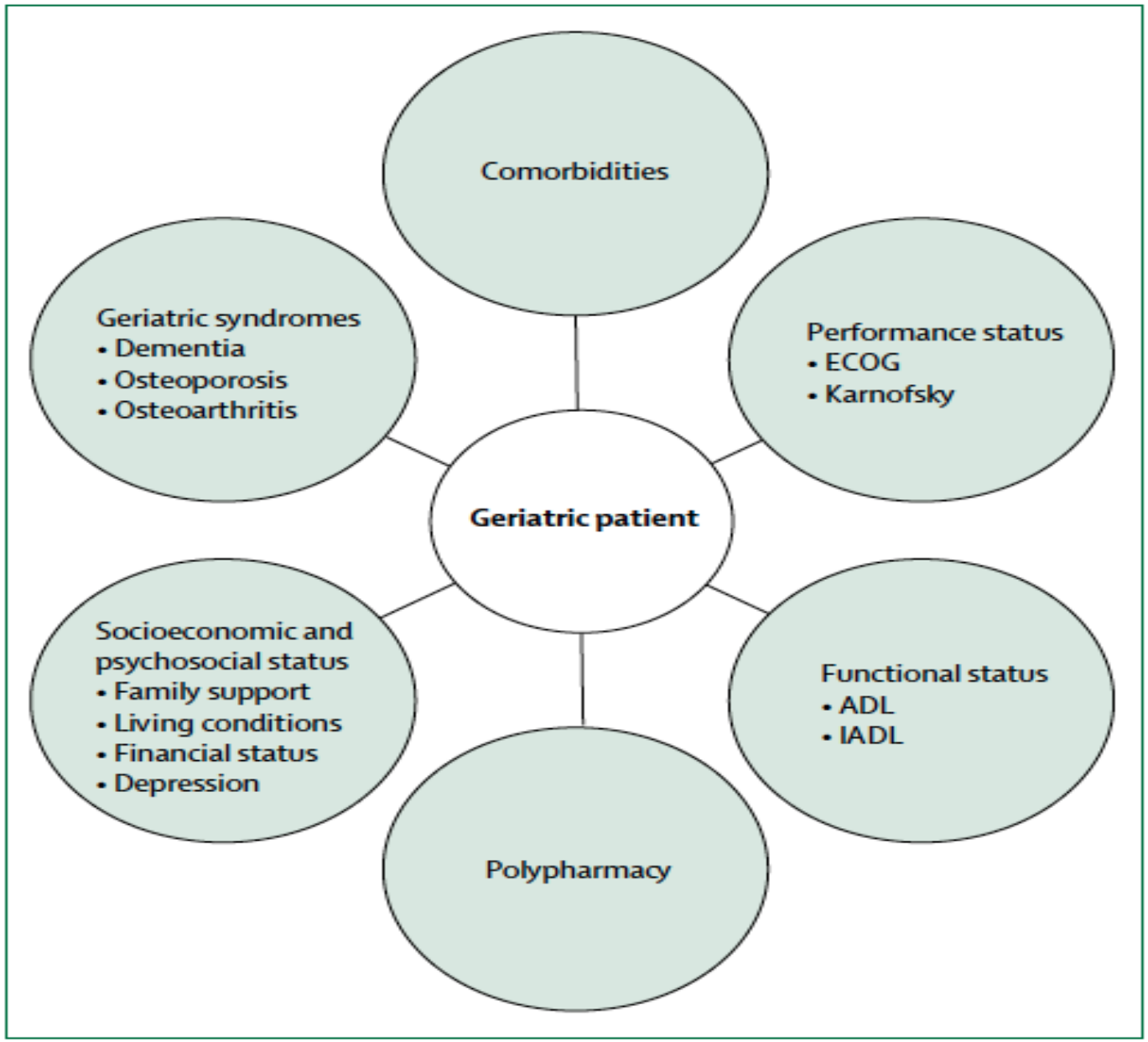


Lyman G. et al, Cancer Control 1998

Therapy of elderly patients

Two 90 years old women

Special features in the therapy of elderly patients



Porceddu et al., Lancet Oncol. 2017

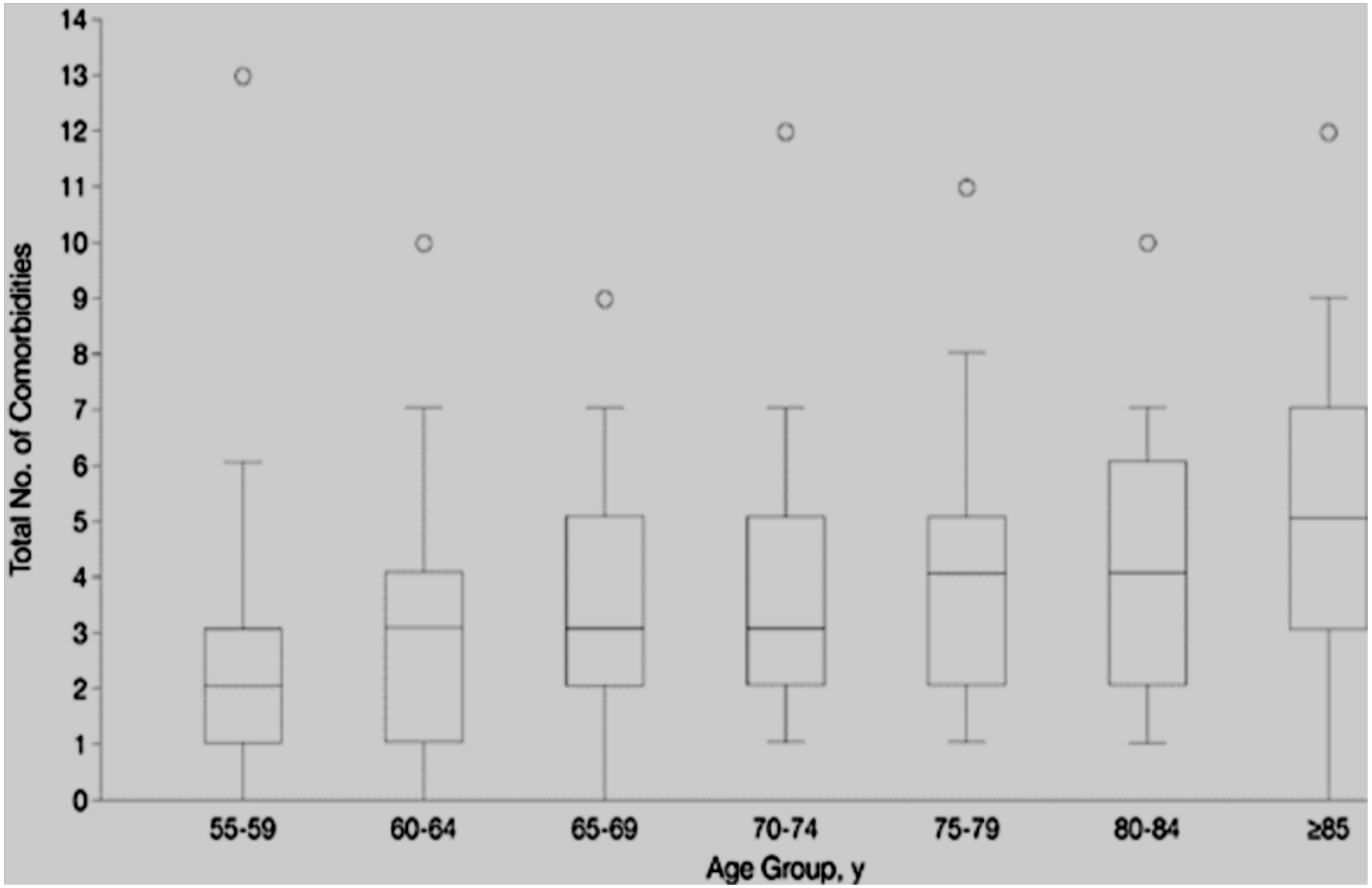
The physiological aging process

Physiologic Change	Consequence of Chemotherapy
Slow Repair of DNA Damage	Prolonged Toxicity
Reduced stem-cell mass and hematopoesis	Slow recovery of blood and mucosal cells
Reduced functional reserve of organ systems	Risk of organ failure with additional tissue loss
Reduced gastrointestinal absorptive surface, gastric motility, and gastric secretion	Reduced absorption
Reduced fat-free mass	Altered drug distribution
Greater Anemia	Increased levels of circulating drug
Decreased liver mass	Reduced drug metabolism
Decreased nephron mass	Reduced drug excretion

(reference: Repetto. Supportive Oncology. 1(S2), 2003)

Problems of comorbidities in elderly patients

Comorbidities have a significant impact on the prognosis !



Liver disease

COPD

Depression

Thrombosis

Heart disease

Renal insufficiency

Diabetes mellitus, ...

Jehn et al. EJC 2014

Problems and consequences in the treatment of elderly patients

too defensive -> missed chance of cure

too aggressive -> therapy-related morbidity and mortality

CORRECT ASSESSMENT IS INDISPENSABLE

Instruments for a multidimensional assessment of older cancer patients

Pallis AG et al., Eur J Cancer. 2010

Table 1 – Instruments used for functional assessment.

Scale	
Activities of Daily Life (ADL) (Katz scale[25])	– al – fe – di – m – u – tr
Instrumental Activities of Daily Life (IADL)[31]	– p – d – u – ta – m – u
'Timed Up and Go'[34]	Mea fun whi turn
'6-min walk test'[35]	Mea a 6-

Table 3 – Tools for assessment of cognitive status.

Scale	
Mini Mental State Examination[61]	
Blessed Dementia Rating Scale[62]	
Short Portable Mental Status Questionnaire[63]	assesses orientation, memo attention, calculation and language
Mini-Cog instrument[65]	Combination of two simple cognitive tasks (three-item v memory and clock drawing)

Table 2 – Tools used for comorbidity assessment in older cancer patients.

Scale	
Charlson Comorbidity Index (CCI)[50]	A weigh into acc the seri disease; conside usually prognos
Cumulative Illness Rating Scale-Geriatric (CIRS-G)[51]	Classifie organ sy accordi grades e (no prob
The Adult Comorbidity Evaluation (ACE-27)[41]	

Table 5 – Nutrition assessment.

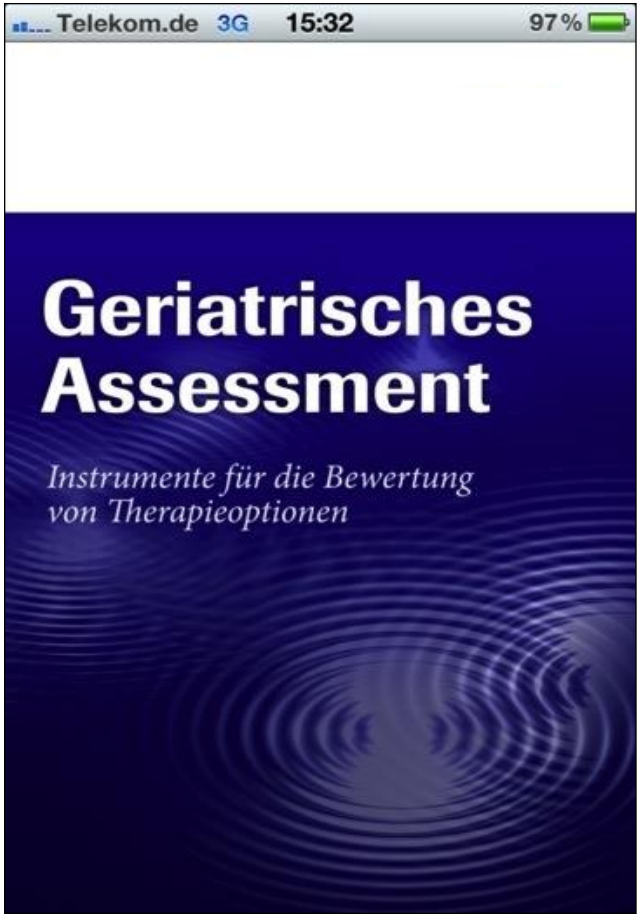
Mini-Nutritional Assessment Questionnaire
Exists in 2 parts: a screening part and a more extensive part in case screening were positive. – Scoring for the screening part: – Range 0–14 – Interpretation score – 12 or more: no risk

Table 4 – The Geriatric Depression Scale.

Geriatric Depression Scale (GDS)
Evaluation of risk of depression. Several versions available (GDS 30, 15, 4 item) Interpretation of results: Scoring system for the GDS 15-item – Range 0–15 – Interpretation scores • 0–5: no depression • 6–15: possible depression

GeriAPP™

Smartphone – APP for a quick and easy assessment before therapy



Clinical trials

Elderly patients are under-represented in clinical trials!

Reasons:

- complex management because of comorbidities
- low rate of consent
- cognitive deficiency
- age restriction for recruitment

→ the biological age should be relevant

→ need for sufficient inclusion and exclusion age-independent criteria in clinical trials

Some clinical trials

ONKOLOGIE

Editorial

Onkologie 2012;35:73–74
DOI: 10.1159/000336980

Published online: February 20, 2012

Clinical Trials in Elderly Ovarian Cancer Patients – Does It Make Sense?

Walther Kuhn

Ann Oncol. 2007 Feb;18(2):282-7. Epub 2006 Nov 2.

Feasibility, toxicity and quality of life of first-line chemotherapy with platinum/paclitaxel in elderly patients aged >or=70 years with advanced ovarian cancer--a study by the AGO OVAR Germany.

Hilpert F[1], du Bois A, Greimel ER, Hedderich J, Krause G, Venhoff L, Loibl S, Pfisterer J.

original article

Annals of Oncology 22: 2417–2423, 2011
doi:10.1093/annonc/mdr001
Published online 14 March 2011

Ovarian cancer in elderly patients: carboplatin and pegylated liposomal doxorubicin versus carboplatin and paclitaxel in late relapse: a Gynecologic Cancer Intergroup (GCIG) CALYPSO sub-study

J. E. Kurtz[1]*, M. C. Kaminsky[2], A. Floquet[3], A. S. Veillard[4], R. Kimmig[5], A. Dorum[6], L. Elit[7], M. Buck[8], E. Petru[9], N. Reed[10], G. Scambia[11], N. Varsellona[12], C. Brown[4] & E. Pujade-Lauraine[13] on behalf of Gynecologic Cancer Intergroup

Key questions before cancer treatment

-> Curative or palliative treatment ?

-> Impact of cancer on quality of life/survival

-> Impact of cancer treatment on quality of life/survival

Goals

-> Maintenance of quality of life

-> Reducing toxicity

-> Dose modification concerning liver, kidney and heart function

-> Proper and prophylactic treatment of side effects

Classification of patients in oncology

Group 1 ‘Fit´	Group 2 ‘Compromised´	Group 3 ‘Frail`
organ funktion ↑	organ funktion ↓	organ funktion ↓ ↓
clinical status ↑	clinical status ↓	clinical status ↓ ↓
life expectancy ↑	life expectancy →	life expectancy ↓ ↓
comorbidities ↓	comorbidities ↑	comorbidities ↑ ↑
toxicity risik ↓	toxicity risik ↑	toxicity risik ↑ ↑
‘Go go’	**‘Slow go’**	**‘No go’**
standard therapy	**special protocol**	**palliative care**

Preoperative assessment of elderly patients

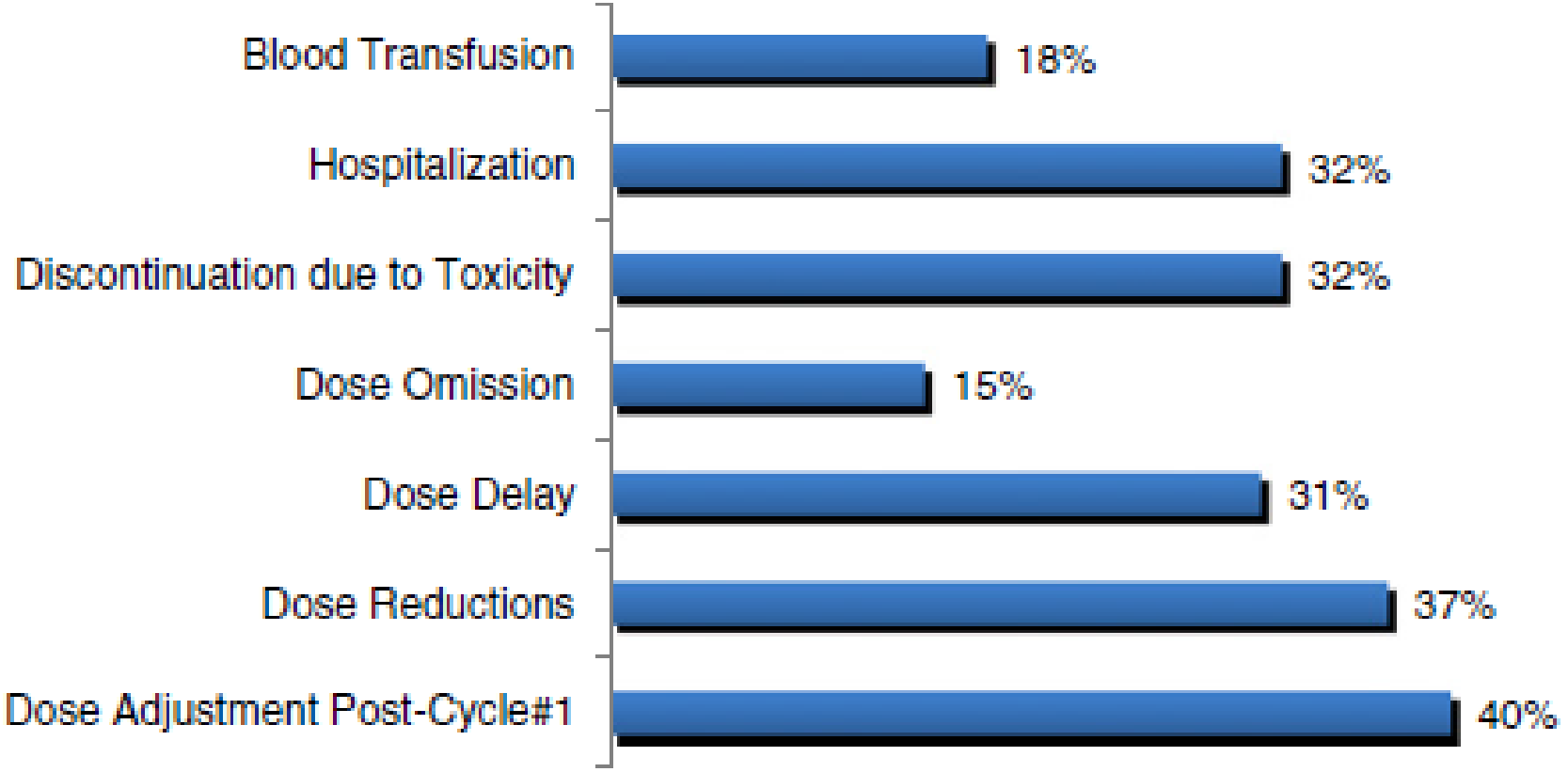
- Sufficient preoperative assessment is indispensable (Medication ?, comorbidities ?, ...)

- Early anesthesiological assesment for elective interventions

  -> for an accurate assessment of the anesthesiological risk, additional examinations are necessary like cardiac ultrasound or lung pulmonary function tests

- Stabilization / improvement of the patient's status for reducing perioperative morbidity

Complications in geriatric patients under chemotherapy



Sud S et al. J Geriatric Oncology 2015

Elderly patients receive chemotherapy rarer

Table 4. Chemotherapy Status of 12,316 Ovarian Cancer Patients for Different Age Groups*

	Age groups		
Chemotherapy	*< 60 (n = 5,410)*	*60–79 (n = 5,792)*	*≥ 80 (n = 1,114)*
Yes	64.9	72.0	42.0
No	31.9	23.2	48.8
Unknown/refusal	3.2	4.7	9.2

n = number of patients.

* Values given represent the percentage of patients in the various age groups in which chemotherapy was or was not administered, or chemotherapy was refused by the patient, or if chemotherapy administration was unknown.

Hightower AD et al, Cancer 1994

Elderly patients often undergo incomplete surgery

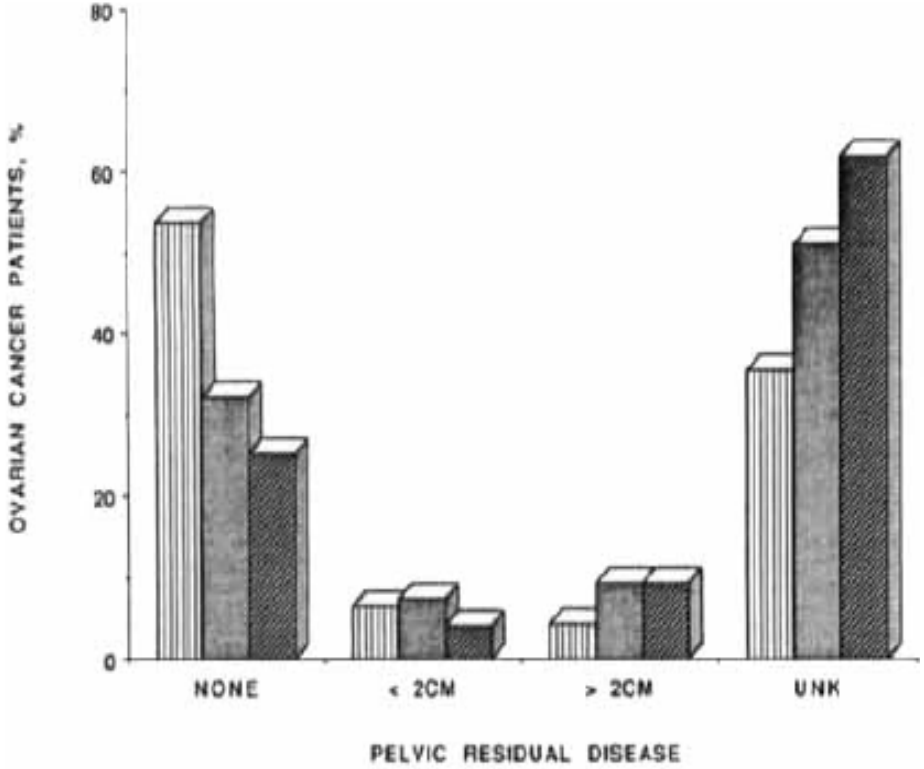


Figure 3. Residual disease in the pelvis of 12,316 ovarian cancer patients as a function of age. ▥: < 60 years old; □: 60–79 years old; □: > 80 years old.

Table 3. The Effect of Age on the Success of Cytoreduction Surgery*

	Age groups (yr)		
Tumor debulking (%)	***< 60 (n = 5,410)***	***60–79 (n = 5,792)***	***≥ 80 (n = 1,114)***
< 25	16.4	17.5	20.1
25–74	1.3	2.1	2.1
75–99	9.1	9.8	6.8
100	34.6	19.7	14.9
Unknown	38.6	50.9	56.1

n = number of patients.

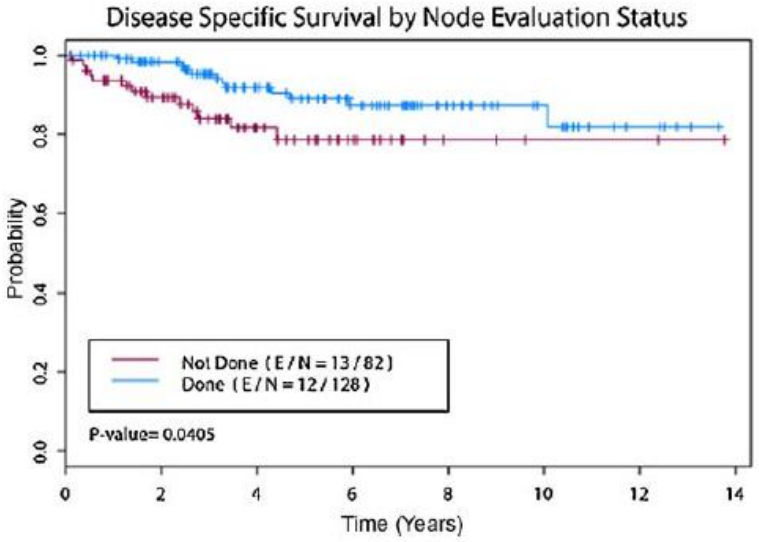
* Values represent the percentage of patients debulked in the various age groups and cytoreduction amounts. Chi-square analysis revealed statistically significant differences ($P < 0.00001$).

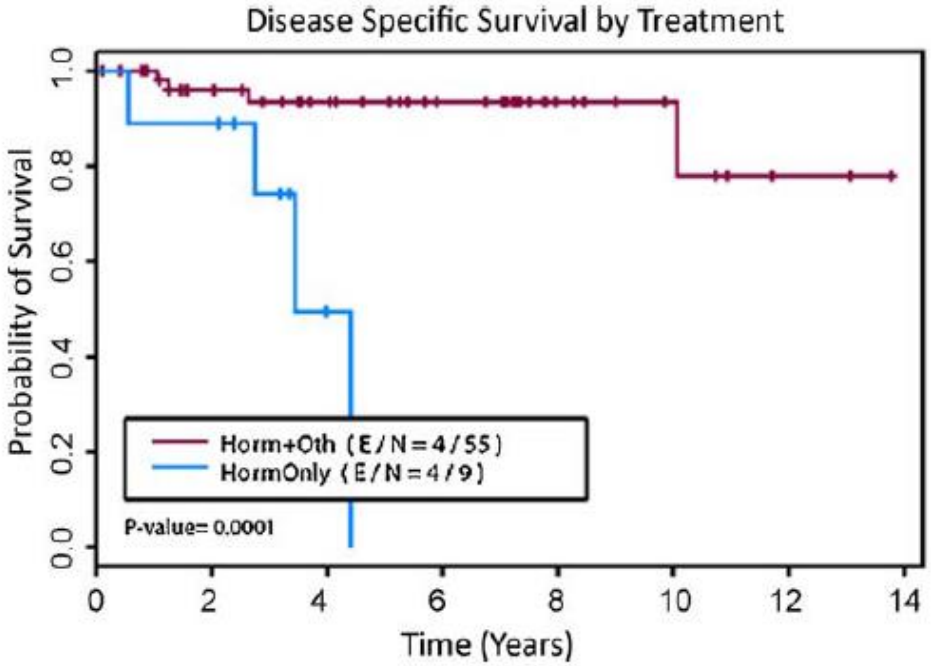
Hightower AD et al, Cancer 1994

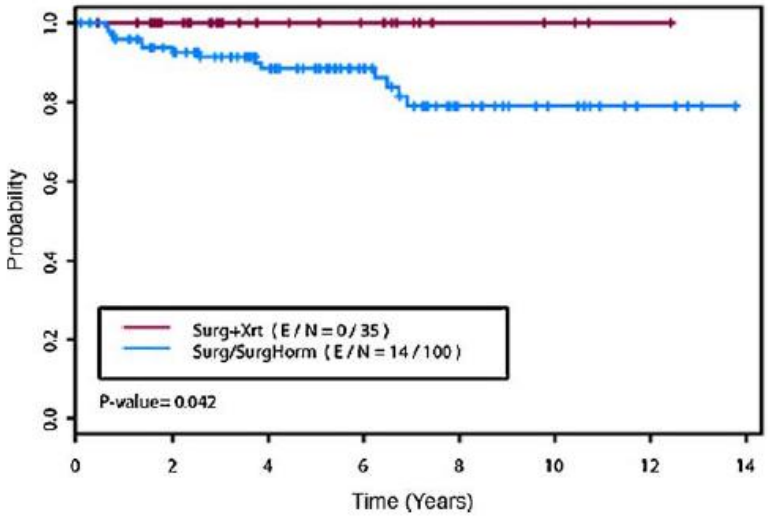
Consequences of insufficient therapy in elderly patients

The effect of under-treatment of breast cancer in women 80 years of age and older

Barbara L. Van Leeuwen [a,*], K.M. Rosenkranz [b,1], L. Lei Feng [c,2], I. Bedrosian [c,2], K. Hartmann [c,2], K.K. Hunt [c,2], H.M. Kuerer [c,2], M. Ross [c,2], S.E. Singletary [c,2], Gildy V. Babiera [c,2], the Department of Surgical Oncology, MD Anderson Cancer Center [3]







Van Leeuwen et al., Oncol Hematol 2010

Summary I

Elderly patients are “different” !!!

-> Life expectancy and the number of older people in good condition is increasing.

-> Watch your patients carefully!

-> Detailed communication with your patient is important.

-> Careful recommendation of therapy regime concerning comorbidities.

-> Interdisciplinary support.

-> Regular „check“ of clinical status, eating habits, new medications, cognitive function ...

-> Close contact with relatives.

Summary II

Age alone should not decide on therapy recommendation !!!

-> Geriatric assessment should be performed before every treatment recommendation

-> Radical surgery and modern cytostatic regimens are treatment options.

-> Prospective, oncological trials should not have any age limitation.

-> The oncological treatment of elderly patients is demanding and requires considerable expertise.

-> Therapy monitoring should be conducted more closely than in younger patients.

universitäts klinikum bonn

Zentrum für Geburtshilfe und Frauenheilkunde

CIO Centrum für Integrierte Onkologie Köln Bonn

Thank you for your attention