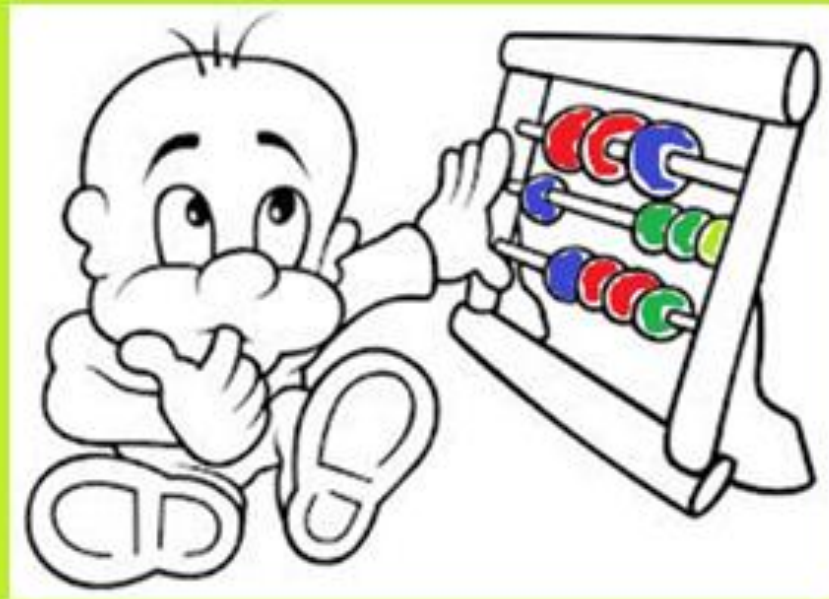rijksuniversiteit
groningen

Population based Cancer registry in the Netherlands (NKR and PALGA)

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Epidemiology starts with counting

Cancer registries

Hospital based versus Population based

A population based cancer registry – The Netherlands

Iran:
   4.5 times more people
   47 times larger
East Azerbaijan Province:
   0.25% people
   About equal size
Distance Groningen-Tabriz: 4600 km
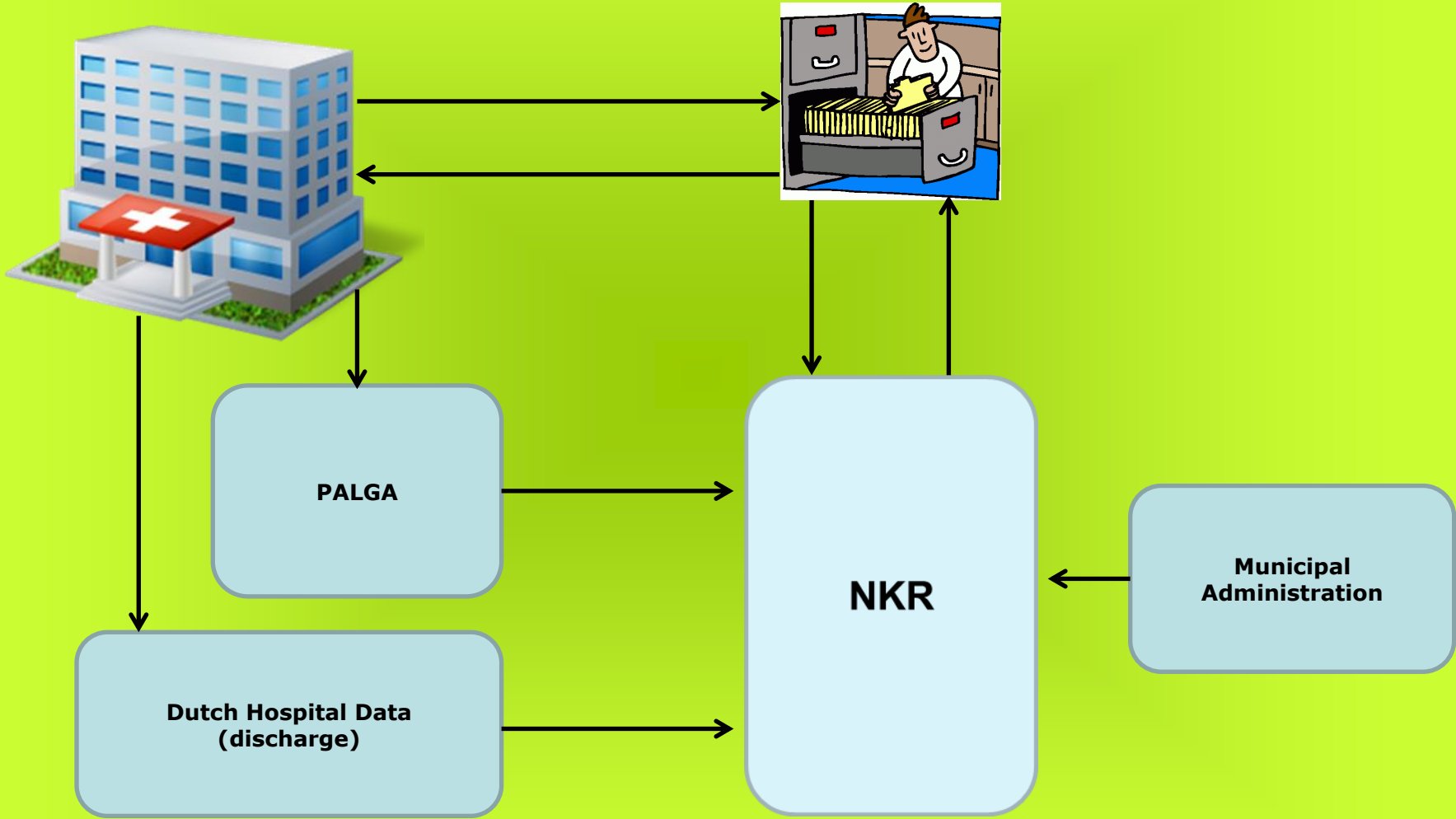
Dutch population based cancer registry

The NKR is a national database since 1989

IKNL is responsabele for collection, analysis and provision of data of this cancer registry

Financed by Ministry of Health

www.cijfersoverkanker.nl

Dutch population based cancer registry

PALGA

Dutch Hospital Data (discharge)

NKR

Municipal Administration

PALGA

The nationwide network and registry of histo- and cytopathology in the Netherlands
- Started in 1971
- National coverage since 1991
- All pathologists are trained (50 hospitals)
- Embedded in care
- Financed by Ministry of Health

Dutch Hospital Data

A nationwide database of hospitalization and discharge
- Started in 1961
- National coverage since 1991
- Administrative workers in 100 hospitals
- Yearly update
- 99% reliability
- Financed by Ministry of Health
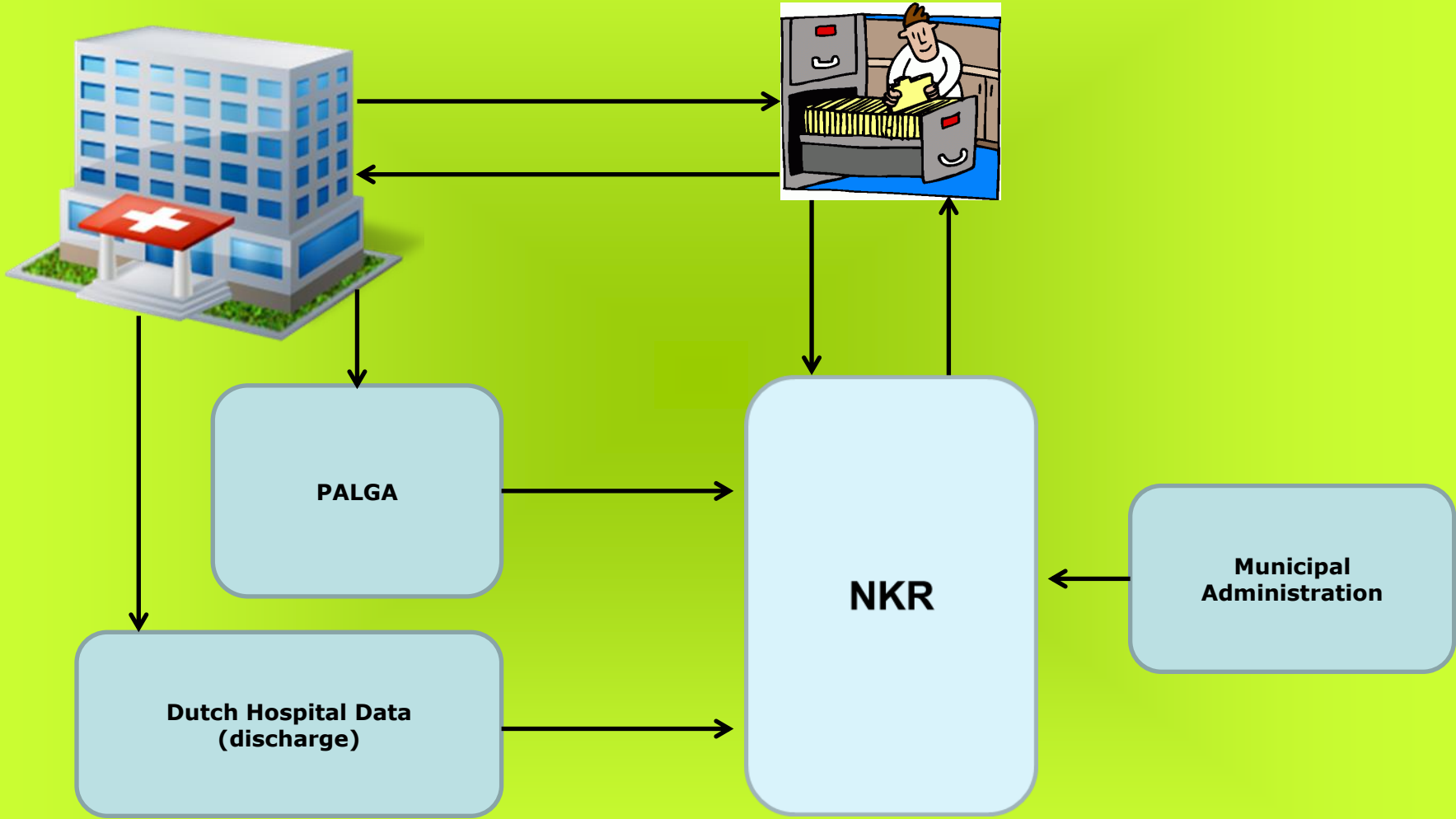
Municipal administration

Registration of all people living in The Netherlands
- Name
- Date of birth
- Date of death (if applicable)

Dutch population based cancer registry

PALGA

Dutch Hospital Data
(discharge)

NKR

Municipal
Administration

Dutch population based cancer registry

Registered is:

- Date of diagnosis
- Tumor localization (ICD-O)
- Morphological classification
- Grade / differentiation grade
- Stage (TNM)
- Type and date of start of treatment(s)

Dutch population based cancer registry

Proces

    Few weeks after PALGA signal: start case

    9 months later: register case

    Yearly check with hospital data (cases are missed?)

    Yearly check with municipal administration

Dutch population based cancer registry

Quality
  Trained registers, paid by cancer registry
  1 year training, national protocol (IARC)

  Double data entry key parameters (e.g. date of birth)

  Check on logical inconsistencies

  The database contains about 95% of all cancer cases in the Netherlands

Dutch population based cancer registry

Type of data
      Incidence
      Prevalence
      Cancer death
      Cancer survival
      Treatment

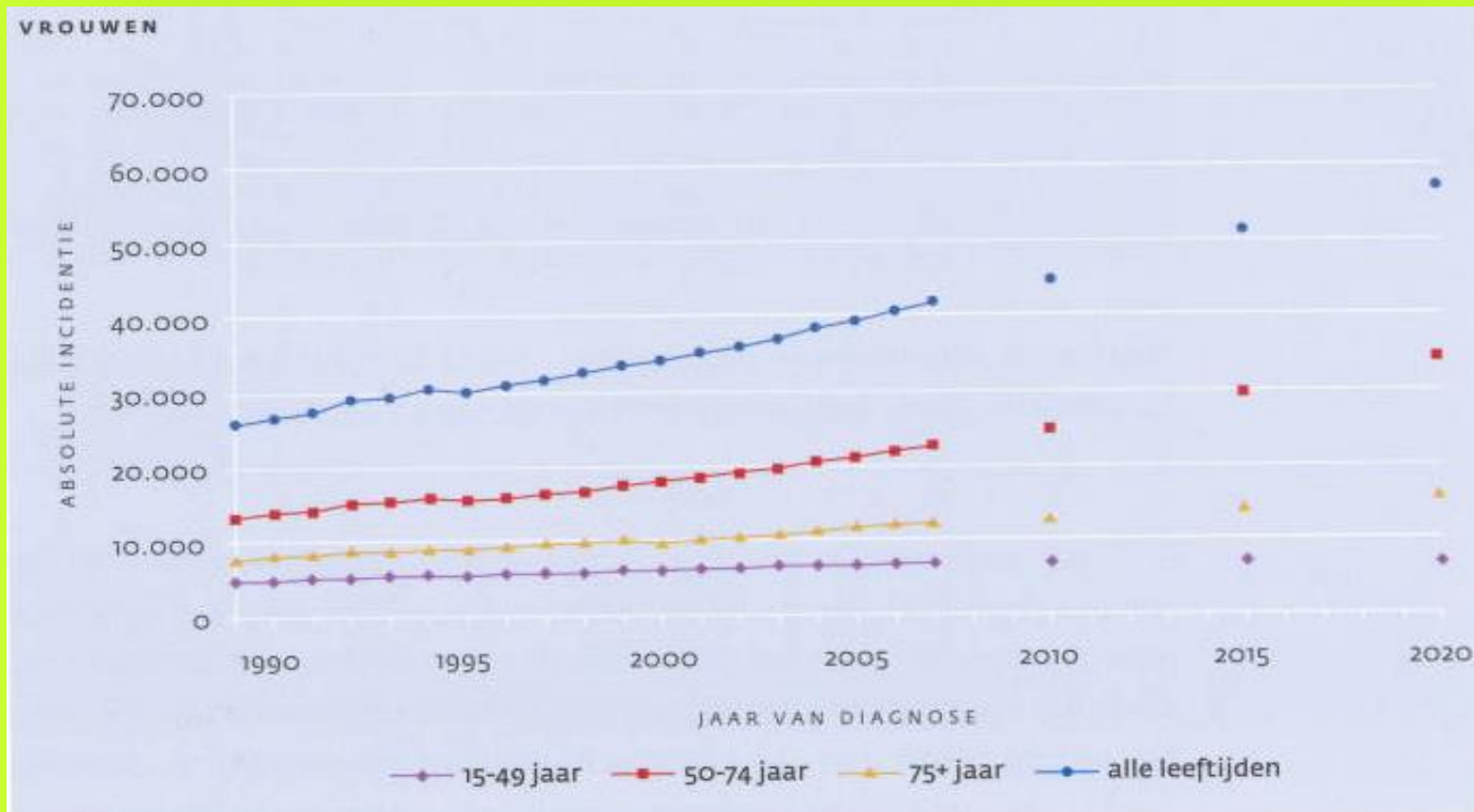# Dutch population based cancer registry

Application
 Research
 Health policy / trends / planning of care
 Evaluation and improvement of care
 Support and evaluation of screening
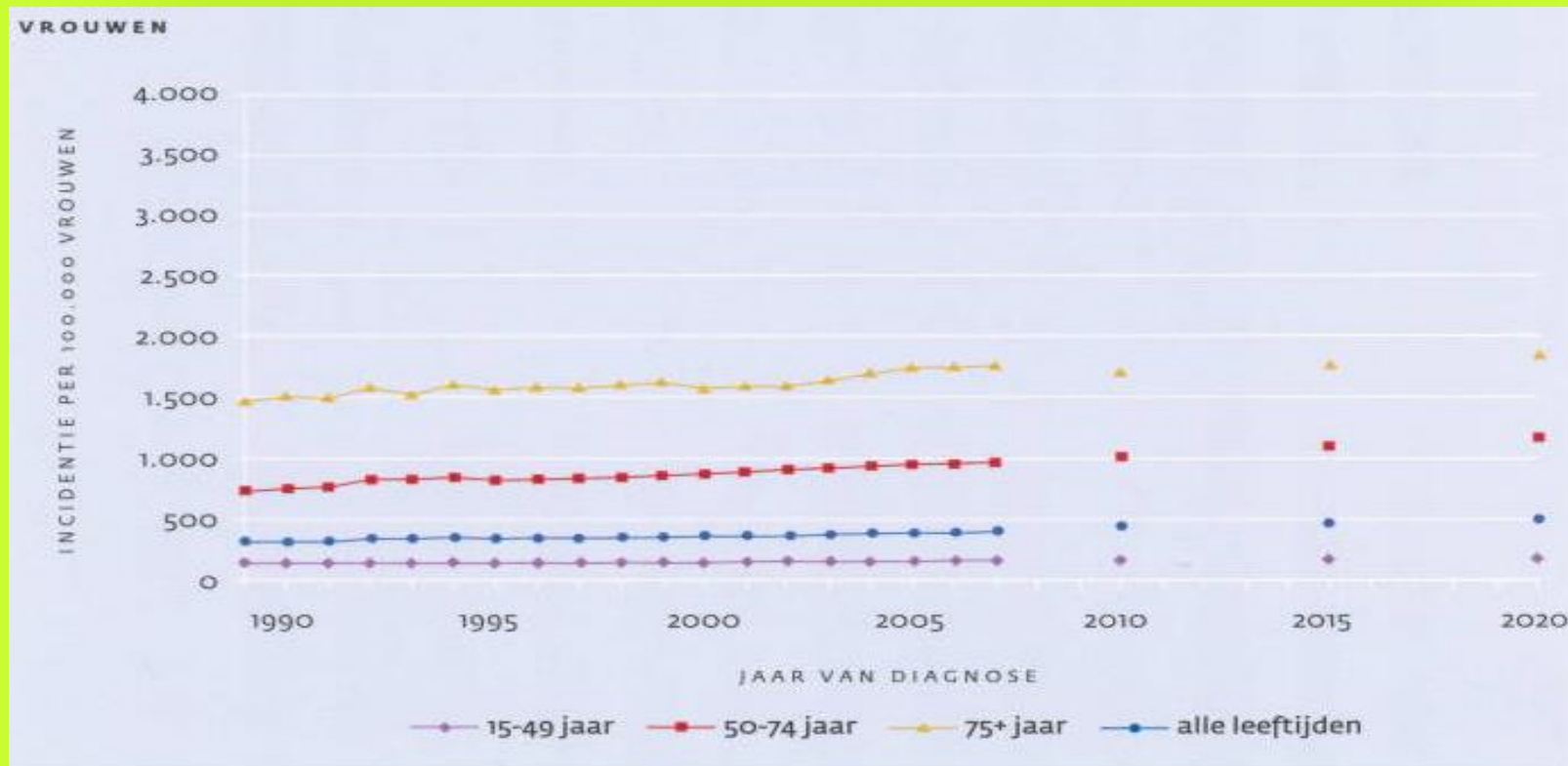 programs
 (Inter)National comparison

Dutch example: Incidence of cancer

All types of cancer: Absolute incidence numbers 1989-2007 with prognoses up to 2020.

Kanker in Nederland: Trends, prognoses en implicaties voor zorgvraag. Signaleringscommissie Kanker van KWF Kankerbestrijding Source NKR

Incidence of cancer

All types of cancer: For age standardized incidence rates 1989-2007 with prognoses up to 2020 (females).

Kanker in Nederland: Trends, prognoses en implicaties voor zorgvraag. Signaleringscommissie Kanker van KWF Kankerbestrijding Source NKR

Incidence of cancer

In future the absolute number of patients with cancer will increase.

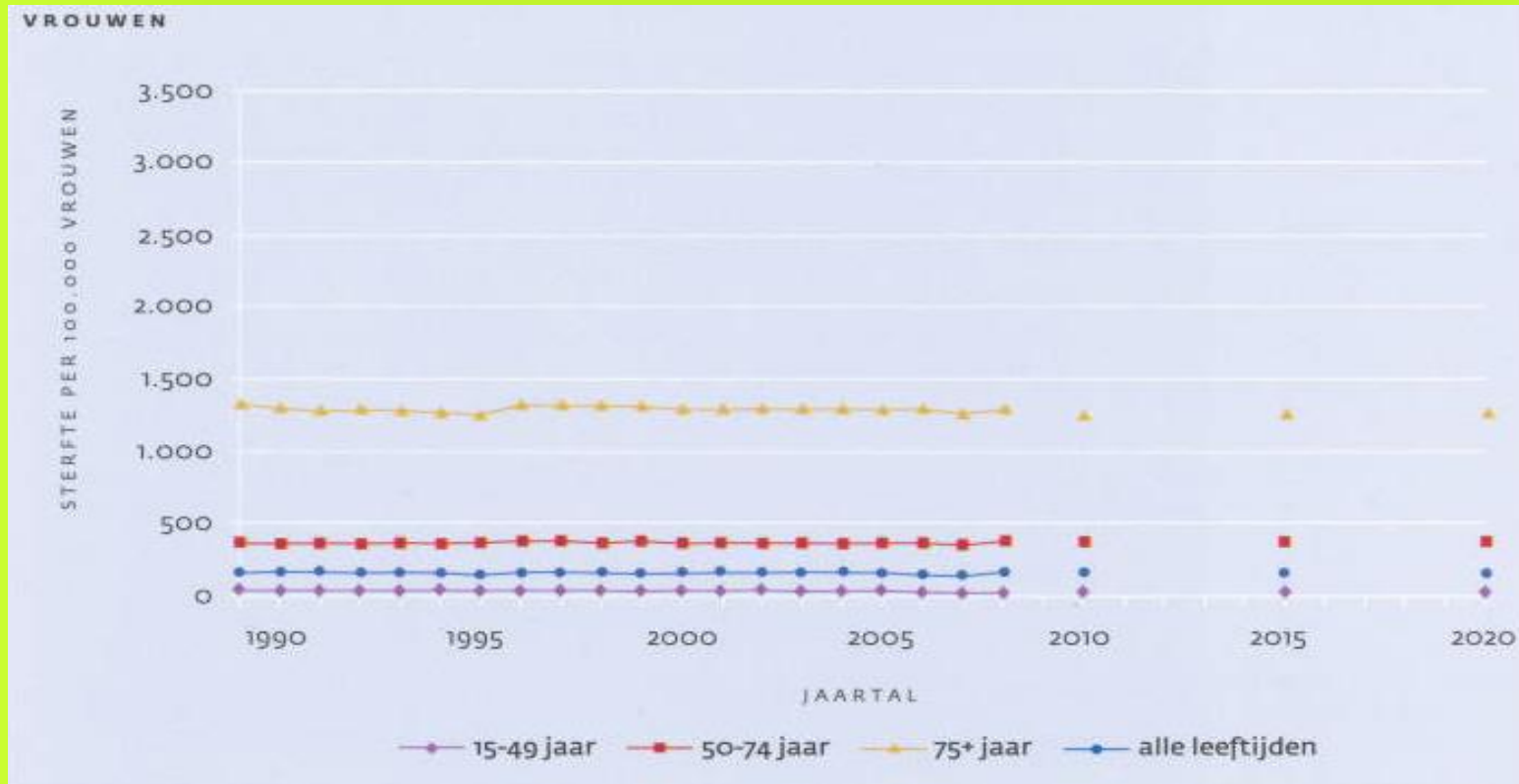Males: 45.000 (2007) -> 66.000 (2020)
   Increase: 50%

Females: 42.000 (2007) -> 57.000 (2020)
   Increase: 35%

Incidence of cancer

Aging of the population is the main cause of the increased incidence of cancer.
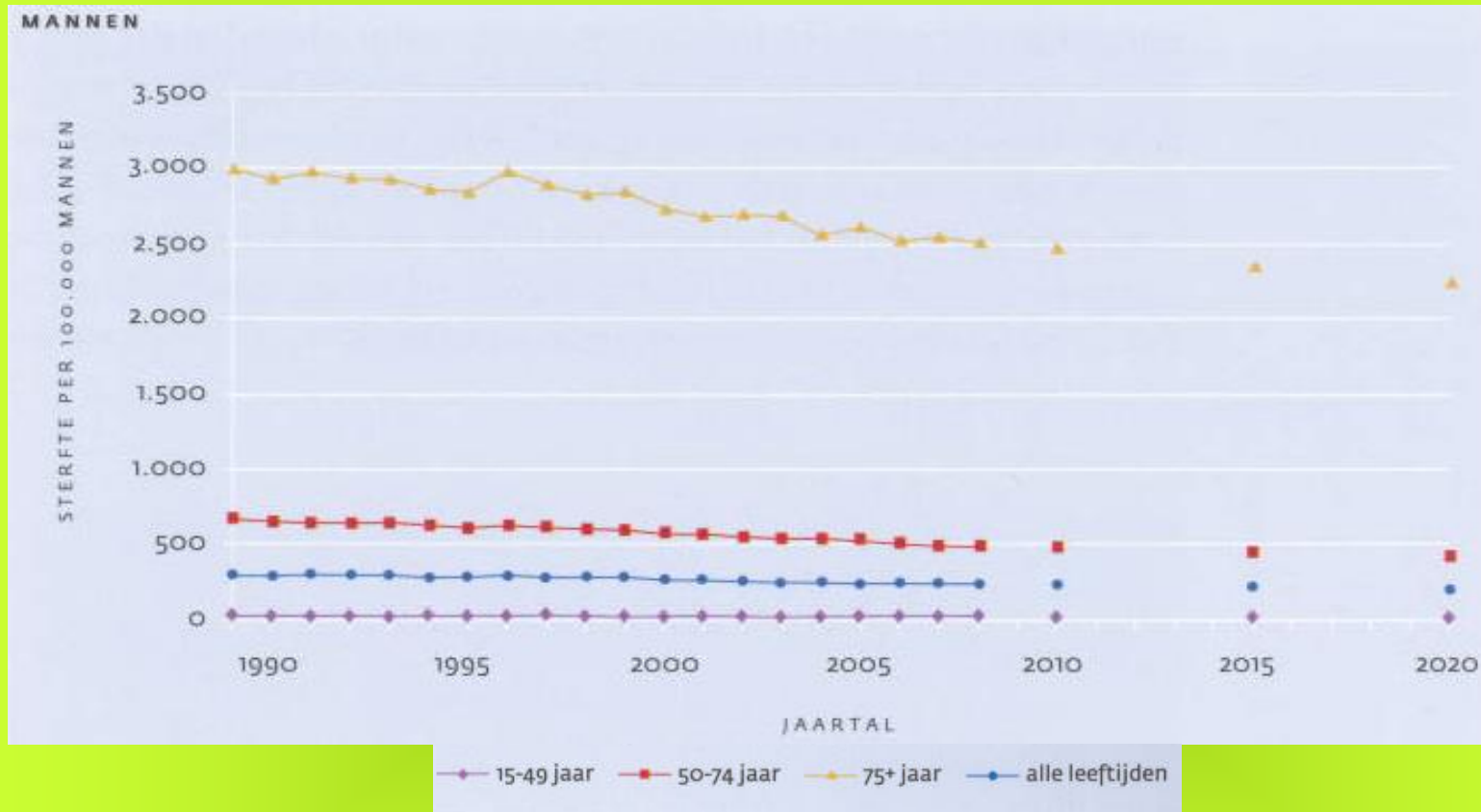
Cancer mortality rates

All types of cancer: Cancer mortality rates 1989-2007 with prognoses up to 2020 (females).

Kanker in Nederland: Trends, prognoses en implicaties voor zorgvraag. Signaleringscommissie Kanker van KWF Kankerbestrijding
Source CBS

Cancer mortality rates

All types of cancer: Cancer mortality rates 1989-2007 with prognoses up to 2020 (males).

Kanker in Nederland: Trends, prognoses en implicaties voor zorgvraag. Signaleringscommissie Kanker van KWF Kankerbestrijding Source CBS

Cancer mortality rates

The cancer mortality rates lower over the age of 75. This effect is stronger for males than for females.

Males: 25/1000 (2007) -> 22/1000 (2020)
    Decrease: 12%

Females: 13/1000 (2007) -> 12.5/1000 (2020)
    Decrease: 4%

Improved relative survival

More frequent an early diagnosis of cancer

 Screening
 Increased cancer awareness

Improved staging

Improved treatment

Changes in patterns of cancer

 Males: lung and stomach cancer ↓
  prostate cancer ↑
 Females: lung cancer ↑
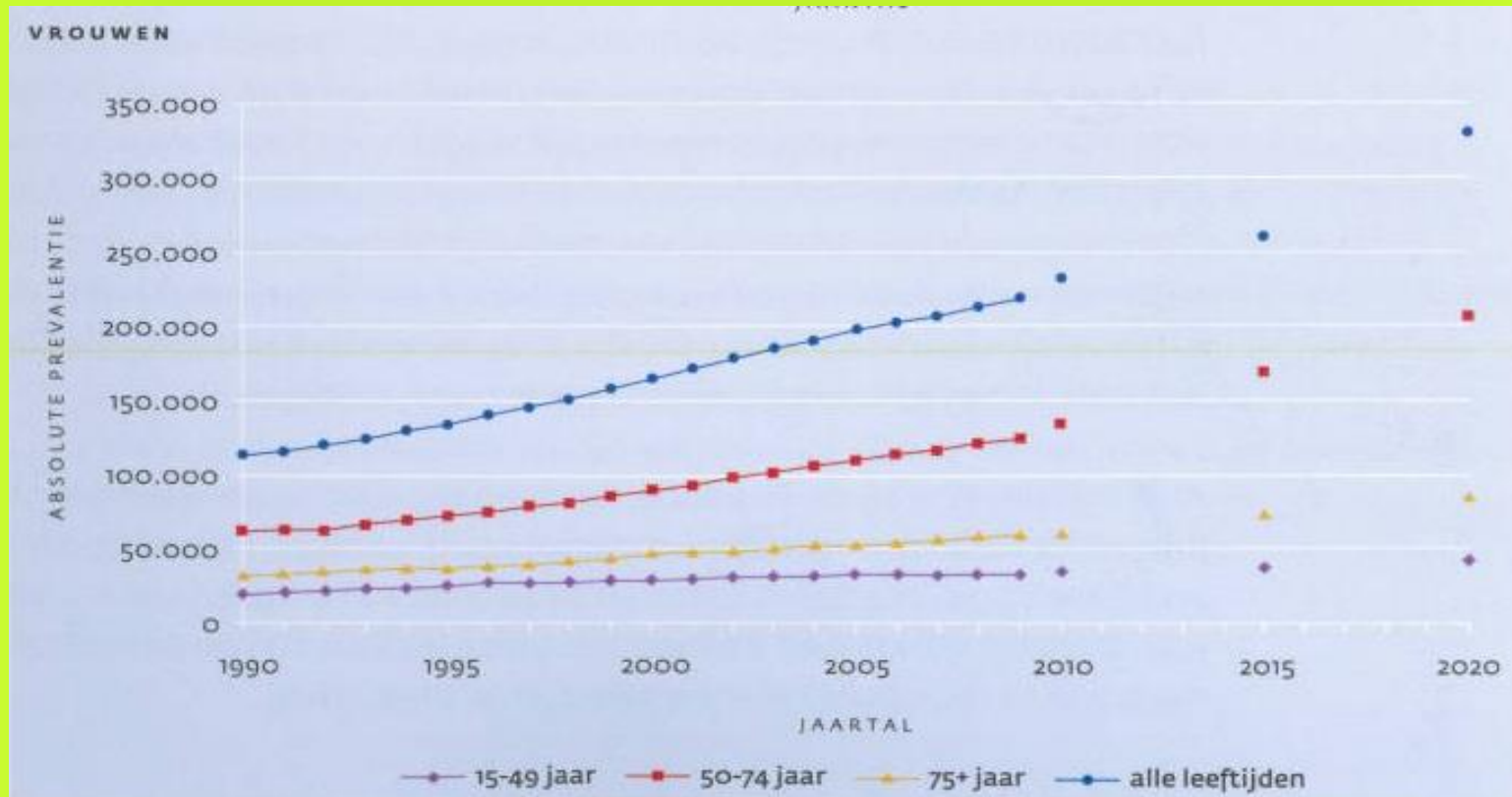 breast cancer relative good prognosis

Numbers

Females	2007	2020
Breast cancer	12.843	17.500
Colorectal cancer	5.493	7.000
Males		
Prostate cancer	9.588	17.000
Colorectal cancer	6.366	10.000

NB: Absolute numbers

Prevalence of cancer

All types of cancer: 10-years prevalences 1990-2009 with prognoses up to 2020.

Kanker in Nederland: Trends, prognoses en implicaties voor zorgvraag. Signaleringscommissie Kanker van KWF Kankerbestrijding
Source IKZ

Prevalence of cancer

The prevalence of cancer is increasing.

Males: 200.828 (2009) -> 330.000 (2020)
    Increase: 65%

Females: 218.465 (2009) -> 330.000 (2020)
    Increase: 50%

Explanations

The prevalence of cancer is increasing:

    The ageing of the population.

    An almost stable risk to develop cancer.

    A decreased risk of cancer death.

Thanks for your attention