

CANCER INCIDENCE ESTIMATION METHOD: AN APULIAN EXPERIENCE

Anna Maria Nannavecchia ¹, Ivan Rashid ¹, Danila Bruno ¹, Maria Giovanna Burgio Lo Monaco ¹,
Antonio Chieti ¹, Cinzia Tanzarella ¹, Francesco Cuccaro ², Lucia Bisceglia ³

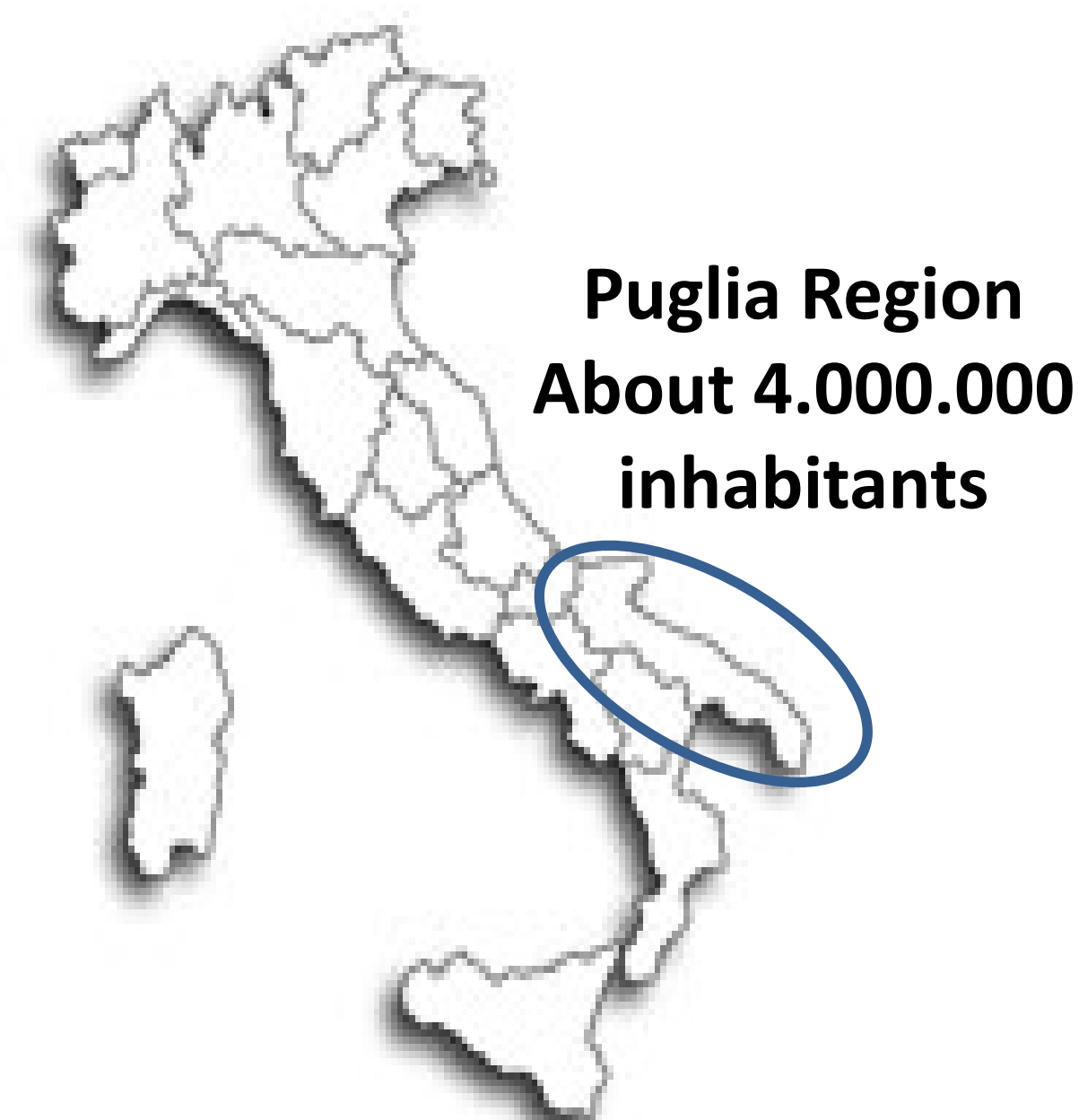
¹Cancer Registry of Puglia – Coordination centre, Cancer Institute IRCCS Giovanni XXIII

²Cancer Registry of Puglia – Local Health Unit of Barletta-Andria-Trani

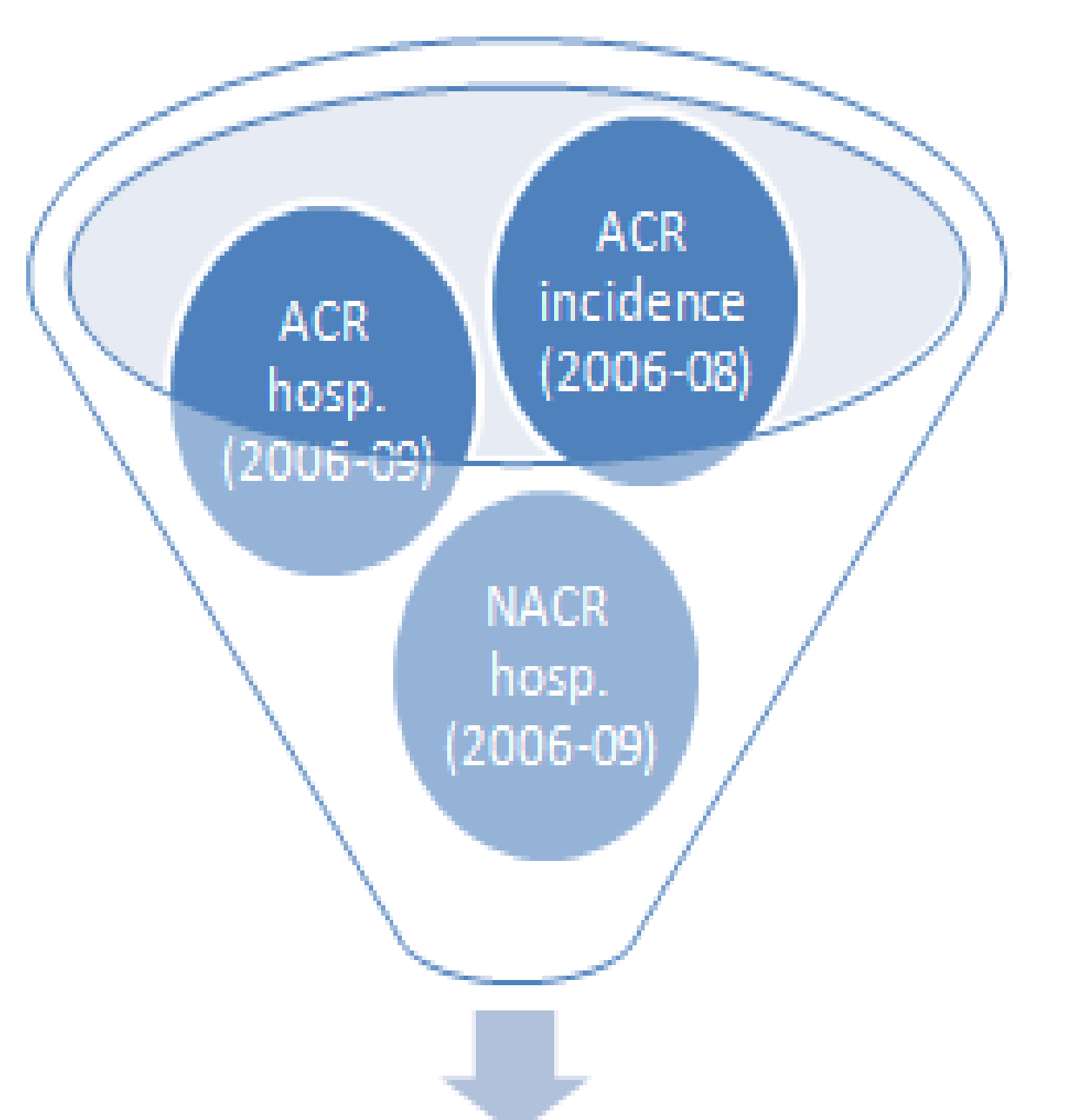
³Cancer Registry of Puglia – Health Regional Agency of Puglia

Background and introduction

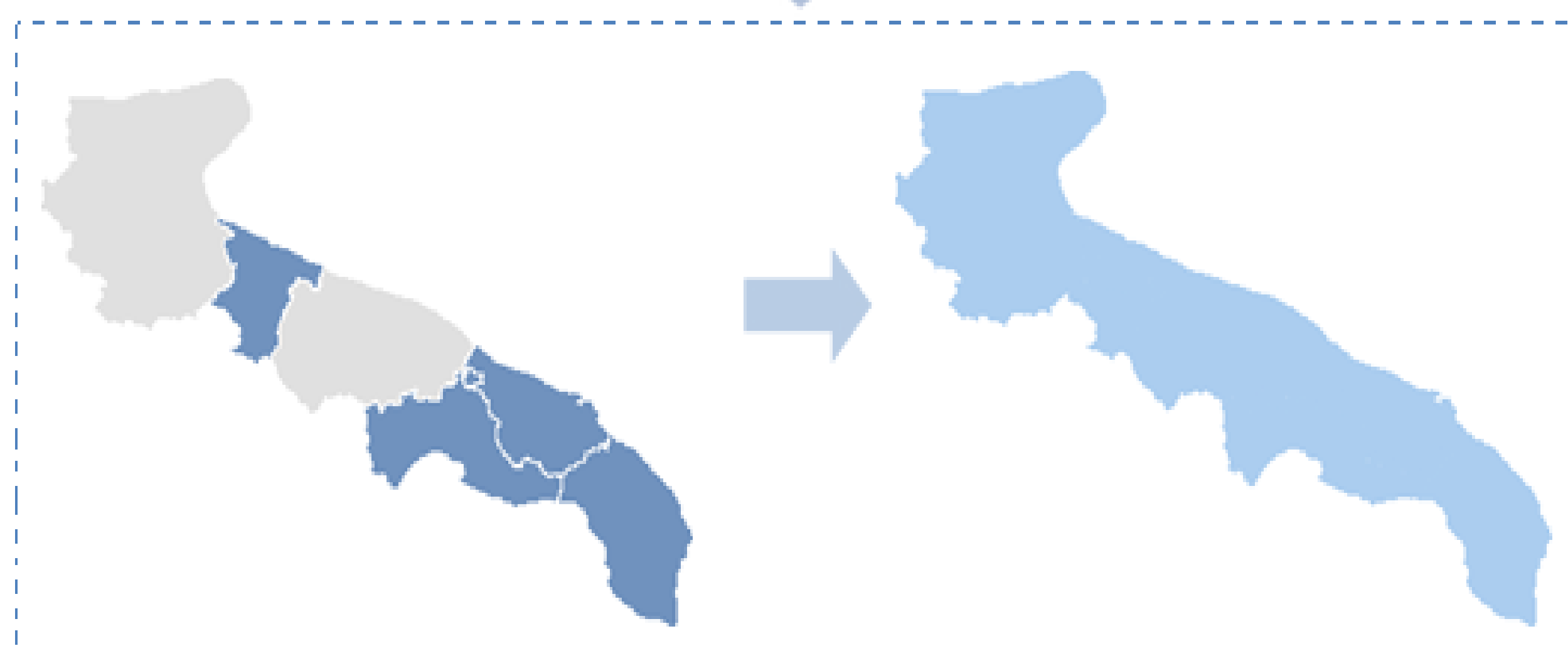
Cancer Registry of Puglia (RTP) was instituted in 2008 as a regional population-based cancer registry. It consists of six sections (Foggia, Barletta-Andria-Trani, Bari, Brindisi, Lecce e Taranto) and cover more than 4.000.000 inhabitants . At present, four of six sections have got accreditation by Italian Association of Cancer Registry (AIRTum). These four sections (BT, BR, LE, TA) cover 53% of regional population. To point out possible regional geographic variability in cancer incidence and also in order to support health services planning, we developed an original estimation method to ensure a complete territorial coverage.



Materials & Methods



$$\text{Incidence}_{\text{NACR}} = \text{Incidence}_{\text{ACR}} * \frac{\text{Hosp}_{\text{NACR}}}{\text{Hosp}_{\text{ACR}}}$$



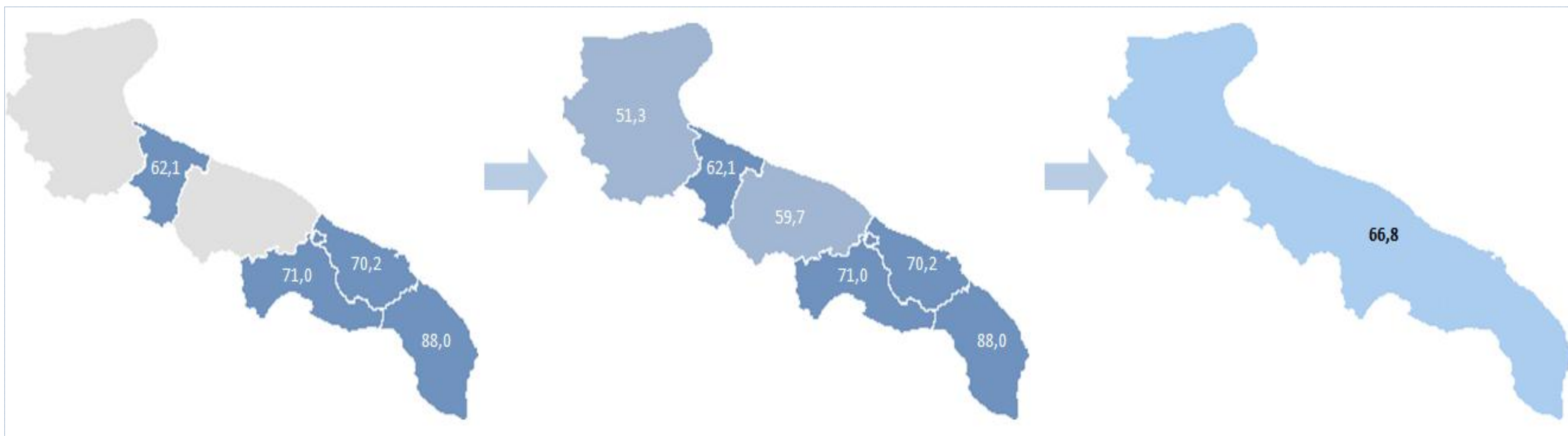
Incidence data of the four accredited RTP sections for the shared period 2006-2008 and the 2001-2009 hospitalization regional data have been considered.

In order to take into account specific health features of different provinces, we realized an estimate of cancer incidence rates in not accredited cancer registry areas (NACRA), adjusting the rates of accredited cancer registry areas (ACRA) with a factor that represents the propensity to hospitalization (first occurrence); we fixed a wash-out period from 2001 to 2005 in order to take off prevalent cases and then we realized a ratio between NACR and ACR hospitalization rates.

After a preliminary check with the registration data of the two NACRA sections (Bari e Foggia), available for 2006, we estimated regional cancer rate as weighted sum of ACR rates and adjusted rates for NACR, by site and sex.

Results

Our estimates are promising and close to real incidence data of NACR for 2006. They are also in agreement with the expected health pictures for each area, for example a known higher rate of liver cancer in Bari province. Moreover we found higher rates for thyroid cancer and skin melanoma in Bari province, it could be explained by the larger number of health facilities in this metropolitan area. At the same time, some site, as pancreas and prostate, results are not very close to real incidence data.



Lung cancer - Males

Conclusions

This method provides reliable and likely cancer estimates; it could be useful to assess the cancer incidence when cancer registration data are not available, but hospitalization data and incidence data from neighboring areas are available.

In our case, the aim is reached: we finally estimated cancer rates for the whole region.

However, in the case of pancreas and prostate cancer, whose estimates are very conditioned by survival, mortality information could be consider to improve the adjustment factor. We are continuing to study the better way to incorporate mortality information in our estimate... WORK IN PROGRESS.