

Targeted Alpha Therapy

Maria Betti
Director

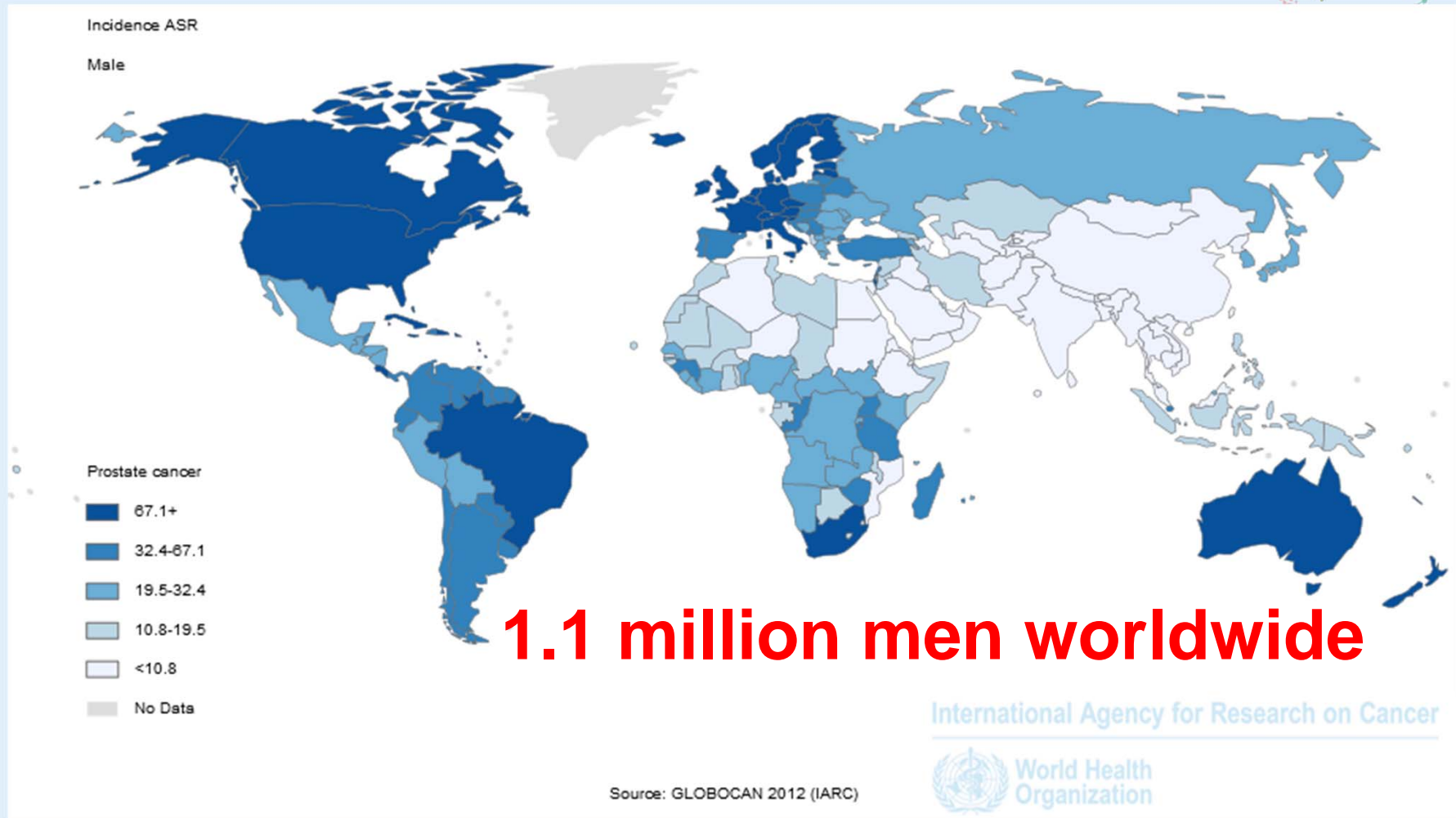
European Commission
Joint Research Centre
Directorate Nuclear Safety
and Security

19–20 September 2017
IAEA Scientific Forum
**Nuclear Techniques
in Human Health**

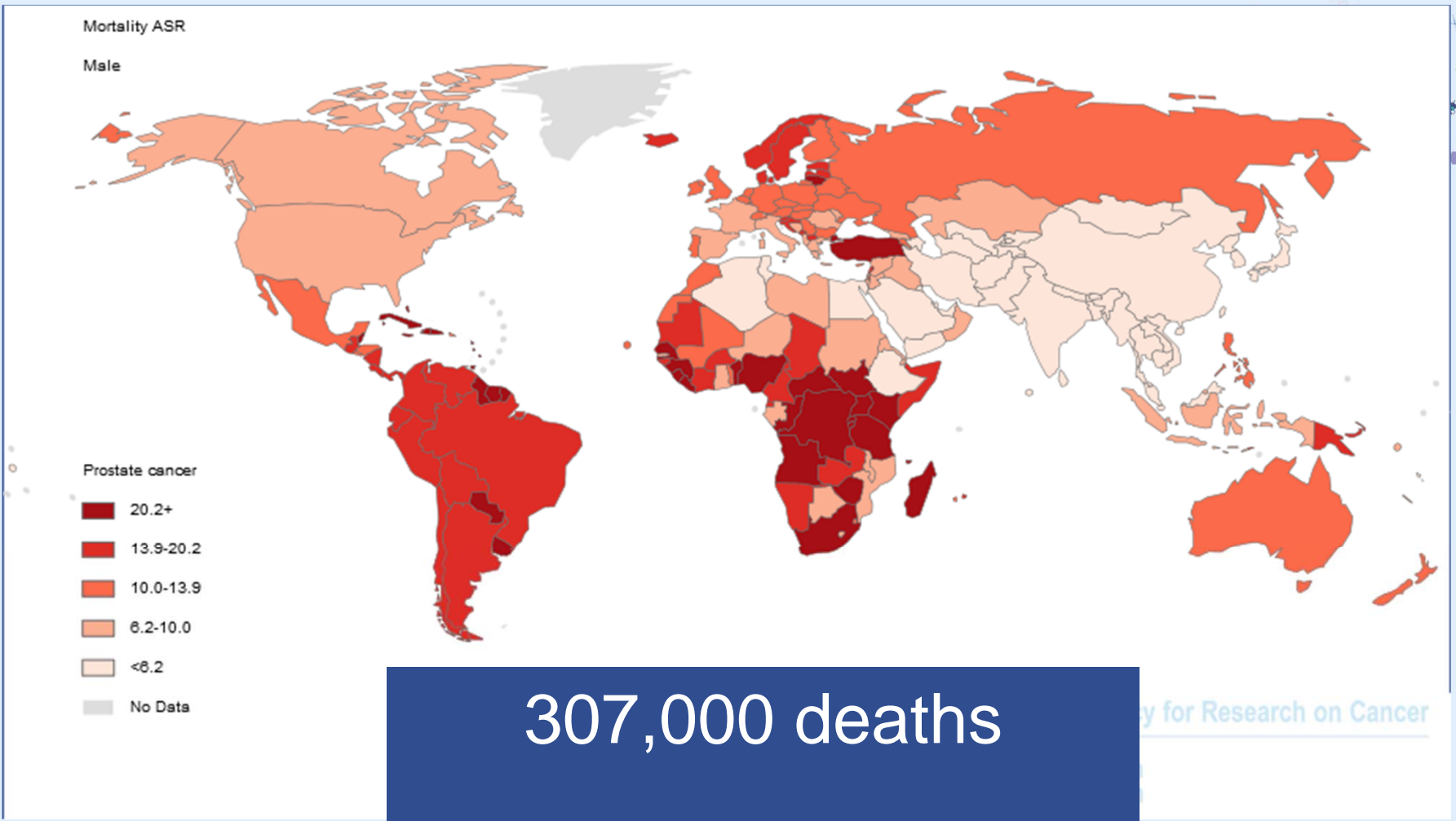
Prevention, Diagnosis, Treatment



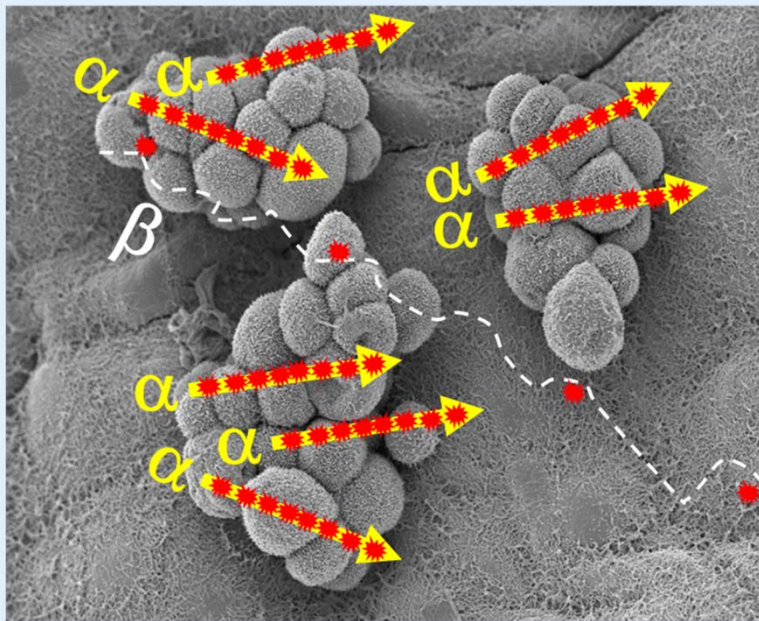
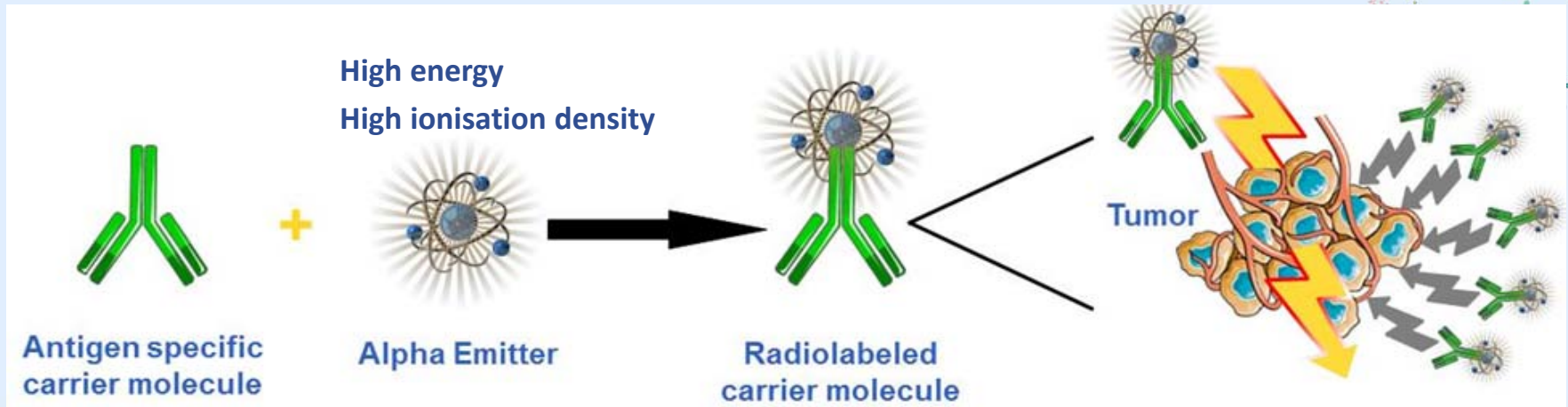
Prostate Cancer Incidence



Prostate Cancer Mortality



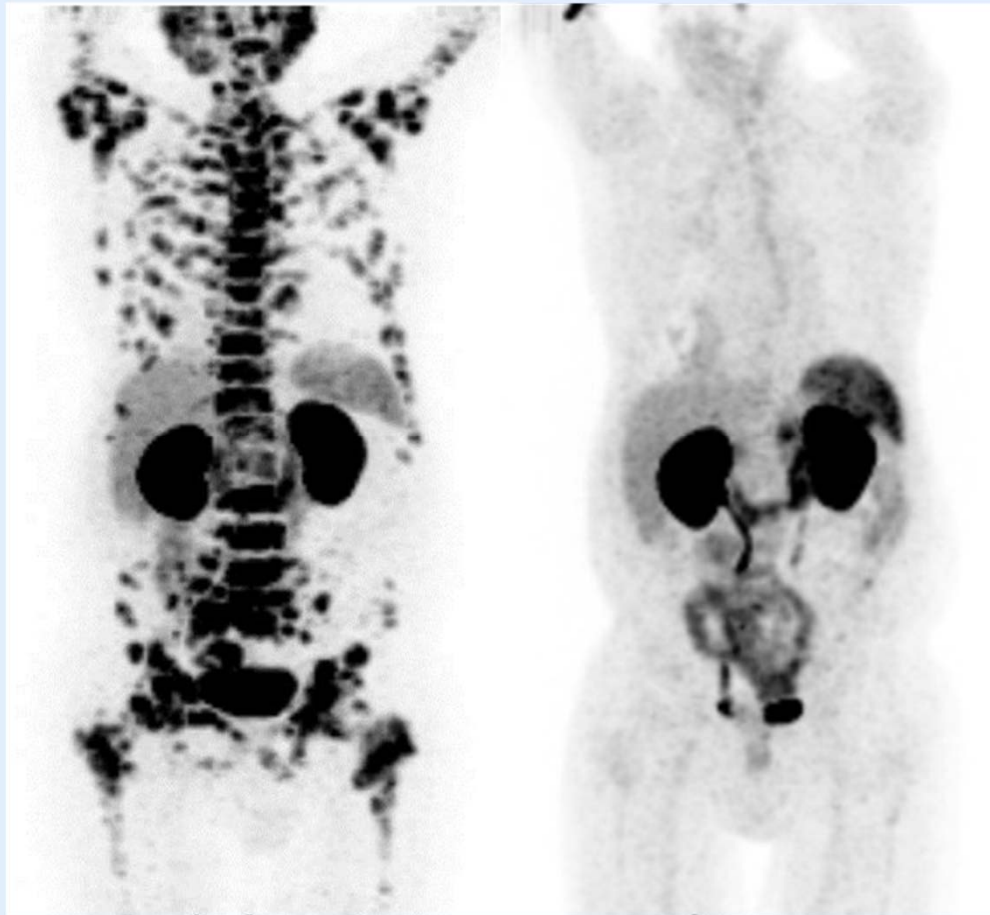
Targeted Therapy



Selective killing tumor cells

Limited side effects (healthy tissue)

Clinical Testings



Before treatment
Dec. 2014

After 4 treatments
Sept. 2015

Complete
response

Life expectation
considerably
increased

Case Study 1 – Argentina

Secure supply of ^{225}Ac (IAEA TCP) - Production



Ttraining
Kknow-How transfer
Hosting staff at JRC

Case Study 2 – South Africa

Knowledge Transfer in the Hospitals



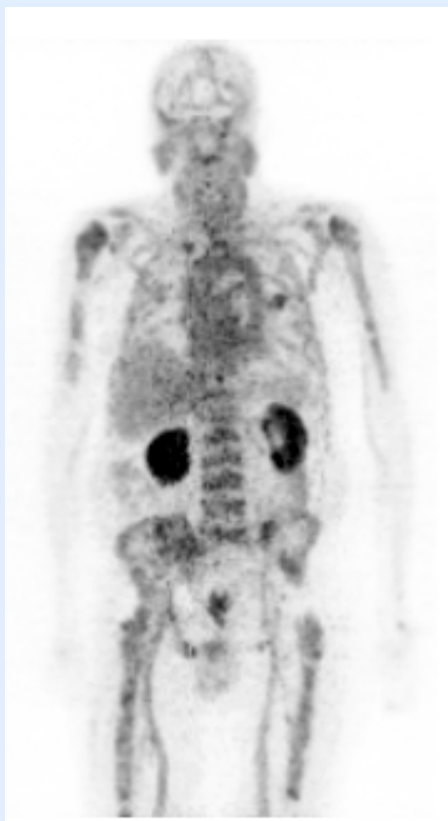
Education to use of radio isotopes

Building capacity to treat prostate cancer

Establishing Regional Training Centre in Africa

Case Study 2 – South Africa

^{225}Ac -PSMA617: Pretoria experience



April 2017

PSA = 2280 ng/ml

1 x
 ^{225}Ac -PSMA



(10 MBq)



July 2017

PSA = 205 ng/ml

THANK YOU