



Arthroplasty Register of the Autonomous Province of Bolzano (Italy)

(RPPA – Registro Provinciale delle protesi articolari)

2nd International Congress of Arthroplasty Registries

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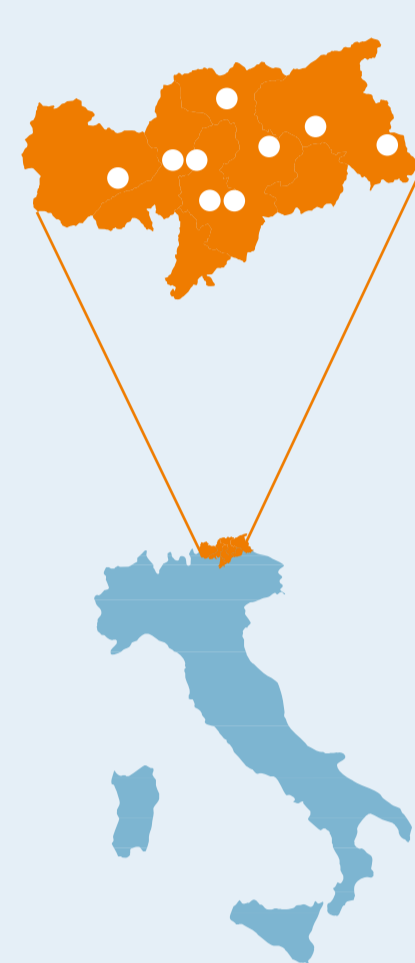
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INTRODUCTION



The Autonomous Province of Bolzano is located in the north of Italy, on the border with Austria and Switzerland and has a population of about 500.000 residents. In the Province are operating 7 public hospitals and 2 private structures.

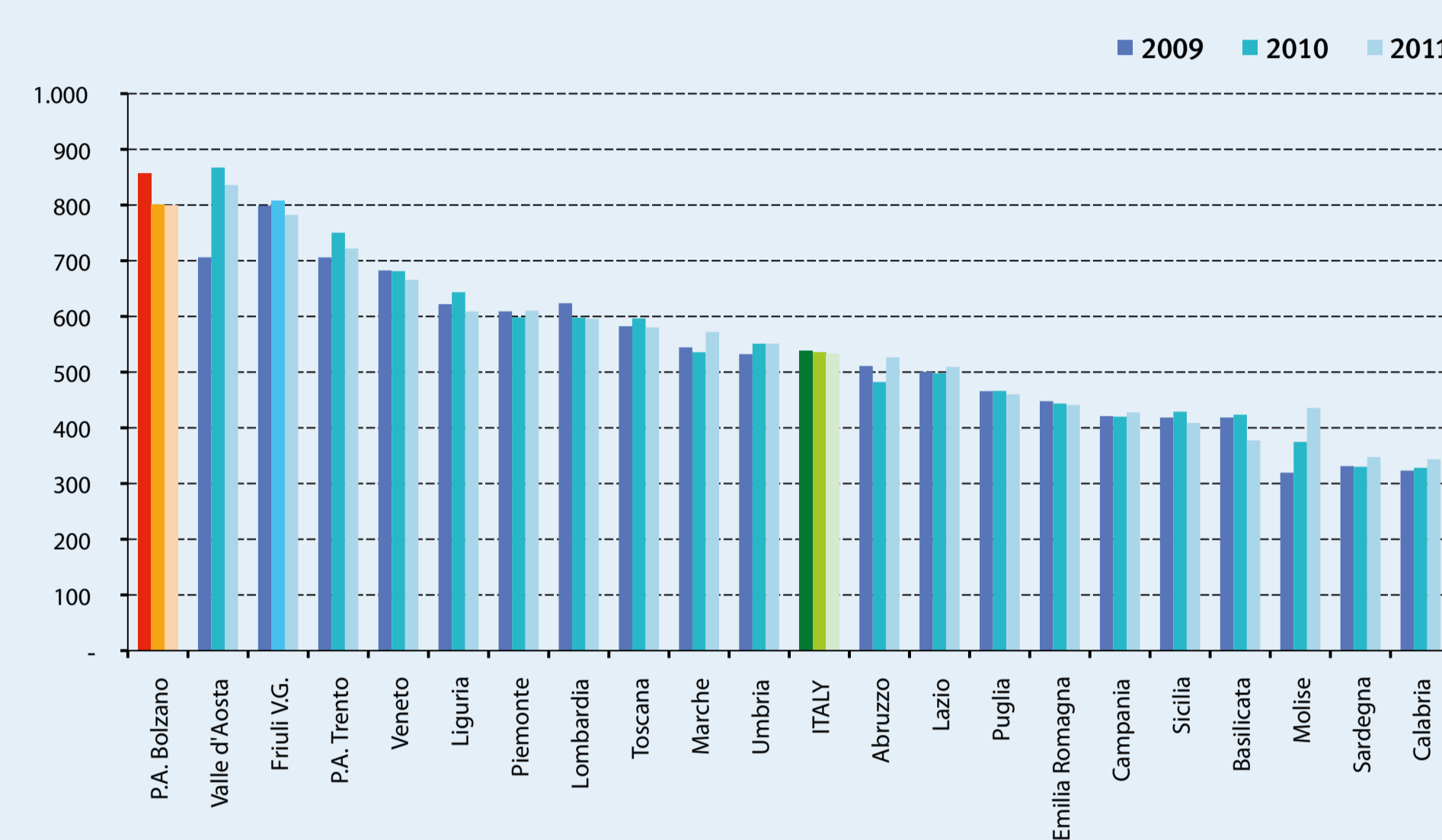
In the Autonomous Province of Bolzano more than 2.000 arthroplasty interventions (knee and hip replacements) a year are effectuated. Therefore we have the highest hospitalization rate for hip replacements nationwide.

The Arthroplasty Register was introduced in accordance with the provincial law of May 2011, but the activities of implementation had begun in 2009.

The Hip Replacement Register is operative since 01.01.2010, while the Knee Replacement Register since July 2011. All hospitals of the Province take part.

The provincial Arthroplasty Register is coordinated and located at the provincial Epidemiologic Observatory, which provides the statistical support.

The RPPA participates at the Italian Arthroplasty Register (Registro Italiano Artroprotesi – RIAP).



Hospitalization rate of patients in age class = 65 years, for hip replacements (compared to 100.000 res.)

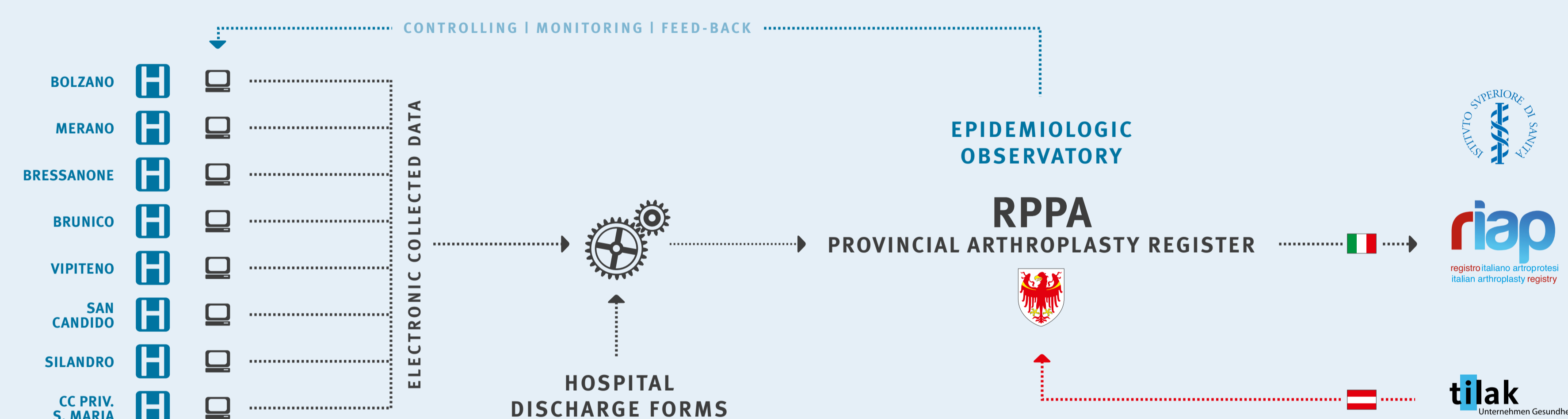
Source: National Ministry of Health – Annual reports 2009, 2010 and 2011 of hospital admissions

METHOD

The orthopaedists collect the data in the operating theatre on the basis of a specific record layout.

The collected data refer to personal data of the patient (name, gender, personal ID), clinical variables (reason for intervention, type of surgery, fixation technique, complications during the surgery, etc) and implants data (manufacturer, brand name, product number/code, production line batch, and Italian Device ID).

The data merge quarterly or monthly to the provincial data base. The RPPA matches the own records with the hospital clinical data.



RESULTS

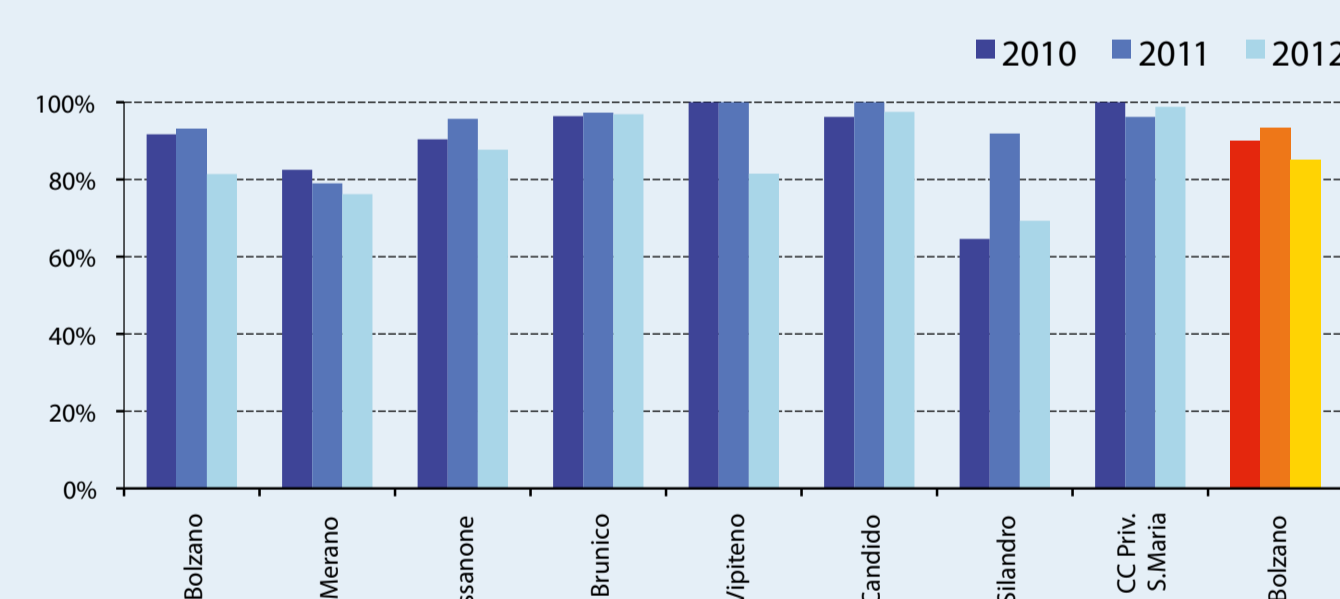
From 2010 to the beginning of 2013 about 3.500 hip and over 900 knee forms are registered.

Three years after the start up the Provincial Hip Replacement Register registers a 90% coverage of all interventions effectuated in our province.

The Provincial Knee Replacement Register was introduced one and a half year ago and confirms a tendency of good coverage, with values around 80%.

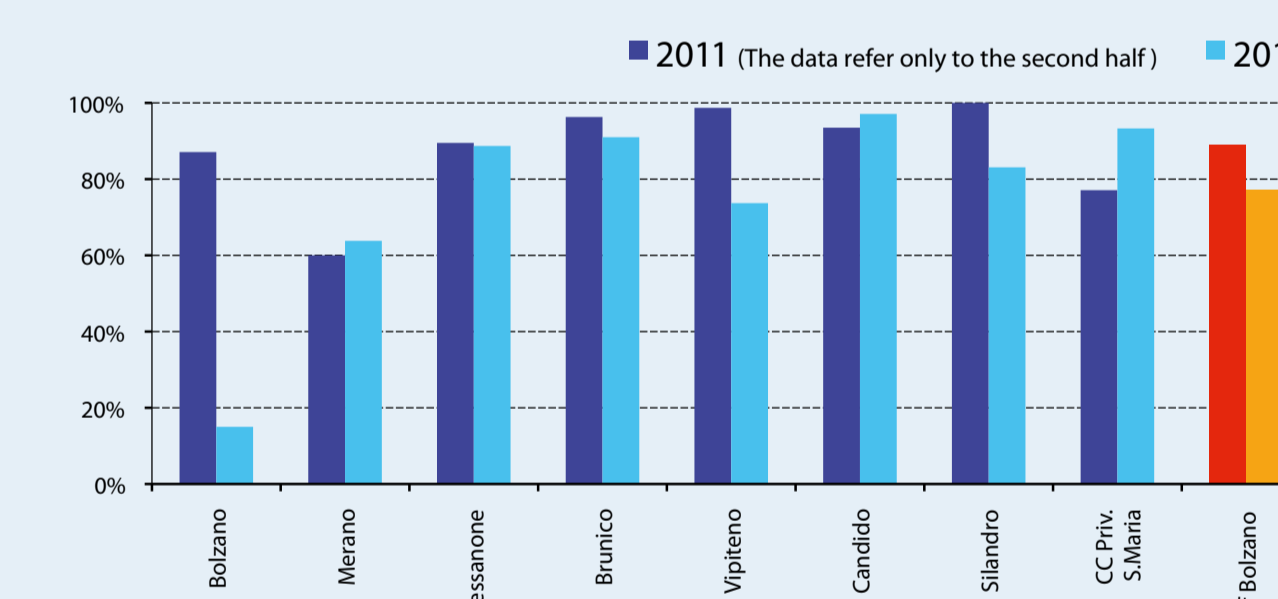
10% of the hip prosthesis activities are concerning the revision (3.111 primary hip replacements – included partial and resurfacing prosthesis – and 349 revisions); regarding the knee prosthesis, the percentage is 4% (893 primary knee replacements and 38 revisions).

An average of 20% of the main cause of the primary hip replacements are urgent intervention for collar thigh-bone fracture.



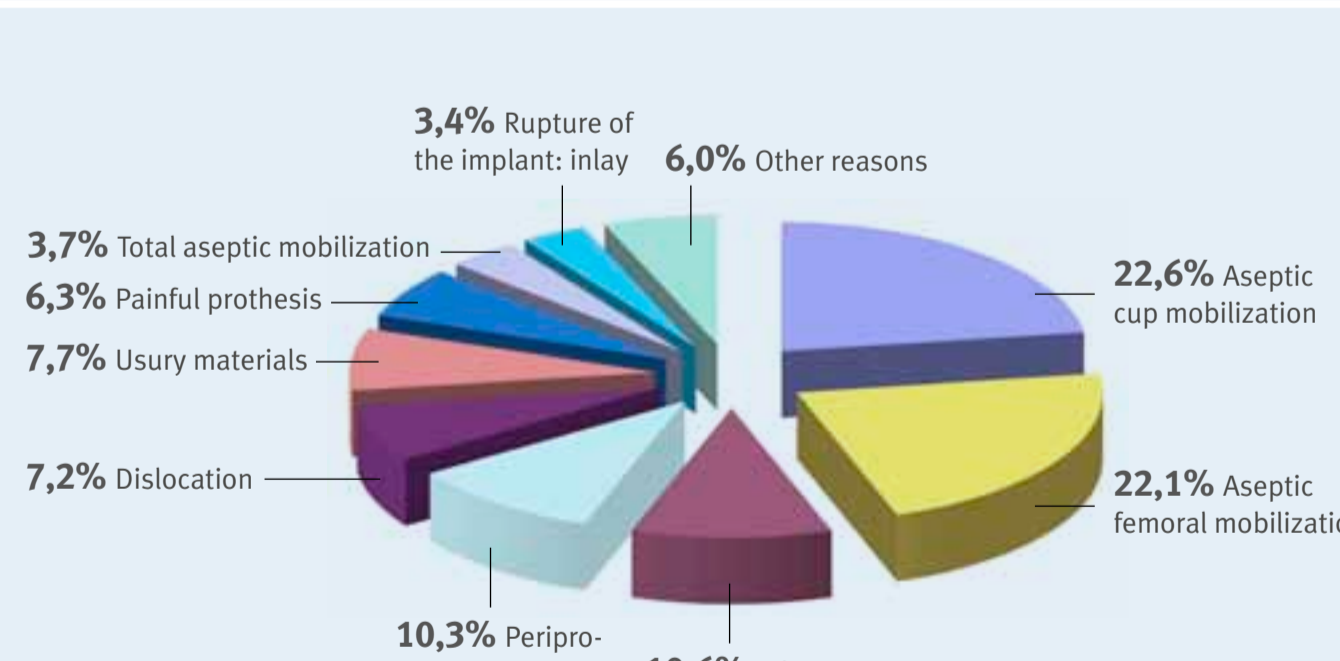
Completeness of the Hip Replacement Register (%) Comparison between the number of Hip Forms and the number of Hospital Discharge Forms

Source: Provincial Hip Replacement Register – updated May 2013



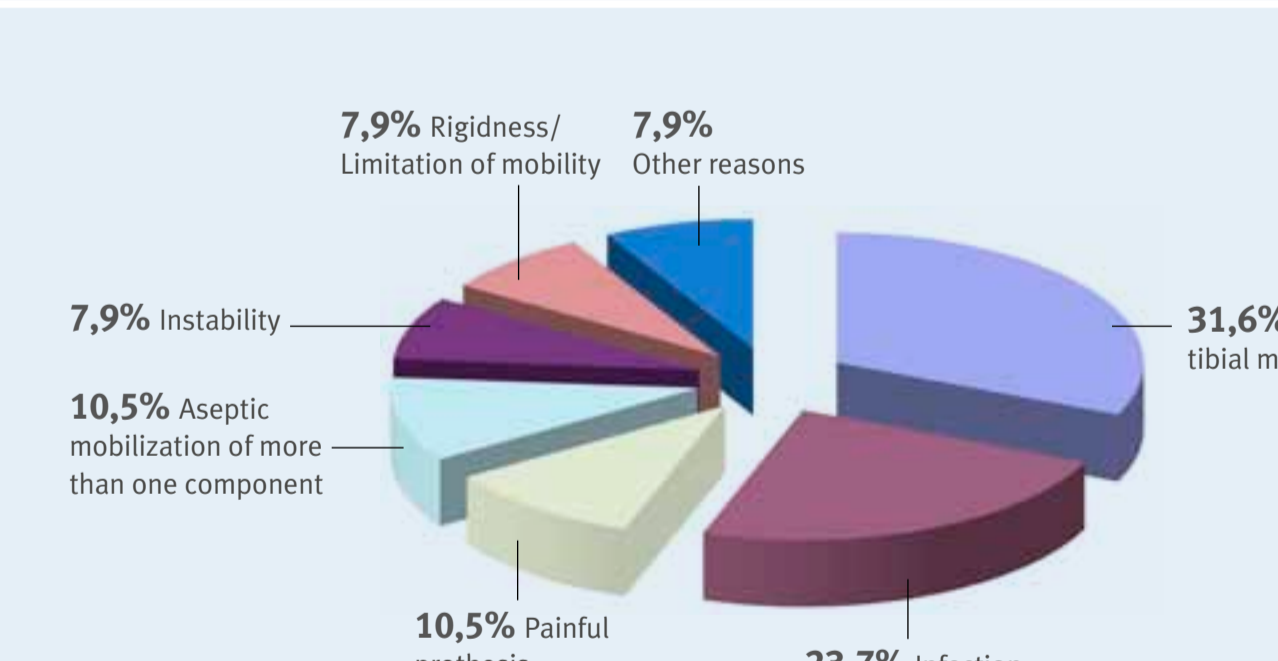
Completeness of the Knee Replacement Register (%) Comparison between the number of Knee Forms and the number of Hospital Discharge Forms

Source: Provincial Knee Replacement Register – updated May 2013



Hip-Replacements – Registered revisions of the prosthesis by main reason for the exchange

Source: Provincial Hip Replacement Register – updated May 2013



Knee-Replacements – Registered revisions of the prosthesis by main reason for the exchange

Source: Provincial Knee Replacement Register – updated May 2013

After three years of data collection the Provincial Hip Replacement Register allows to calculate some indicators in-depth analysis concerning the implanted prosthesis.

We know that for the primary hip replacement on average 37 models of stem and 25 of cups were implanted every year.

Ceramic-Ceramic is the most used articular coupling in the primary surgeries; for the revisions it is "Ceramic-Polyethylene".

Year	PRIMARY PROSTHESIS		TOTAL REVISIONS	
	Stems	Cups	Stems	Cups
2010	35	27	10	8
2011	40	25	10	6
2012	37	21	11	11

Hip replacements – Number of different types of cups and stems implanted* in primary and total revision surgery – A.P. of Bolzano during the years 2010 – 2012

Source: Provincial Hip Replacement Register – updated May 2013

Note: * 42 unidentified Modelnames of Stems and Cups

Articular coupling	PRIMARY PROSTHESIS		TOTAL REVISIONS	
	No.	%	No.	%
Ceramics–Ceramics	1.345	52,6	14	24,6
Ceramics–Polyethylene crosslinked	413	16,2	4	7,0
Ceramics–Polyethylene	363	14,2	27	47,4
Metal–Polyethylene	71	2,8	2	3,5
Metal–Polyethylene crosslinked	25	1,0	–	–
Metal–Metal	9	0,4	–	–
Other combinations*	329	12,9	10	17,5
Total	2.555	100,0	57	100,0

Hip replacements – Articular couplings in primary and total revision surgeries A.P. of Bolzano during the years 2010 – 2013

Source: Provincial Hip Replacement Register – updated May 2013

Note: * 218 unidentified articular couplings

SUMMARY

The RPPA allows monitoring the prosthesis and publishing periodically indicators, which can be compared with the national and international data. Reports about the activity of the single medical and hospitals are updated every three months for the evaluation and the comparison between the medicals. Reports are published every three months on the RPPA-Homepage.

The collaboration with North Tyrol allows monitoring the interventions of primary hip replacements

and revisions by people residing in the Province after the first implant effectuated in provincial hospital.

In accordance with the national law of personal data protection, the participation at the national project of the Italian Arthroplasty Register (RIAP) will allow monitoring our patients everywhere in Italy in the near future.

The increasing quantity and quality of data is going to allow describing the survival rate of the implanted prosthesis on the base of some indicators.



The Epidemiologic Observatory of the Autonomous Province of Bolzano (www.provincia.bz.it/ao/default.asp) in collaboration with: