

6th Italian Barometer Diabetes Forum

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The Global Burden of Diabetes: Action in Italy

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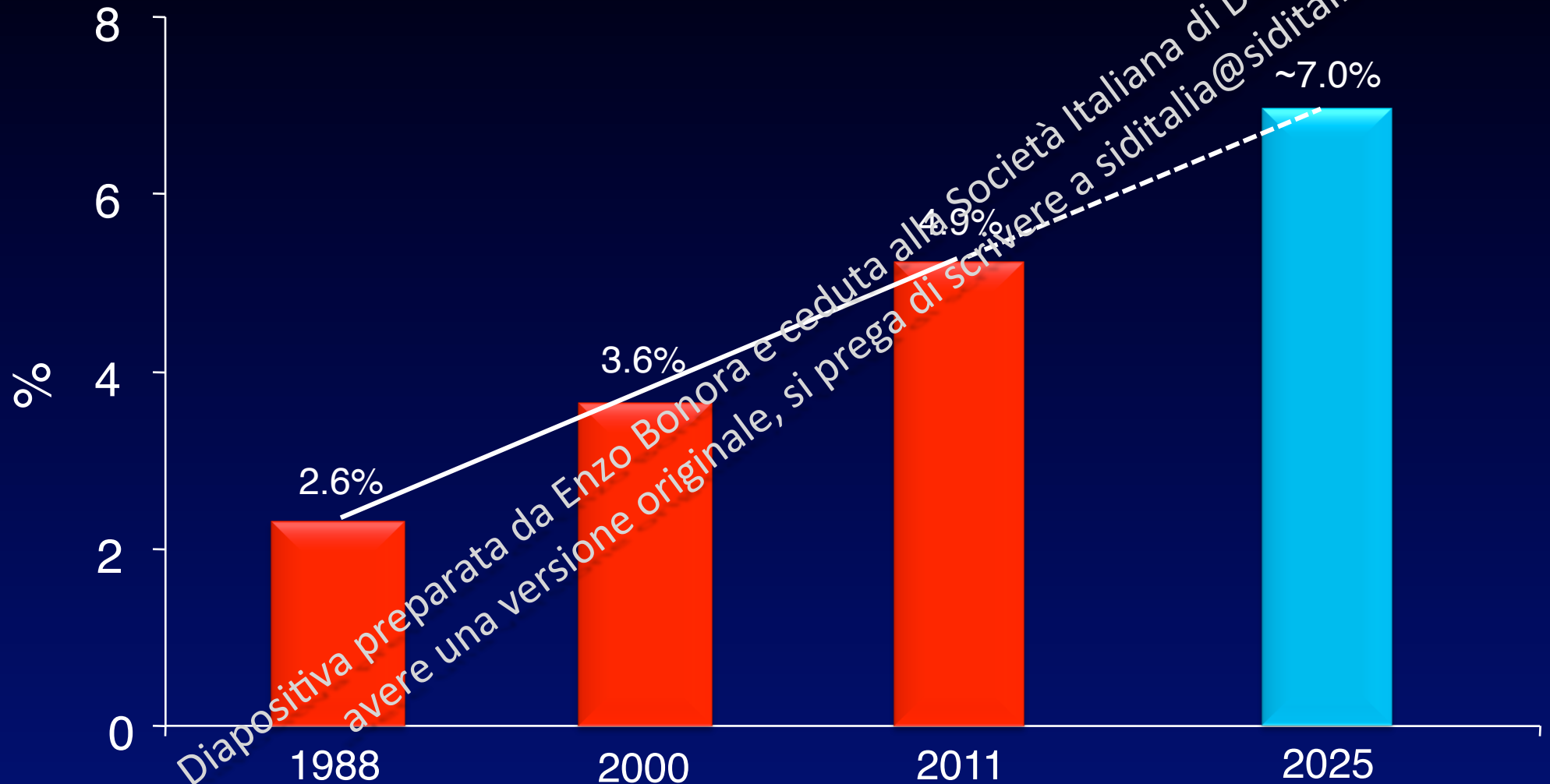


Diabetes: Figures and Facts to Be Considered

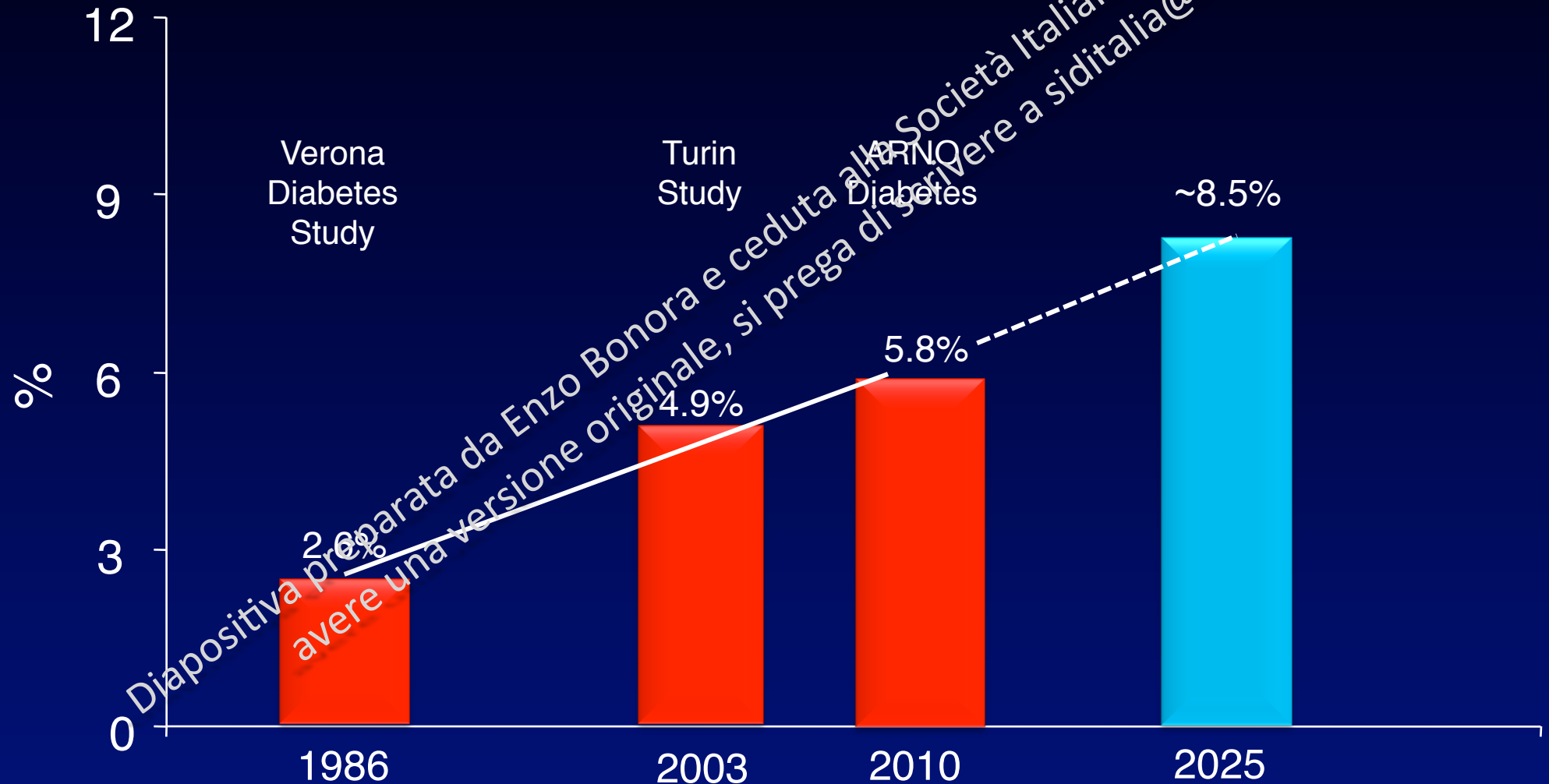
- Number of persons with diabetes in Italy is high and is increasing
- The disease is lasting more and more years (earlier diagnosis, longer survival)
- The disease is often severe, not rarely already when it is diagnosed
- The disease is complex and the care requires several professionals
- Costs related to diabetes are high, increasing and largely underestimated

Diapositiva preparata da Enzo Bonora e ceduta alla Società Italiana di Diabetologia per avere una versione originale, si prega di scrivere a siditalia@siditalia.it

Prevalence of Diabetes in Italy According to ISTAT (Self-Reported)



Prevalence of Diabetes in Italy According to Observational Studies



Prevalence of Diabetes and Prediabetes in Italy in 2012 (about 1 out of 7 persons)

Known Diabetes

~ 3.000.000

Unknown Diabetes

~ 1.500.000

Pre-diabetes

~ 4.500.000

TOTAL

~ 9.000.000



Incidence of Diabetes in Italy (1990-2000)

New cases per year

~ 250.000

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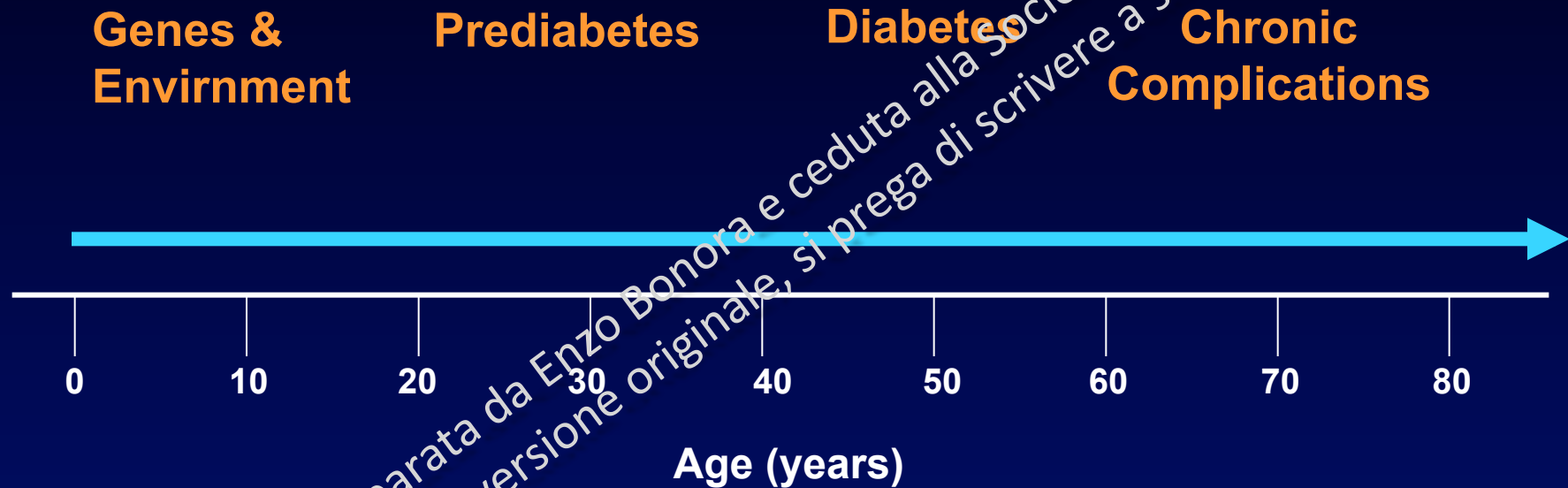
Expected Prevalence of Diabetes in Italy (year 2025)

Known Diabetes

~ 5.000.000

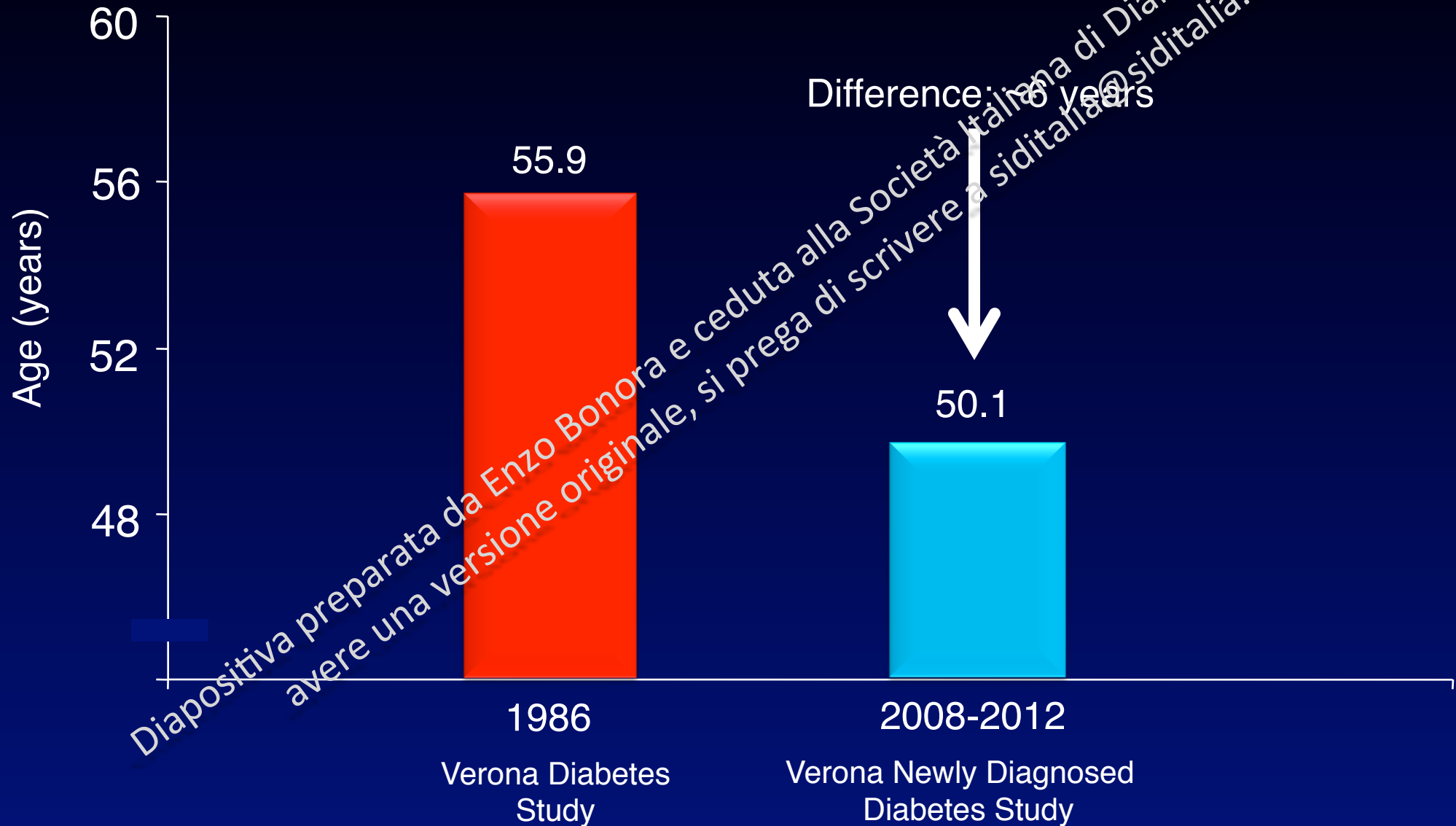
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Type 2 Diabetes: a Long History Which Can Last Several Decades

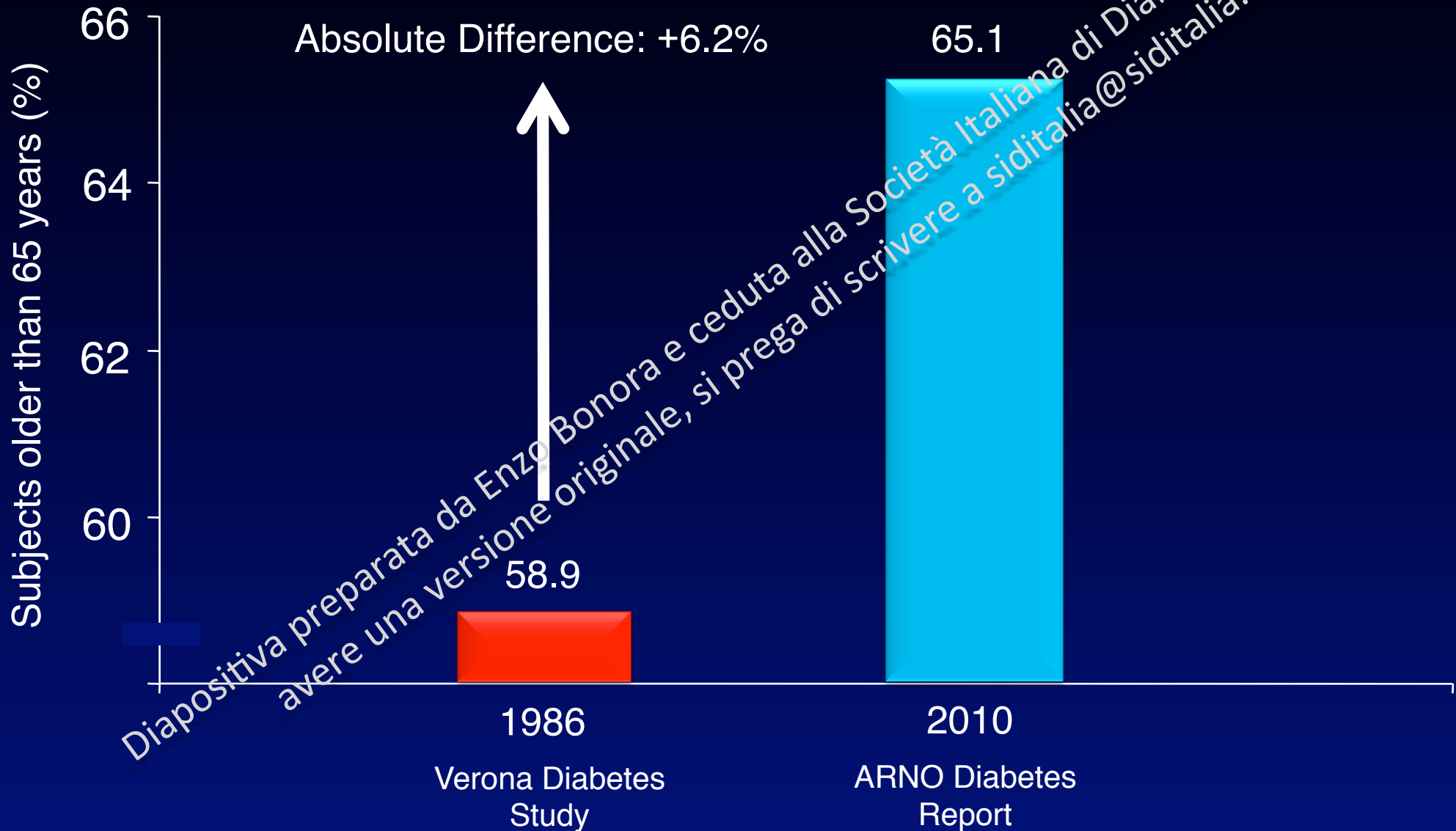


Earlier diagnosis, longer survival

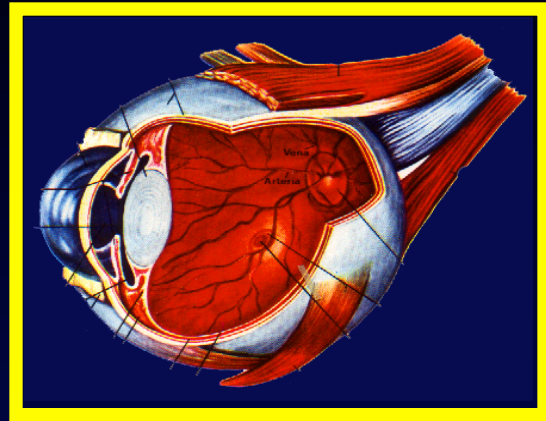
Age at Diagnosis of Type 2 Diabetes in Verona



Proportion of Diabetic Patients Older than 65 yr in Italy



Diabetes: Systemic Organ Damage

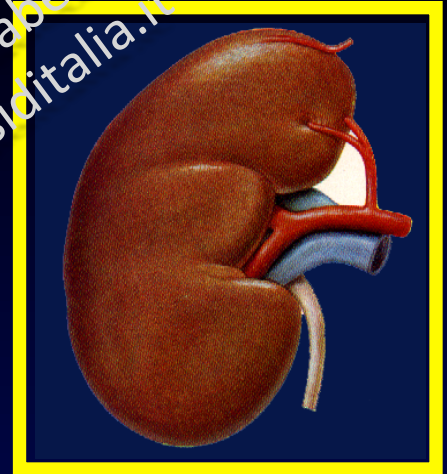


Eye (retina)

Skin

Gonads

**Bone &
Joints**



Kidney

Diabetes

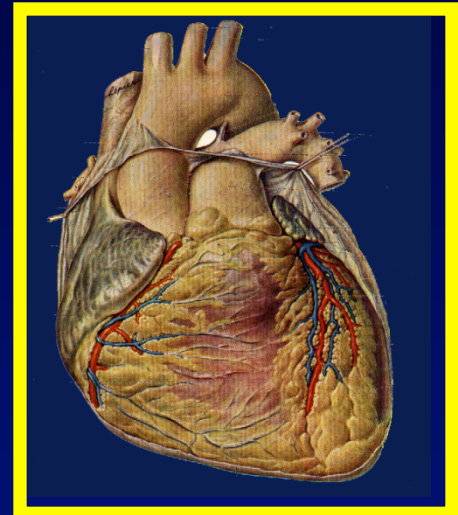


Nerves

Gut

Brain

**Immune
system**

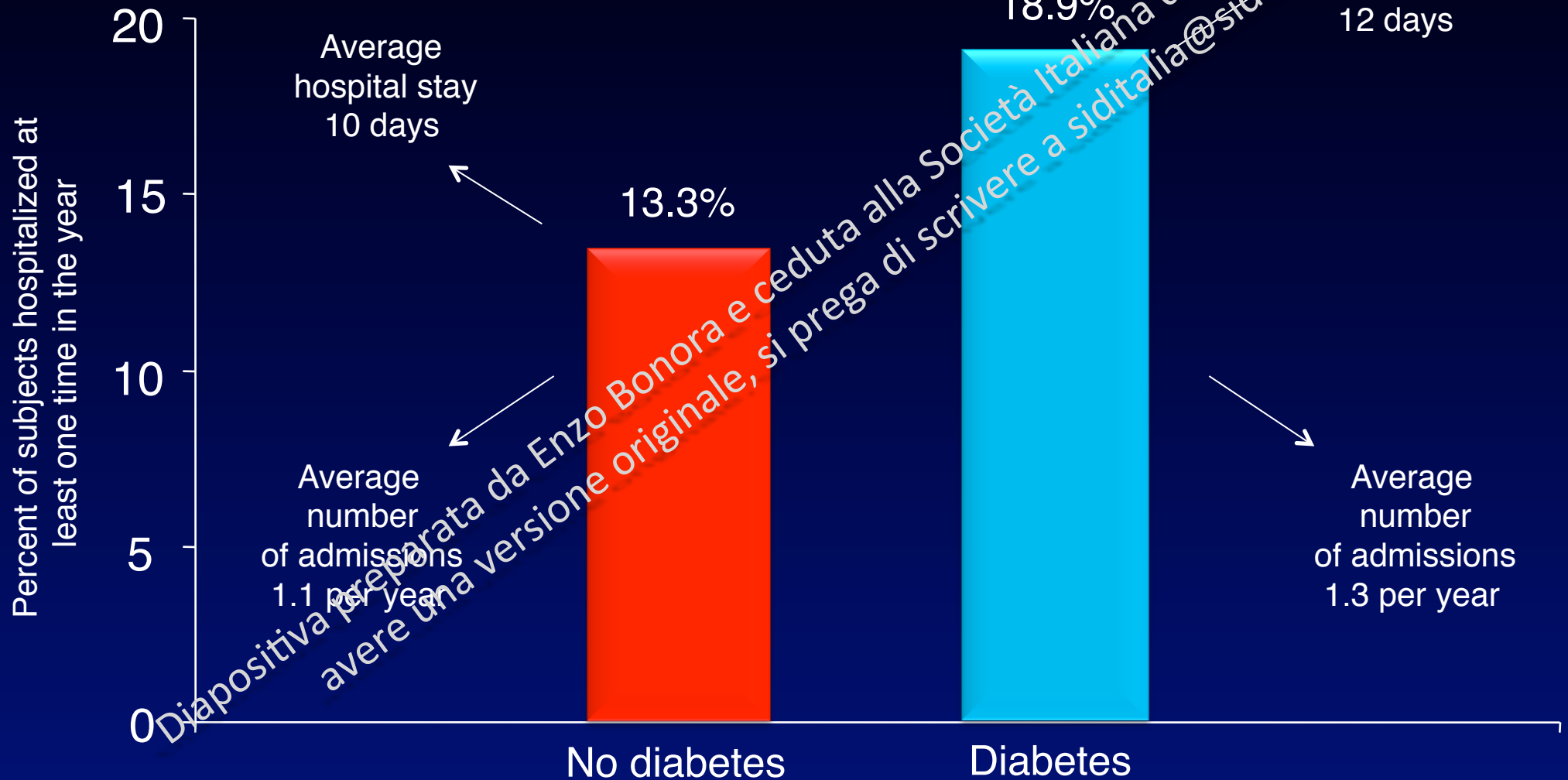


Heart & Vessels

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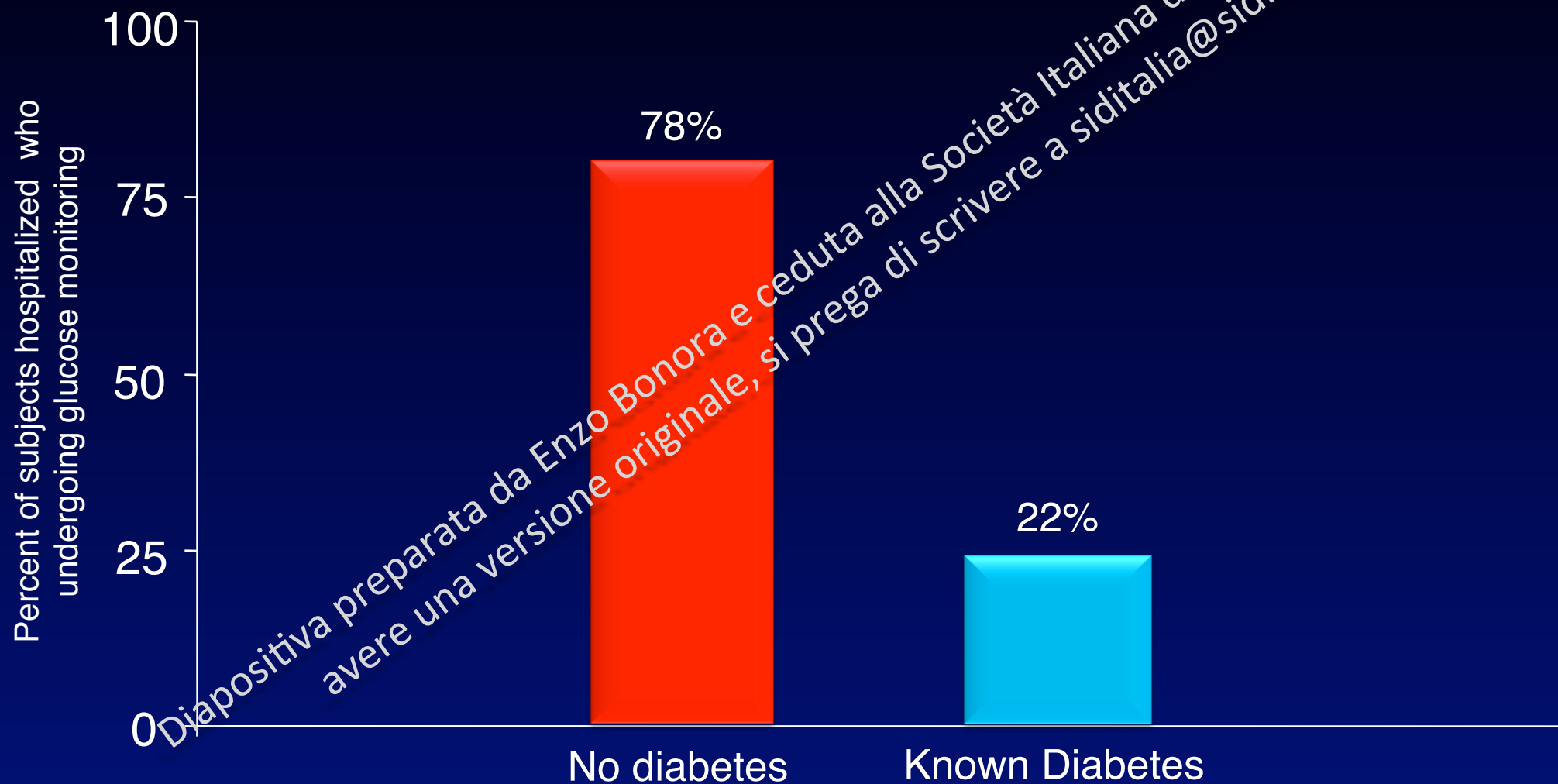
Hospitalization in Diabetes in Italy in Year 2010

CINECA-SID ARNO Database



Presence of Strip/Lab Monitored Diabetes in Patients of the Verona Hospital in Year 2010

Bonora et al - unpublished



Diabetes: Severe and Disabling Complications



**Major cause of
blindness**

**Major cause of
ESRD**

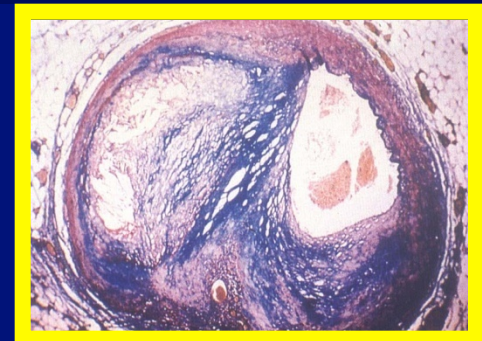


Diabetes



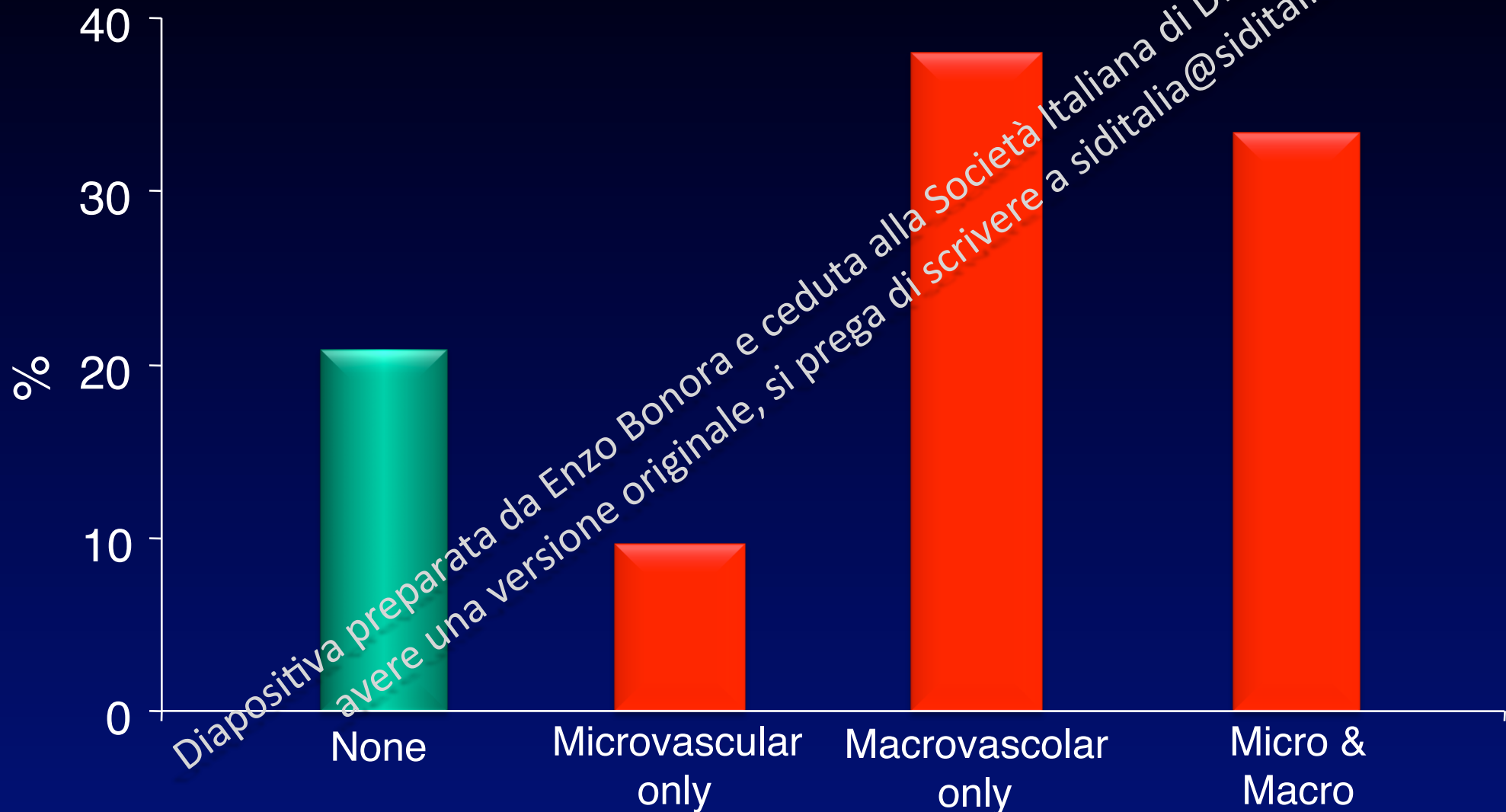
**First cause of
non traumatic
amputation**

**Major cause of
AMI, ACS and
stroke**

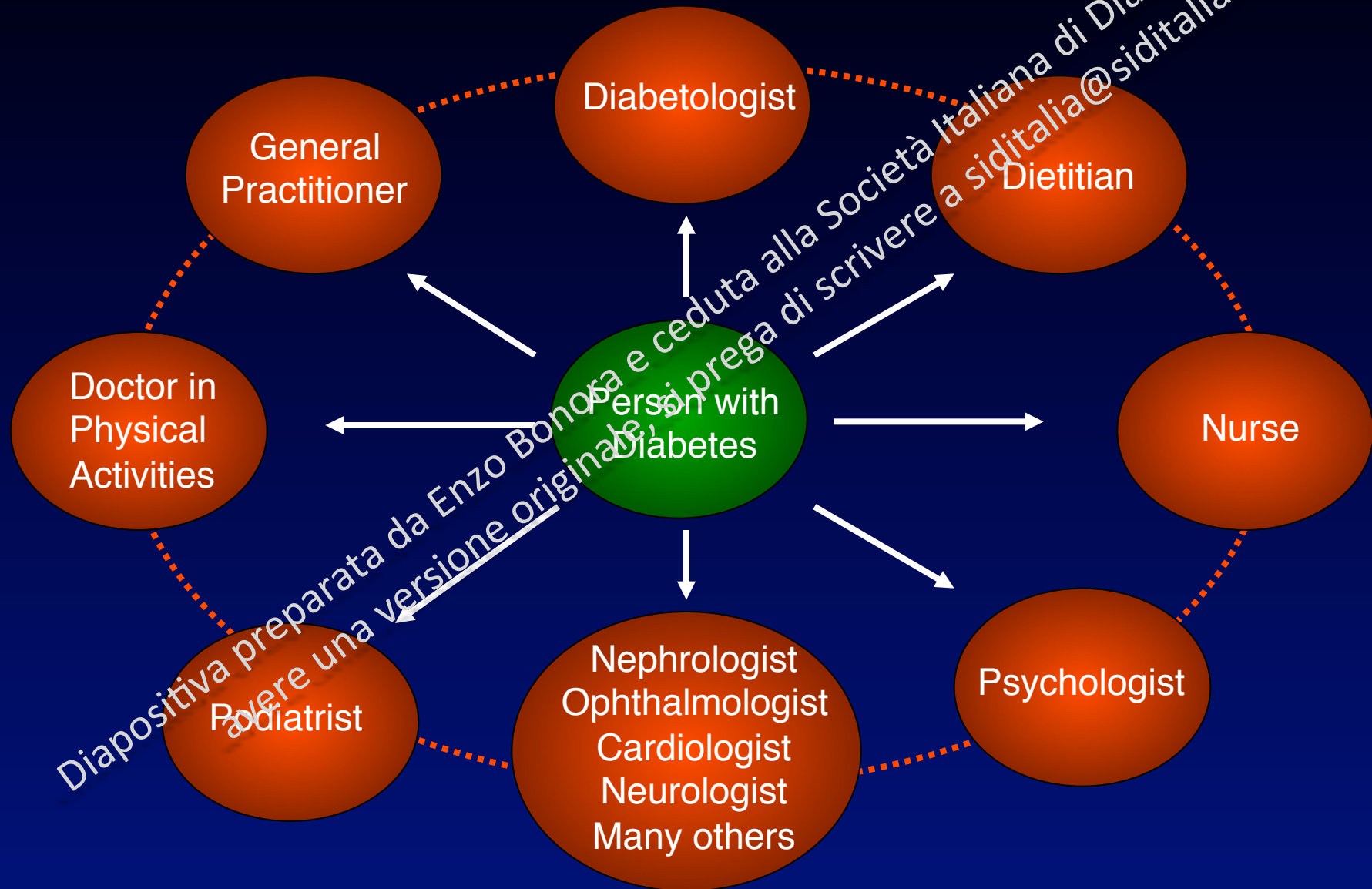


Prevalence of Complications at Time of Diagnosis of Type 2 Diabetes in Verona

(Verona Newly Diagnosed Diabetes Study; Bonora et al; unpublished data)



Diabetes: a Complex Disease which Requires the Comittment of Several Health Professionals

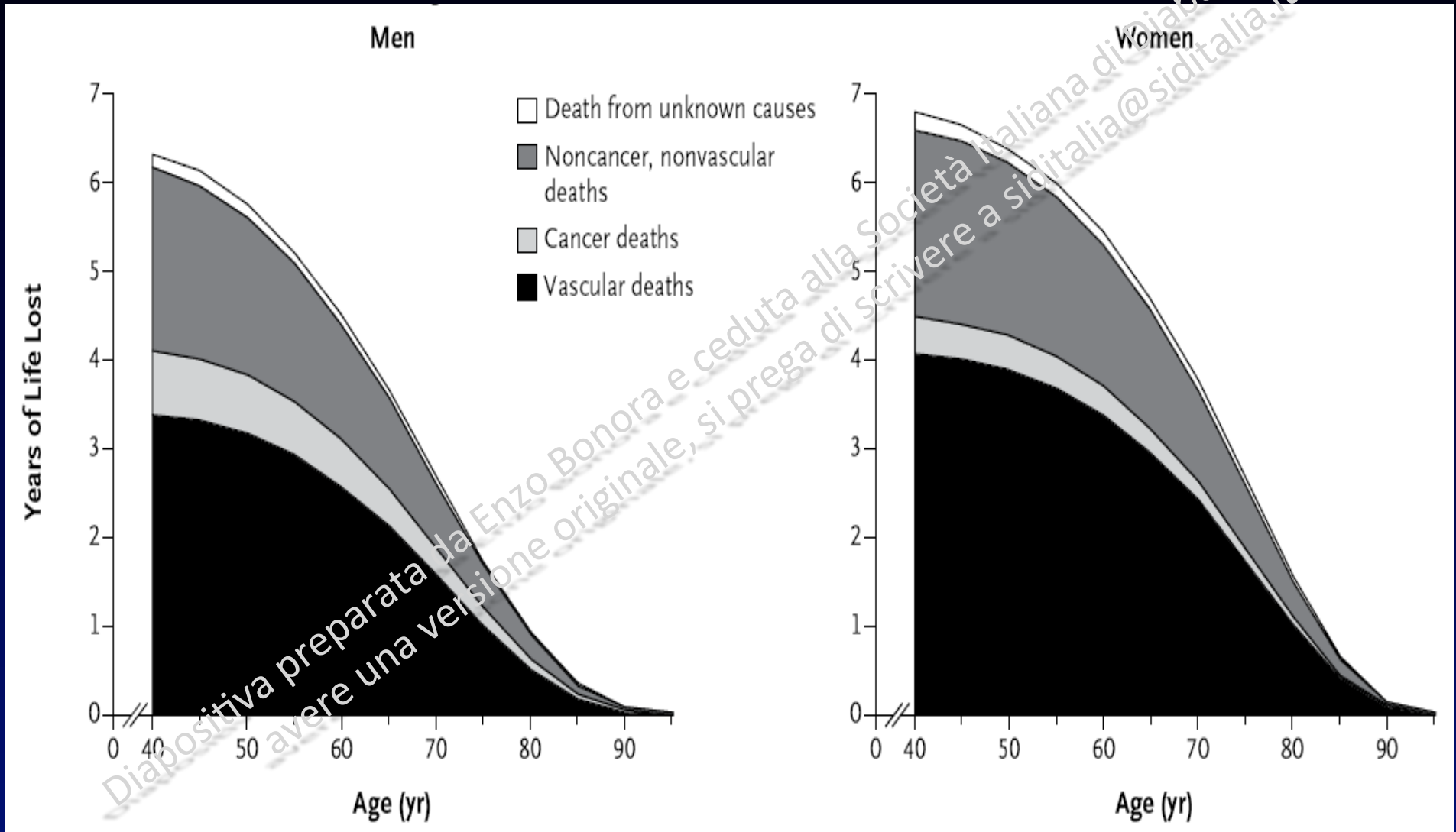


Diabetes: a Very Special Variety of Chronic Disease

			Exams (e.g. ECG)		Professionals Needed	Prognosis
Osteoarthritis	Skeleton	0	1	3	2	Good
Peptic Disease	Stomach	0	1	2	1	Good
COPD	Lung	0	2	4	1	Can be poor
Heart Failure	Heart	1	2	6	1	Poor
Diabetes	All	22	13	32	12	Poor

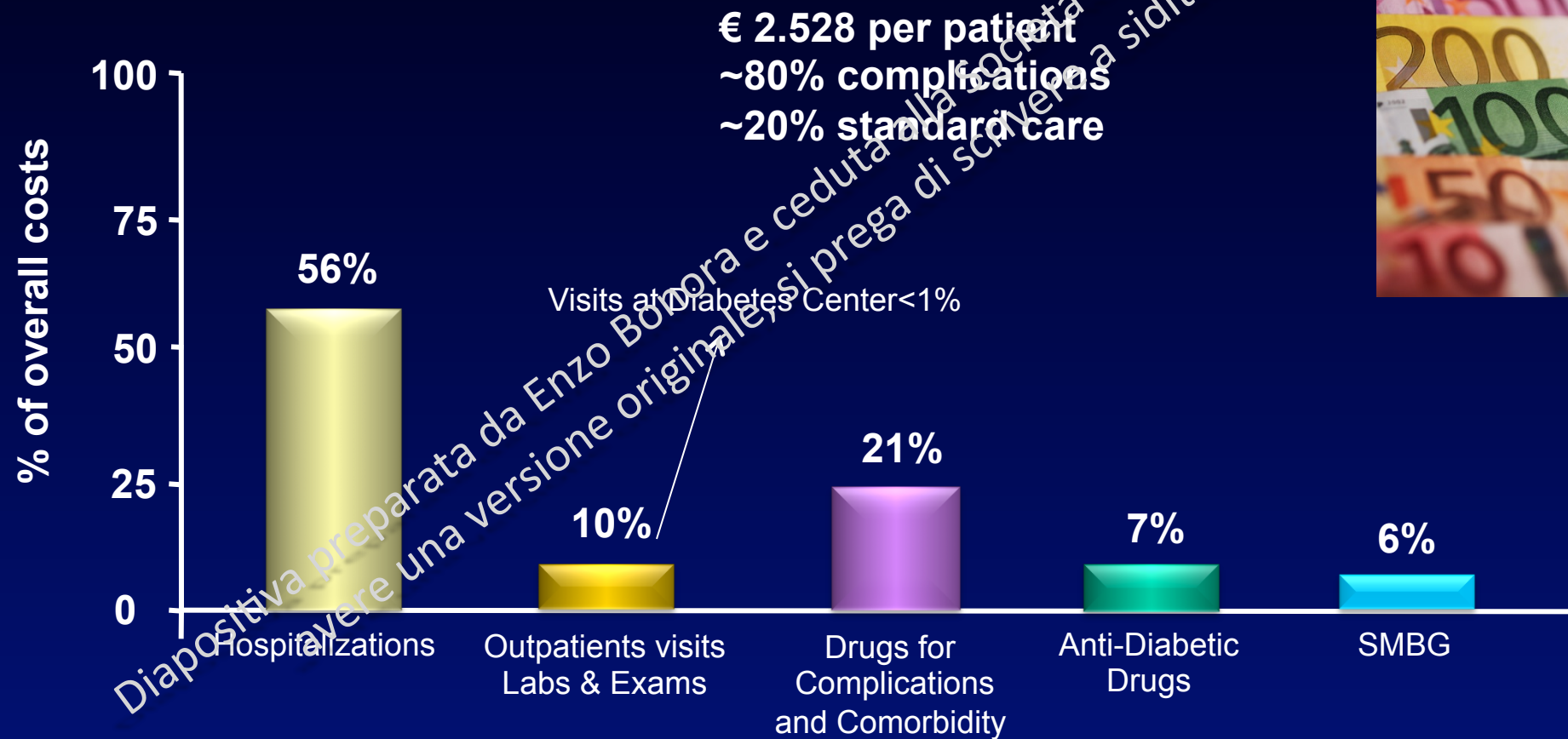
Estimated Years of Life Lost due to DM

Emerging Risk Factors Collaboration – N Engl J Med 2011; 364:829-841



N= 700.000

Annual Cost of Diabetes Care in Verona in Year 2008



Costs for Diabetes Care is Rapidly Increasing in Verona

Year	Per person (€)
2008	2.512
2010	3.162

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Diabetes-Related Costs are Higher than Calculated

Cost for hospitalization is calculated according to DRG reimbursement system and it was on average € 3.600 in 2010 in Italy

Average stay in hospital of a diabetic person in Italy in 2010 was 12 days (whatever is the cause of admission)

The average cost for each day as an in-patient in Italy is estimated to be not less than € 700

Real average cost of an hospital stay in Italy for a diabetic person is € 8.400

Diabetes: a Very Expensive Disease

- **Social costs** (~10% of overall budget of Italian National Health System; as many as € 10 billions per year)
- **Personal costs** (copayments, private care, etc.)
- **Direct costs** (care of diabetes and chronic complications)
- **Indirect measurable costs** (hours of work lost by patients or relatives, loss of income, travel expenses, etc.)
- **Indirect incommensurable moral costs** (poor quality of life, disability, years of life lost)

Diabetes in Italy: The Figures We Would Like not to Know but We Cannot Neglect or Overlook

- Every 2 minutes a person is told to have diabetes (new diagnosis)
- Every 7 minutes a diabetic person has a heart attack
- Every 26 minutes a person with diabetes develops a renal insufficiency
- Every 30 minutes a person with diabetes has a stroke
- Every 90 minutes a person with diabetes has a diabetes-related amputation
- Every 180 minutes a person with diabetes begins hemodialysis
- Every 20 minutes a person with diabetes dies for a diabetes-related problem

Diabetes kills

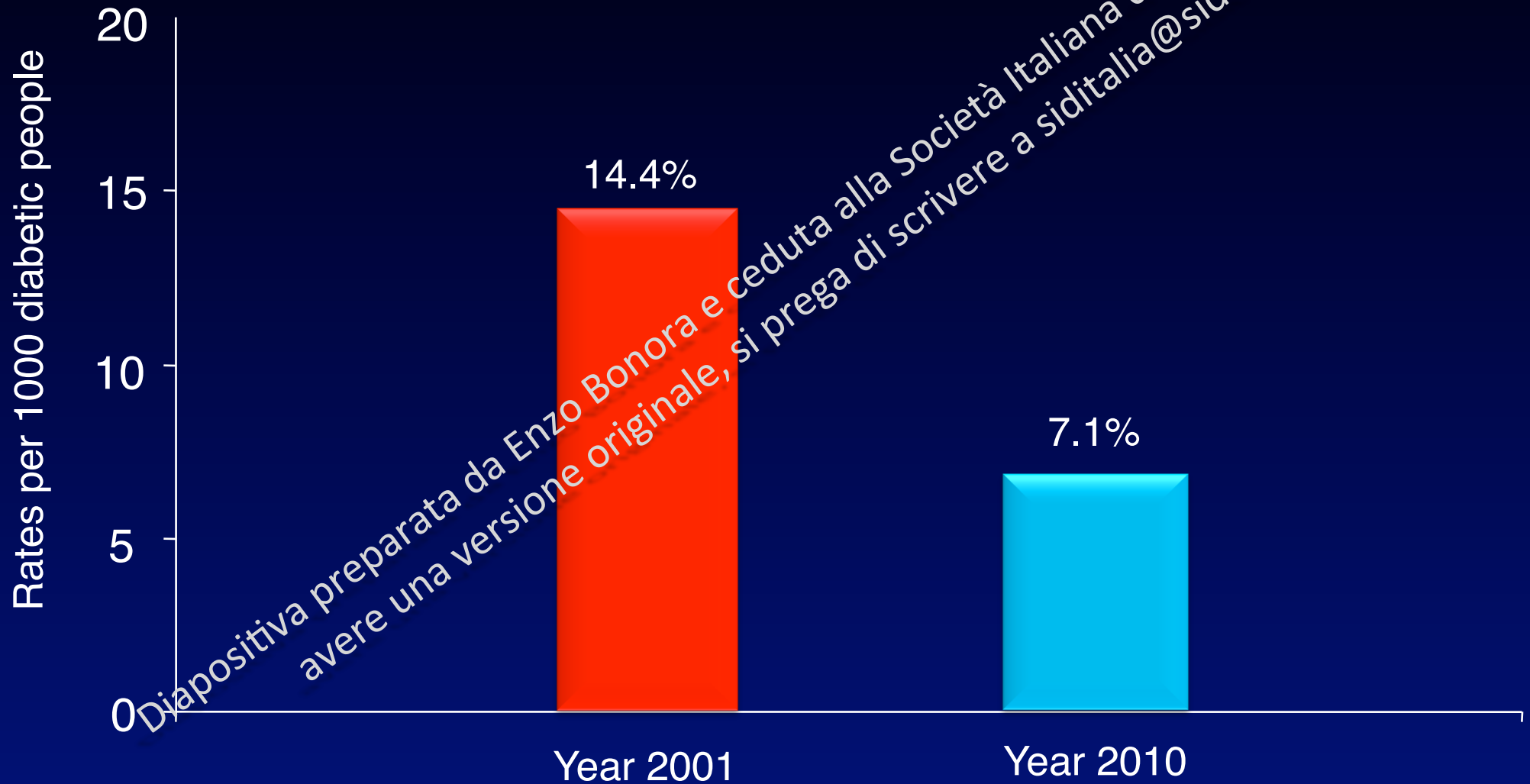
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Diabetes: Actions in Italy

- A national law dedicated to persons with diabetes was approved in 1987 (one of the first in the world)
- Specific laws and decrees on diabetes were approved or issued by most Italian Regions since 1987
- Specific sections dedicated to diabetes prevention and care were included in all National Health Plans
- Initiatives on the rights of persons with diabetes were promoted by members of the Parliament and specific documents were shared with diabetes scientific societies
- An investigation on diabetes care in Italy was recently conducted by the Senate
- A specific National Diabetes Plan was recently issued
- All these initiatives ameliorated diabetes care in Italy (intermediate and final outcomes are better than in the past) but further improvement is needed

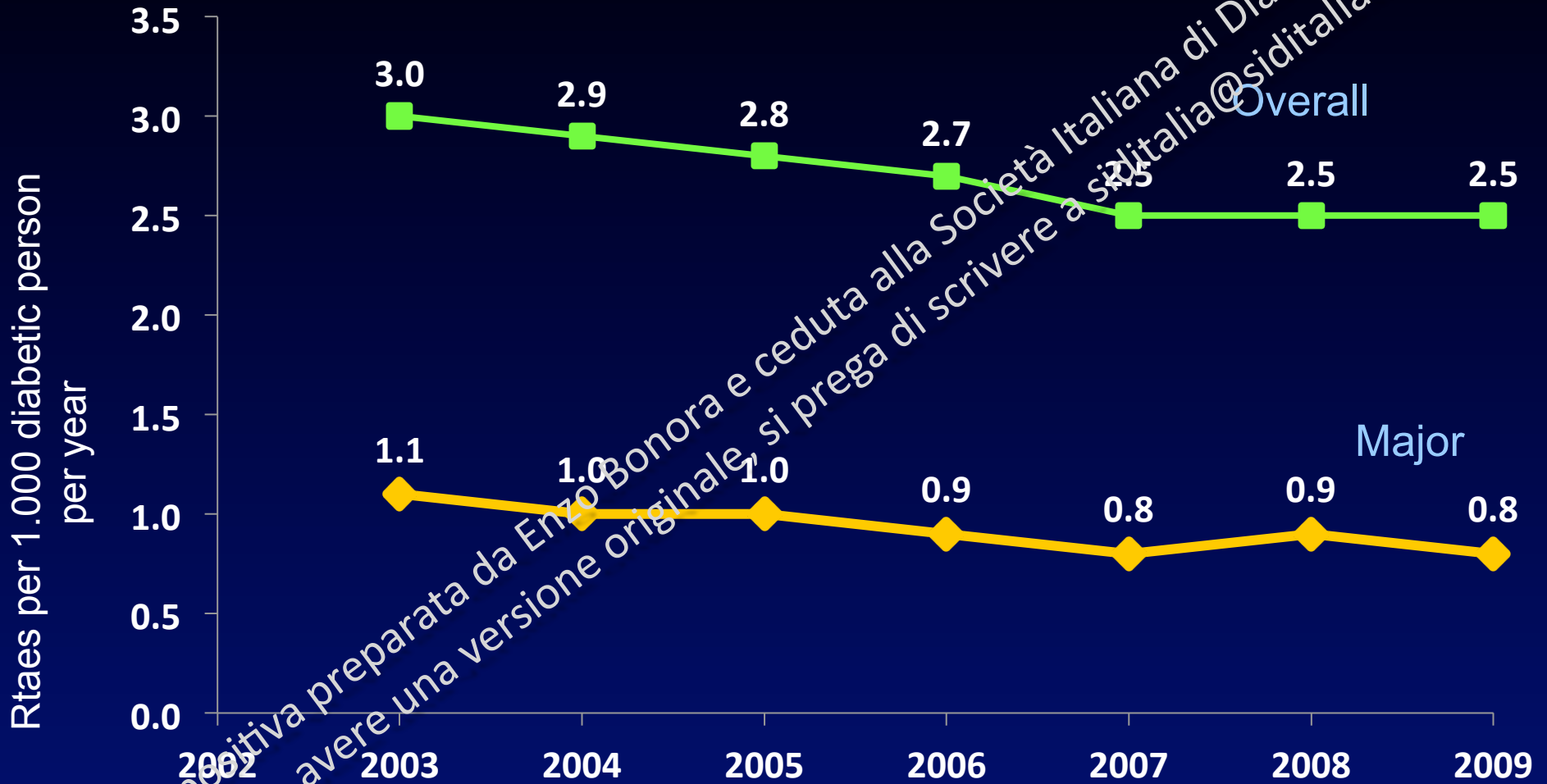
Hospitalization for Acute Complications in Italy

Lombardo et al – PLOS One 2013; 8:e63675



Non-Traumatic Amputations in Diabetes in Italy

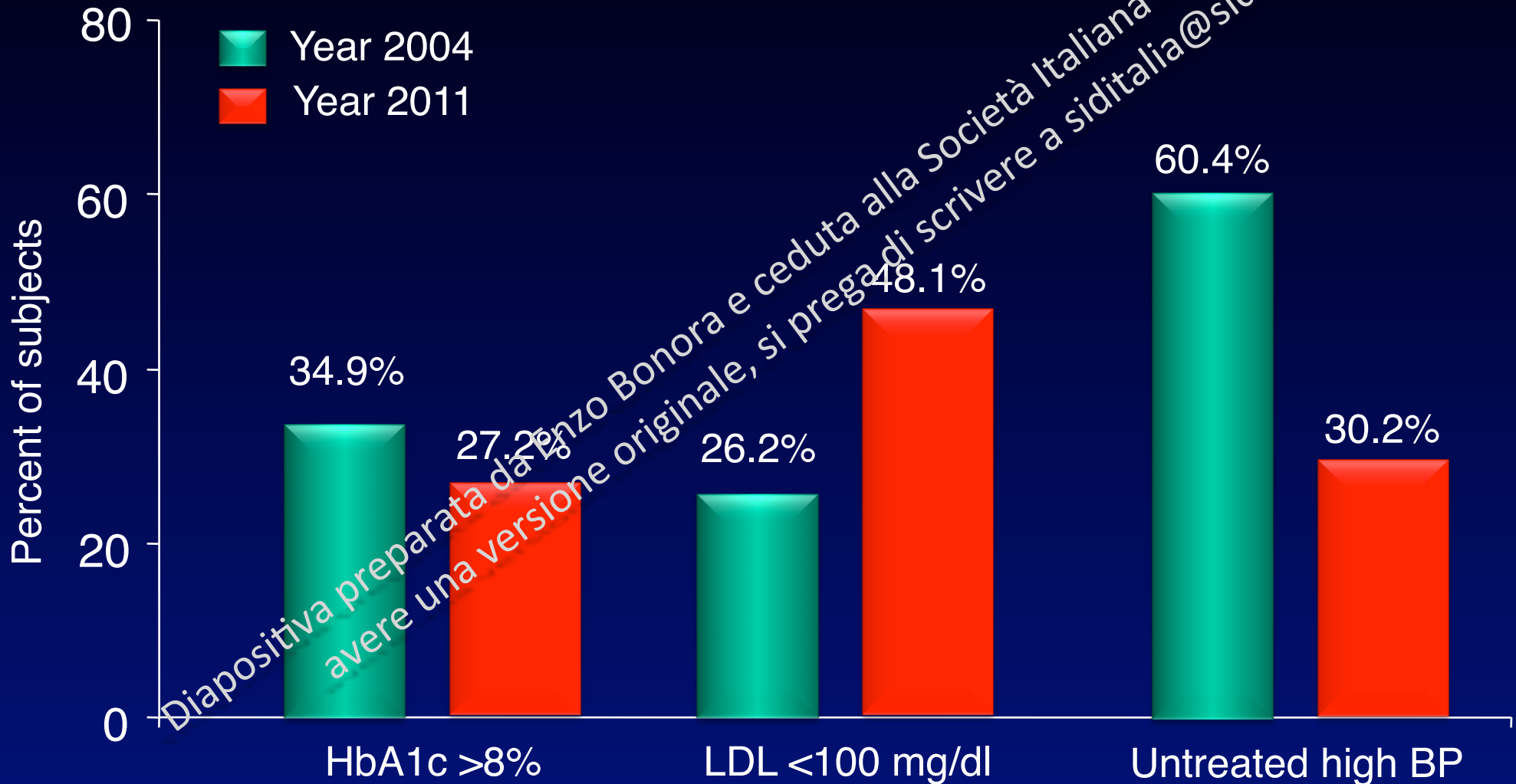
Anichini et al – Diabetologia 2009



Standardized for sex and age

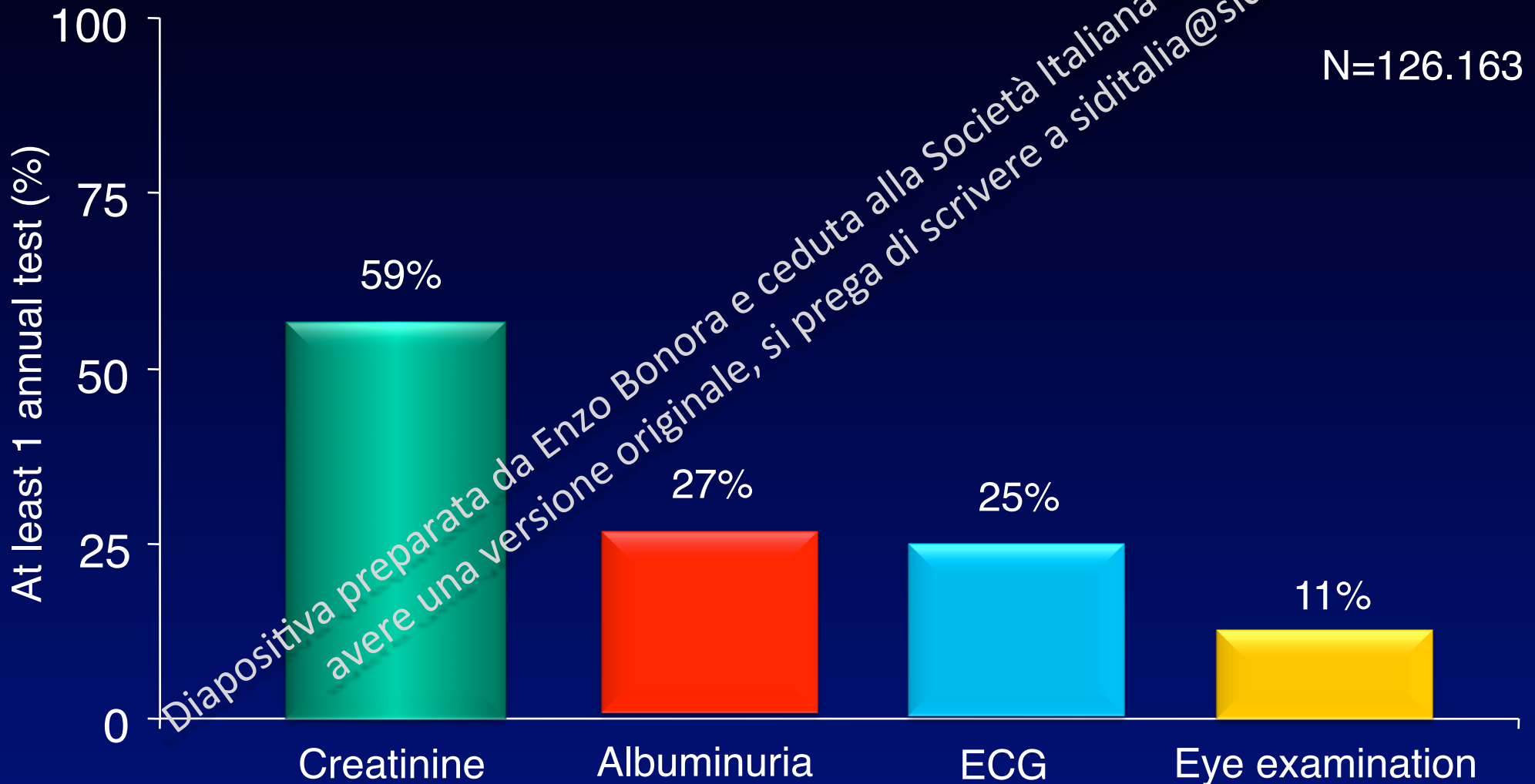
Intermediate Outcome Indicators in T2DM Subjects Attending the Diabetes Centers in Italy

AMD Annals - 2012



Process Indicators of Target Organ Damage Assessment in Italy in Year 2010

CINECA-SID ARNO Database – Bruno et al, Diabetes Care 2012



Recommended Diabetes Care in Italy

- All persons with diabetes followed by GPs and Diabetes Teams with shared disease management since time of diagnosis
- Patient-centered approach with personalized care but using protocols consistent with national/international guidelines
- Multidimensional and multidisciplinary approach when necessary
- Careful care of persons with diabetes admitted in hospital for other diseases (infections, trauma, surgery, CVD accidents, etc.)
- Adequate care of diabetes in institutionalized persons
- Active role of the associations of persons with diabetes

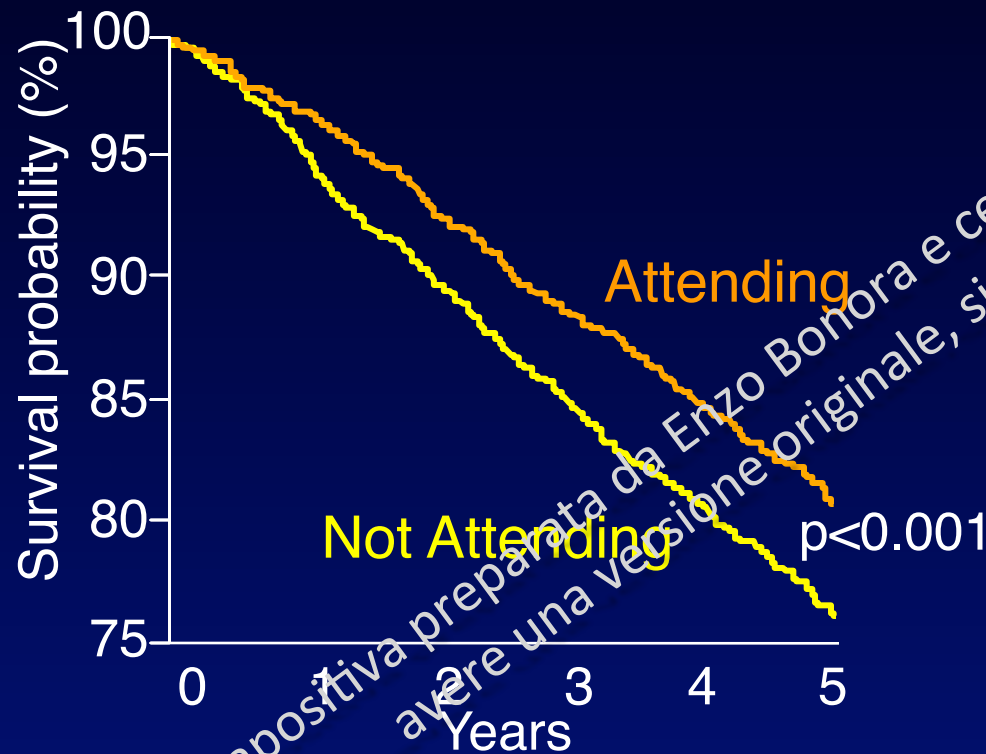
The Network of Diabetes Clinics in Italy



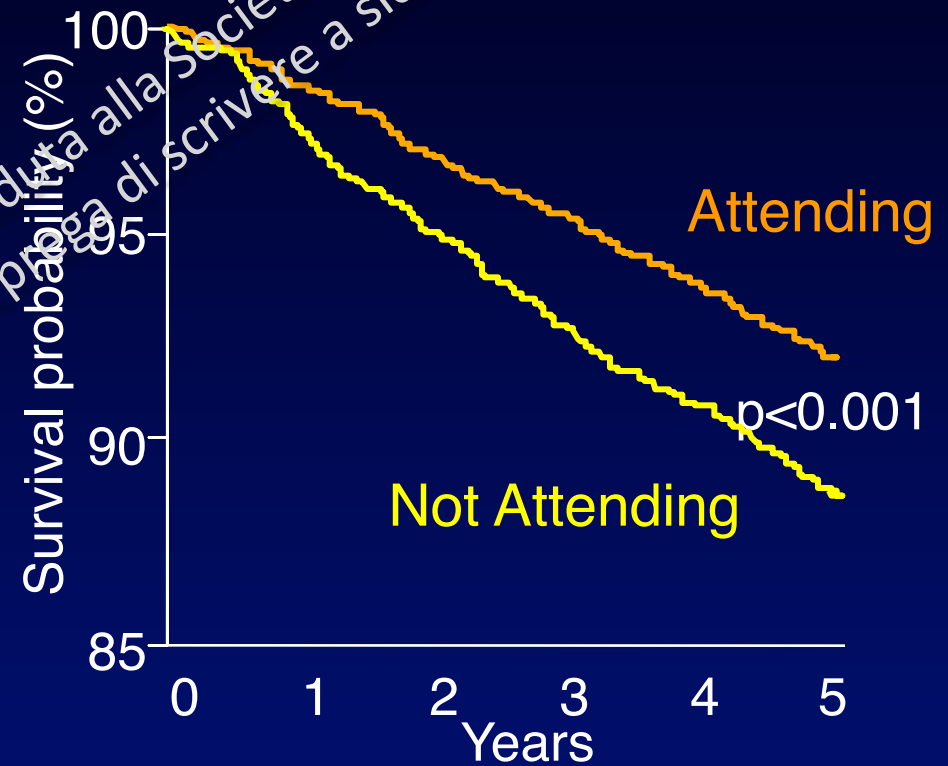
Five-year Mortality According to Attendance of the Diabetes Clinic in Verona

(Verona Diabetes Study – Verlato G et al; Diabetes Care 1996; 19:211-1996)

All-Cause Mortality



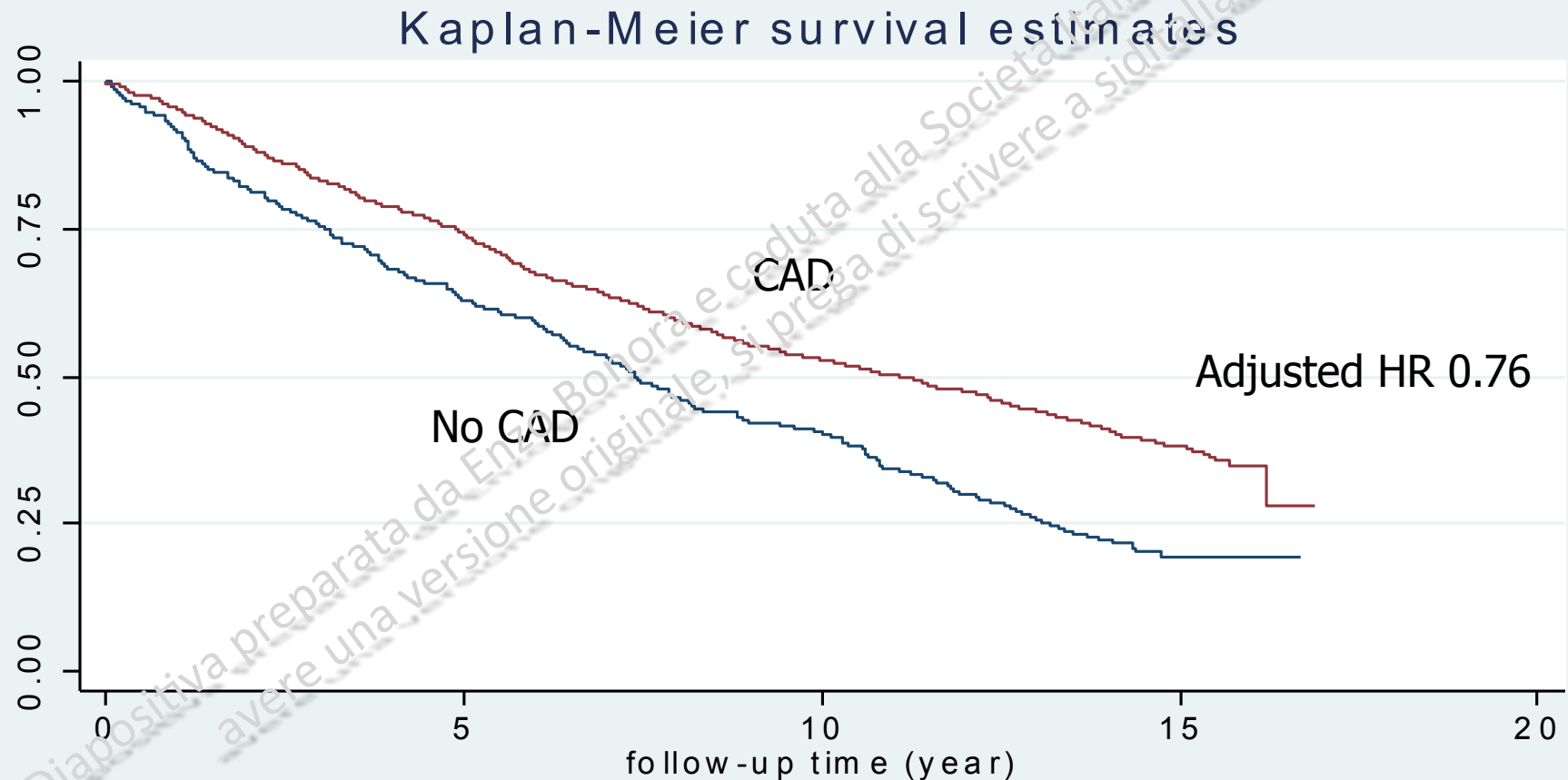
Cardiovascular Mortality



n=7,488

17-Year Cardiovascular Mortality According to Attendance of the Diabetes Clinici in Casale Monferrato

Casale Monferrato Study – Bruno et al – Diabetes Care 2005



Conclusions

- The burden of diabetes is very heavy for individuals and the society in Italy
- The care of diabetes in Italy is of good quality and this has yielded appreciable clinical results. However, a substantial improvement is needed in order to provide equity in diabetes care
- Interventions for diabetes prevention and for optimization of diabetes care are recommended by the National Italian Diabetes Plan
- Concrete actions by policy makers at national, regional and local level are urgently needed in order to implement these recommendations and to alleviate the burden



The End Thank You

