PUBLIC HEALTH ASPECTS OF DIABETES MELLITUS AND CRODIAB REGISTRY

Tamara Poljičanin, MD, PhD
Croatian Institute of Public Health
Proportion of deaths due to diabetes in people under 60 years of age, 2013

Health expenditure (USD) due to diabetes (20-79 years), 2013

DIABETES IN CROATIA

- burden of disease

- tradition
  - organisation of health care – Croatian model
  - treatment
  - collaboration – diabetologist & patient organisations & patients

- diabetes → NCD model
  - common biomedical and behavioural risk factors (diabetes T2 & cardiovascular disease & cerebrovascular disease & cancer & other NCDs)
  - strength
    - homogeneous entity
    - strong patient organisation
DATA COLLECTION

1970 – reports

Database  ❙  Time

1994

POSSIBLE?

1997 - IT

2004 - WEB

2014 – insurance fund
STRATEGIC FRAMEWORK

INTERNATIONAL

- St. Vincent Declaration, 1989
- UN Resolution on Diabetes, 2006

NATIONAL

- National Diabetes Programme, 2007
- Diabetes Resolution, 2011
- National Health Strategy 2012-2020, 2014
CRODIAB REGISTRY - INDICATORS

- Patient ID
- Data Source ID
- Type Of Diabetes
- Sex
- Date of Birth
- Date of Diagnosis
- Episode Date
- Smoking Status
- Cigarettes per Day
- Alcohol Intake
- Weight
- Height
- Body Mass Index
- Systolic Blood Pressure
- Diastolic Blood Pressure
- HbA1c
- Creatinine
- Microalbumin
- Total Cholesterol
- HDL
- Triglycerides
- Eye Examination
- Retinopathy Status
- Maculopathy Status
- Foot Examination
- Foot Pulses
- Foot Sensation
- Average Injections
- Self-Monitoring
- Diabetes-Specific Education
- Lipid Lowering Therapy
- End-Stage Renal Therapy
- Stroke
- Active Foot Ulcer
- Myocardial Infarction
- Laser
- Hypertension
- Blindness
- Amputation
- Antihypertensive Medication
- Hypoglycemic Drug Therapy
- Oral Drug Therapy
- Pump Therapy

SOURCE: BIS – Basic information sheet

http://www.eubirod.eu/
DATA DICTIONARY
2013
all patients included – 241,990
quality indicators – 13.63% patients

http://crodiab.continuum.hr/
EFFECTS OF QUALITY IMPROVEMENT STRATEGIES FOR TYPE 2 DIABETES

**Figure 2.** Postintervention Differences in Serum HbA$_{1c}$ Values After Adjustment for Study Bias and Baseline HbA$_{1c}$ Values

- death - NNT $\approx$ 10 (9.6)
- myocardial infarction - NNT $\approx$ 14 (14.2)
- microvascular complications - NNT $\approx$ 6 (5.4)
- lower extremity amputation - NNT $\approx$ 5 (4.6)


UKPDS 35. BMJ 2000; 321: 405-12
CRODIAB REGISTRY - EFFECTS

- significant improvement of main metabolic parameters
- better survival
- prevention of complications
- effect correlate with ratio of included patients
- analysis of treatment effectiveness - enabled
- analysis of diabetes health care interventions effectiveness - enabled

CRODIAB REGISTRY
- RESOURCES

- Initial IT development
  - 50,000 €

- Staff
  - epidemiologist – 25 days/year
  - administrator – 220 days/year
  - GP

- Equipment
  - PC, printer, scanner

- Workshops, Travel and subsistence allowances, Subcontracting,
  - 53,947 €/year
CRODIAB REGISTRY
- FINANCIAL ASPECTS OF ENABLED DIABETES MANAGEMENT

Total Costs difference vrs. 0% patients covered
mean difference/1 patient

- 10% patients covered
- 2%

- 20% patients covered
- 3%

- 30% patients covered
- 4%

- 40% patients covered
- 5%

- 50% patients covered
- 6%

- 60% patients covered
- 8%

- 70% patients covered
- 9%

- 80% patients covered
- 10%

- 90% patients covered
- 12%

- 100% patients covered
- 13%

• improvement of processes of care
• prevention of the diabetic complications development
• reduction of health care expenditures

Source: CORE/IMS model, based on patients from the Croatian Diabetes Registry
Thank you for your attention!