

Integrating diabetes prevention and care into the routine services at the primary care level in Bosnia – The need for sustained support

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Donors

Diabetes Mellitus (DM)

- Chronic life-long disease
- Cause of 5% of deaths globally and 5-10% of a country's health care budget
- High financial burden to family
- Increasing rapidly and diagnosed in younger and younger age groups
- Can result in heart disease, blindness, kidney failure, and amputation

Diabetes - continued

- Primary prevention delays onset of disease or prevents it. Lifestyle improvements also impact positively on other diseases
- Secondary prevention improves quality of life, reduces hospitalizations and incidence of complications
- Patients with poor blood sugar control likely to have other problems
- BiH: **strong presence of poor lifestyle factors** (poor nutrition, lack of exercise, smoking and post-war stress factors)

Indicators in the Larger Region¹

Age groups	HTN		Obesity		DM	
	45-54	55-64	45-54	55-64	45-54	55-64
Bosnia (2002)	49.5%	68.5%	26.7%	32.3%	6.4%	12.2%
Bulgaria* (2001)	32.0%	45.9%	16.8%	17.4%	NA	27.5%
Tirana, Albania* (2001)	N/A	16.3%	29.8%	30.2%	3.2%	N/A
Kazakhstan* (1999)	N/A	N/A	25.0%	29.7%	N/A	N/A
Kyrgyzstan* (1997)	28.0%	28.0%	28.7%	N/A	N/A	N/A
Uzbekistan* (2002)	N/A	N/A	17.1%	18.8%	20.0%	12.0%
<i>Switzerland (2002/07)</i>	<i>19.4%</i>	<i>33.9%</i>	<i>11.2%</i>	<i>11.6%</i>	<i>3.2%</i>	<i>6.1%</i>

BiH Health Care System

- **Three political entities and three health care systems, and treatment only covered in home community**
 - Federation (10 cantonal ministries and health insurance funds)
 - RS (1 ministry, 9 districts)
 - District of Brcko
- **Long-term MoH and donor investment in family medicine**
 - DZs provide primary care through ambulantas
 - FM team provides health promotion, prevention, and routine care

BiH Healthcare system

- **Chronic disease patients routinely referred to specialists in 2006**
 - Barriers to routine care at PHC level: lack of training in disease management and counseling; equipment; and materials → DM patients referred to University Endocrinology Clinic in Sarajevo
- **Weak counter-referral system**
- **Weak health promotion and prevention at the PHC level**

Medical Audit at PHC Level (2007)²

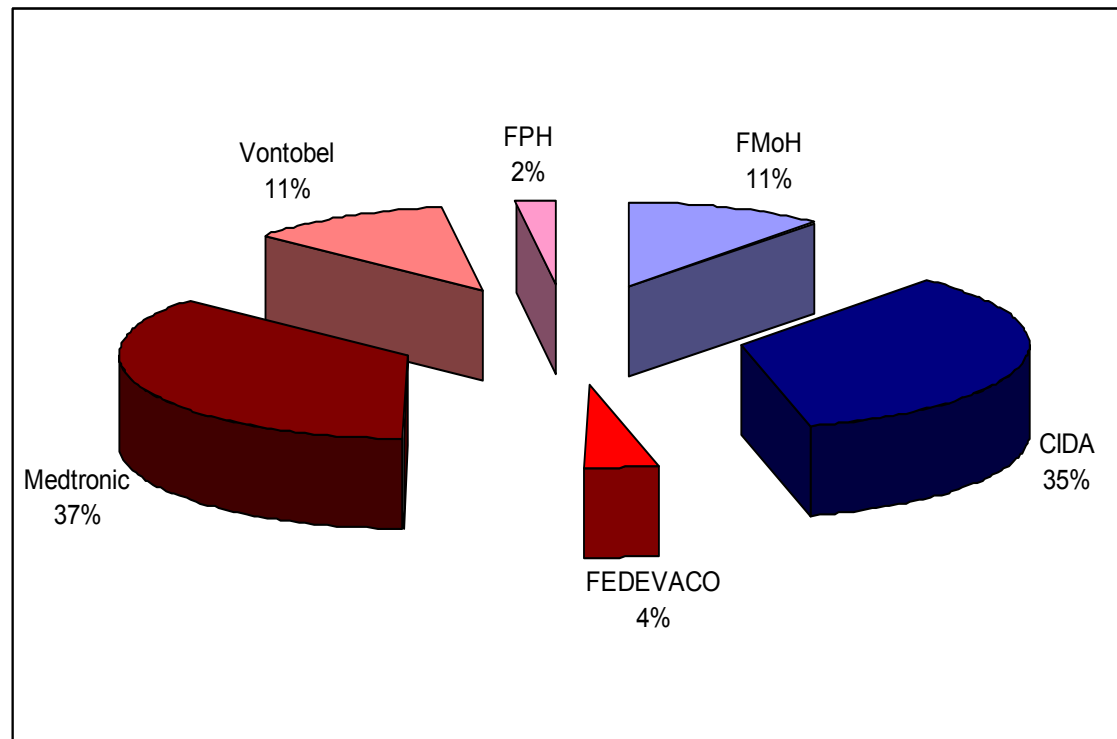
- Different geographic region of BiH
- Involved 18 FM teams, 536 patients
- Results
 - Poor compliance with established criteria of diabetes control
 - Metabolic control acceptable (69.5%)
 - 67.5% of patients on oral diabetes medication
 - 67.5% received some patient education (not specified)
 - Monitoring of complications low (foot and ocular fundus – 53%)
 - Considerable variation in diabetes management across and within ambulancias (in monitoring, testing, other interventions)
 - Lack of national clinical guidelines and continuing education

Project Target Area

	Sarajevo (urban/peri)	Gorazde Peri-urban/rural
	Population	430'000
DZs units involved	9	1
Ambulantas	47	13
FM providers trained	151 teams	59 doctors and nurses
Psychologists/ Social workers	23	2
Counseling Centers established	1 (+3)	1
World Diabetes Day campaigns	2006, 07, 08	2008

Funding Sources

- Fundraising for nearly three years before start-up
- CHF267'200
- For 3 years
- 2006 - 2008

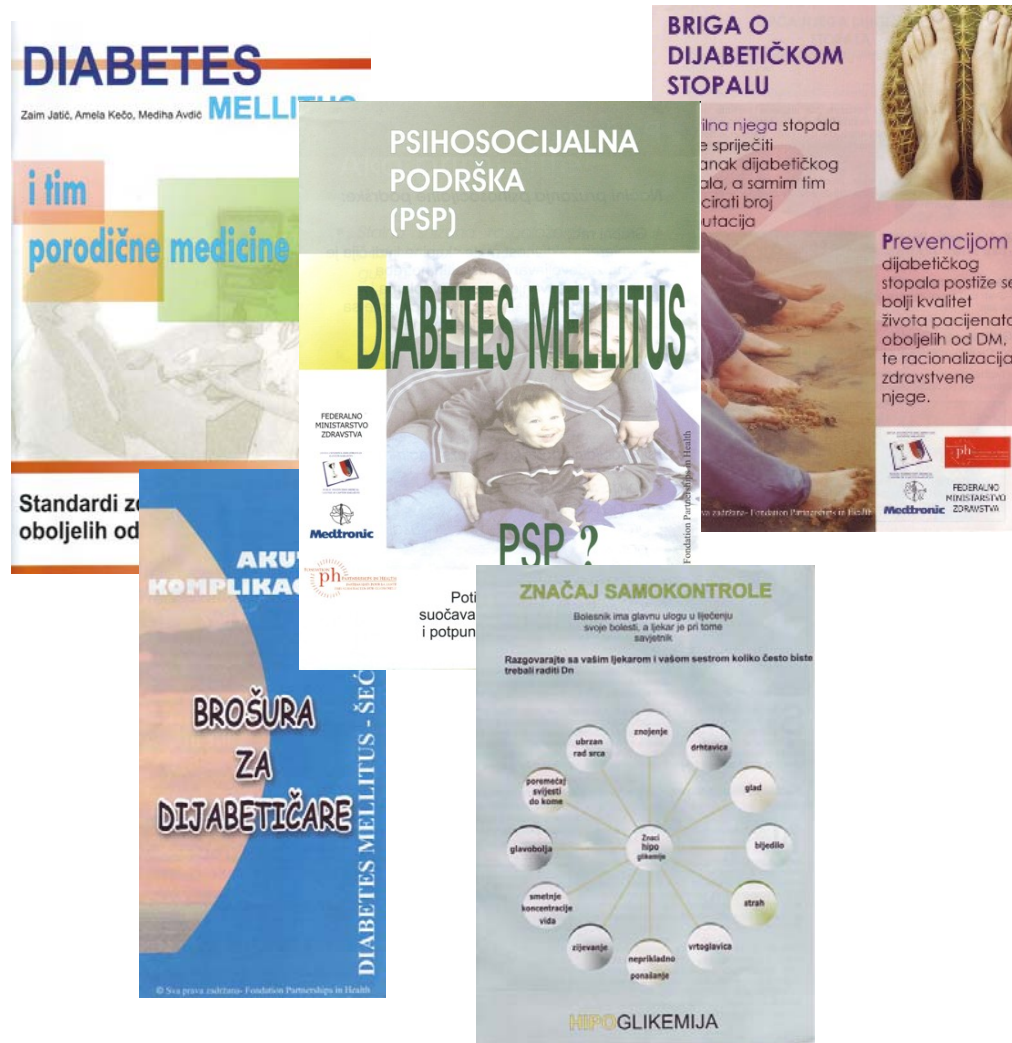


Sustainability Concerns Guide

Planning and Implementation

- Expert working group approves curriculum and education materials, training approaches, implementation, and monitoring
- Phased approach: Urban pilot (Canton Sarajevo) followed by expansion to rural canton (Gorazde)
- All training and implementation through MOH partners
- Training of 12 multi-disciplinary trainer teams (diabetologist, FM physician and nurse, social worker, psychologist)
- 450 FM physicians, nurses, psychologists and social workers trained
- Strong link between primary and secondary/tertiary level established

Training and Education Materials



Implementation

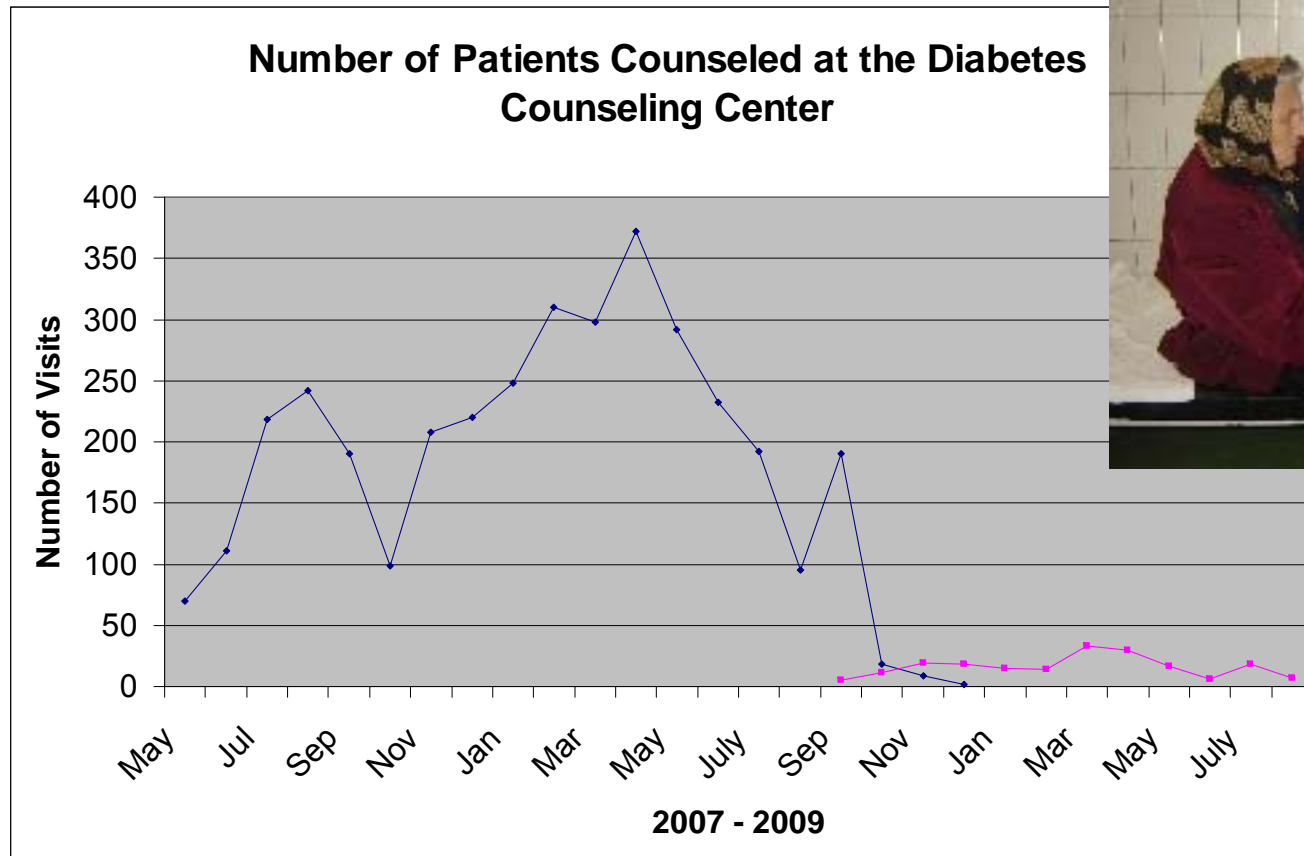
- Curriculum and guidelines adopted by the MoH
- Three on-site supervision visits to review cases and support implementation in Canton Sarajevo
- Monthly supervision and case discussions by University Clinic Endocrinology team in Gorazde
- Conference in 2007 to share findings with managers and providers to increase ownership and commitment
- Two counseling centers equipped with support from pharma and equipment companies
- Close coordination with Patient Diabetes associations

Community-Based Care and Prevention

- MD teams train 450 FM providers, social workers and psychologists
- 2 doctor-nurse teams staffing the Counseling Centers trained for one month at University Endocrinology Clinic



Activity Levels of the Diabetes Counseling Centers



Ilidza

Gorazde

Promotion and Early Detection

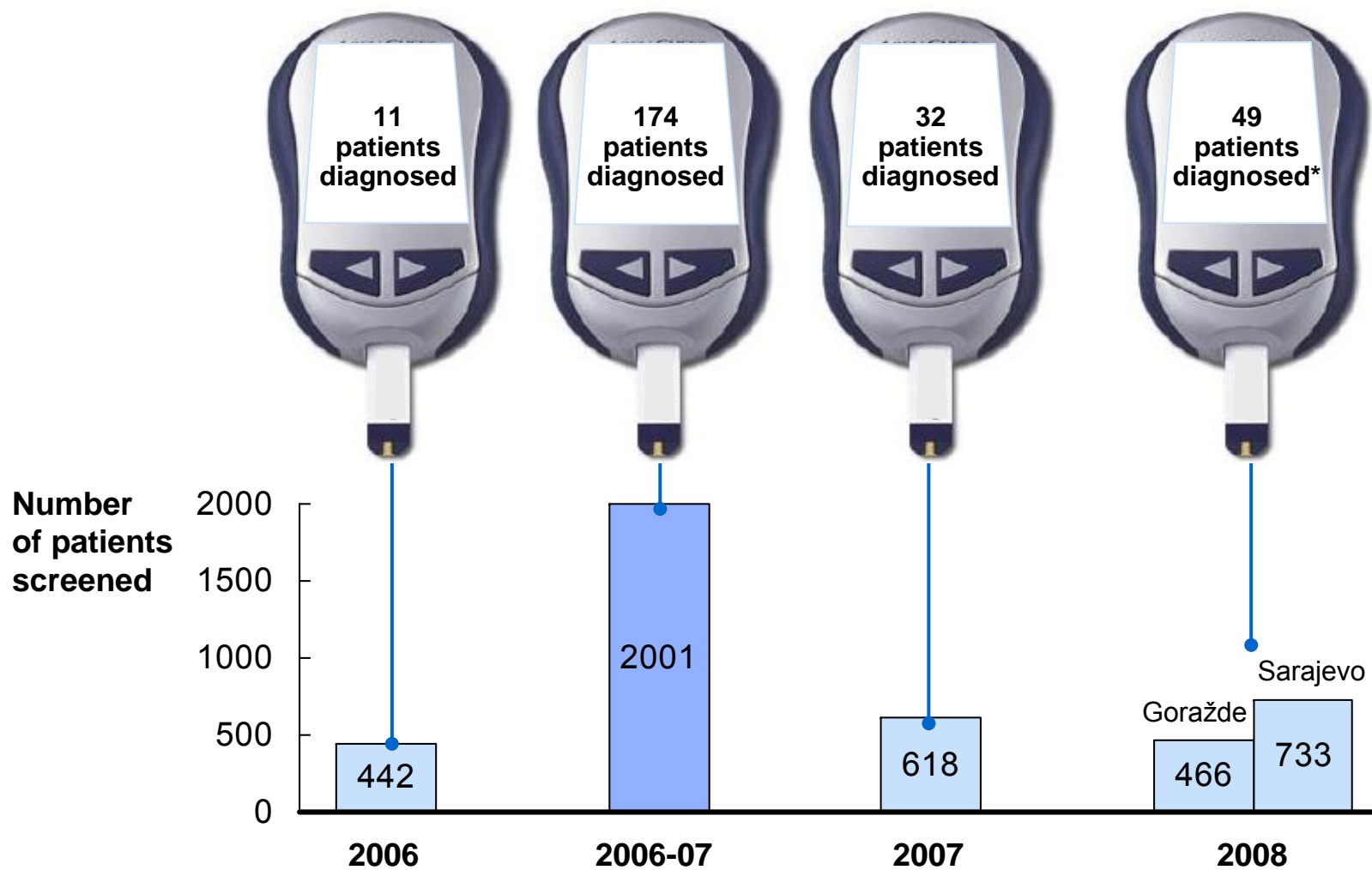
- In first three months (2006), registered FM patients increased by 9.1%, but patients with DM by 41.3%
- Public awareness raised during World Diabetes Day events
- Newspapers, radio, television and special presentations used extensively for all activities
- Special screening for one month to identify individuals with high glucose levels
- Diabetes counseling centers provide additional services



Project Supported Diabetes screening in BiH

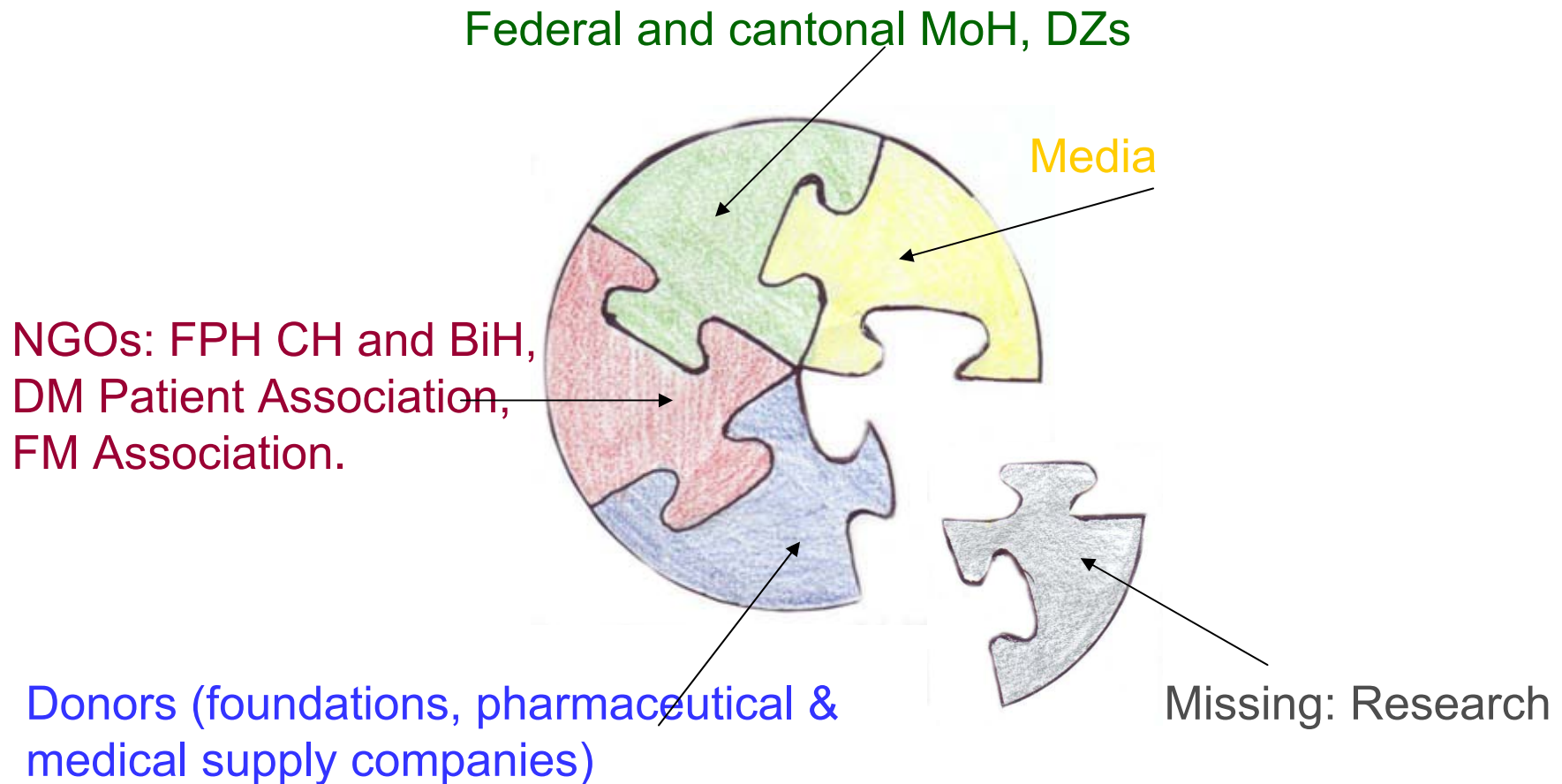
266 new cases diagnosed 2006-2008

WDD
 Screening month



* 13 in Goražde, 36 in Sarajevo

A Complex Partnership



Remaining Needs at the PHC Level in the Target Area - 2009

Needed	Gorazde	Ilidza
Tests and reagents	1	1
Patient education materials	1	3
Training of other providers	2	4
More training for staff	2	5
Testing equipment	5	2

Priorities Expressed by Counseling Centers



Priority Issues	Gorazde	Ilidza
Counseling in nutrition	1	6
Counseling in foot care	1	5
DM awareness raising	1	8
Counseling family for prevention	2	4
Counseling in injection	3	7
Routine monitoring of glucose levels	4	3
Diagnosis of DM	5	1
Referral to secondary level	5	2

Costs

One-Day Conference for 75 participants – 1,700 CHF

Train 65 doctors & Nurses - 2,400 CHF

Gorazde supervision visit 220 CHF

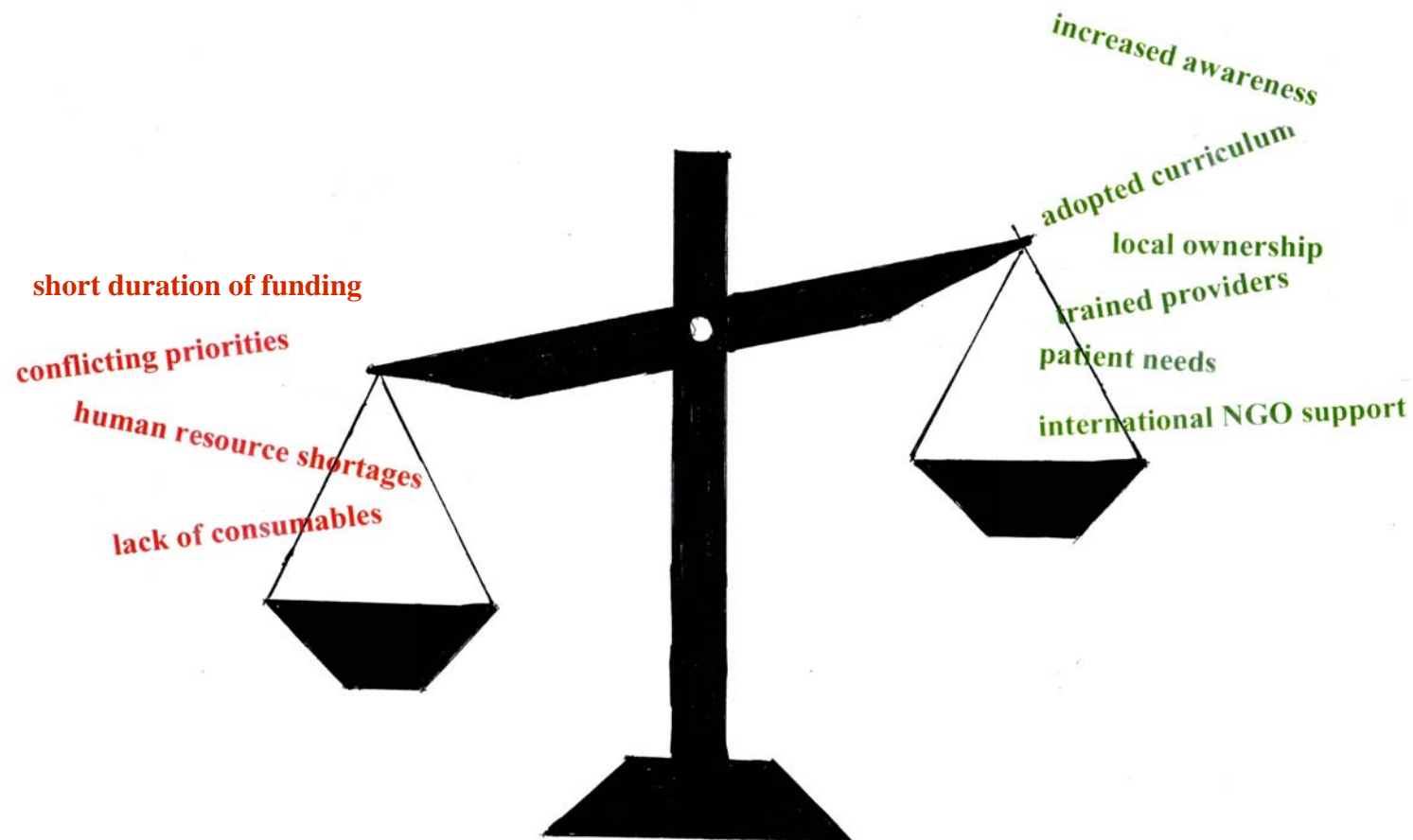
1,000 leaflets development & printing 5,100 CHF

World Diabetes Day materials for 2 cantons - 4,000 CHF

Sustainability – What Remains

- Diabetes counseling centre in Gorazde still operating
- Nurse from the DZ Ilidza diabetes centre continues to work with diabetes patients
- FM teams are linked to professionals from the University Endocrinology Clinic (used in daily work and case-by-case problem solving)

Sustainability



Response from a potential donor for not funding:

«The Board's main focus was on the resource aspect – that Bosnia & Herzegovina does not belong among the poorest of the poor. In addition, during their discussions, the issue of the role of Partnerships in Health did come up, questioning whether a country like BiH would not itself have the capacity to drive such a process rather than having external parties come in... »

Summary

- Chronic disease prevention and care can be integrated successfully at the PHC level
- Response of the primary and secondary providers is very good
- Patients desire treatment in their home communities
- Fragile health systems may need longer-term external/international support for implementation assistance, but also for motivational purposes and to leverage the support from the health care industry

Acronyms

BiH Bosnia and Herzegovina

DM Diabetes Mellitus

DZ Dom Zdravljas (outpatient units)

FM Family Medicine

FPH Fondation Partnerships in Health

MoH Ministry of Health

PHC Primary Health Care

References

- ¹ WHO: www.who.int/infobase/report.aspx
- ² Novo, A. & Jokic, I. Medical Audit of DM in Primary Care Setting in Bosnia and Herzegovina. *Croat Med J.*, 2008, 49(6), 757-762.