

Diabetes in Europa: Prevention using Lifestyle, Physical Activity and Nutritional intervention

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UNION EUROPEA

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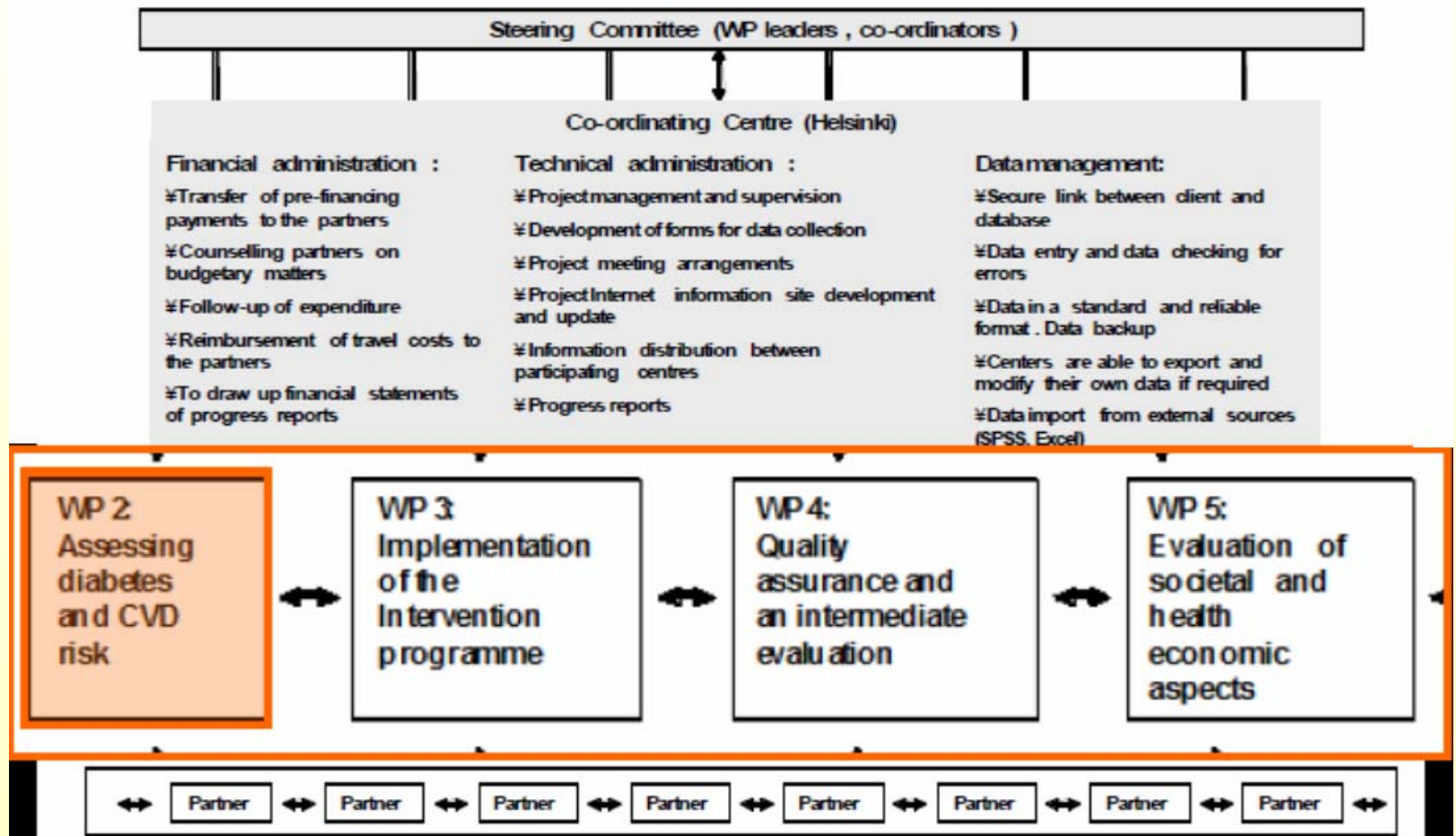
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Background

DE-PLAN organization overview



- Numbers of questionnaires distributed: **208.172** (Completed: **97.291**)
- Number of subjects identified and contacted with **high FINDRISC score (>15): 19.004 (19.5%)**
- Numbers of people enrolled in the interventions: **10.302**

AIMS

- ✚ To assess the risk factor profile and lifestyle habits of people with dysglycemia in the European population
- ✚ To investigate which component of the FINDRISC questionnaire predicts best IGT.

SAMPLING

✚ Random, (representative) population samples:
(the majority)

✚ Population subgroup. People at high risk for
T2D (Primary care)

- Based on FINDRISC score
- Based on risk factors

SAMPLE SIZE

- ✚ Aprox. 100.000 people in 17 countries
- ✚ Aprox. 5.000 from Spain- (M, CyL, C-L-M)
- ✚ Sample sizes vary between 1000-70,000

In average 1200 people (200 men and women, stratified by 10-year age-groups) per centre.

WP2 (screening and baseline) methods

- Design: Cross-sectional multicenter

- Sampling /setting:

The FINDRISC (FR-Qx) was distributed using opportunistic sampling techniques in 17 European countries during 2006-2008.

- Study variables: FR-Qx, serum lipids, fasting & 2-hour glucose and SBP/DBP.

- The risk of IGT was calculated using logistic regression analysis. The odds ratios (OR) and the respective 95% confidence intervals (CI) are presented.

DE_PLAN

- 8 questions
- Easy to implement
- Can be completed in less than 5 minutes

TYPE 2 DIABETES RISK ASSESSMENT FORM

Circle the right alternative and add up your points.

1. Age

- 0 p. Under 45 years
2 p. 45–54 years
3 p. 55–64 years
4 p. Over 64 years

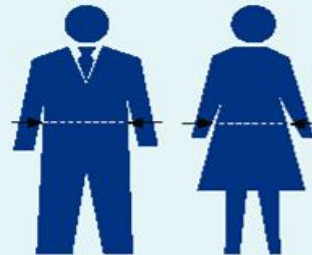
2. Body-mass index

(See reverse of form)

- 0 p. Lower than 25 kg/m²
1 p. 25–30 kg/m²
3 p. Higher than 30 kg/m²

3. Waist circumference measured below the ribs (usually at the level of the navel)

- | | MEN | WOMEN |
|------|------------------|-----------------|
| 0 p. | Less than 94 cm | Less than 80 cm |
| 3 p. | 94–102 cm | 80–88 cm |
| 4 p. | More than 102 cm | More than 88 cm |



4. Do you usually have daily at least 30 minutes of physical activity at work and/or during leisure time (including normal daily activity)?

- 0 p. Yes
2 p. No

5. How often do you eat vegetables, fruit or berries?

- 0 p. Every day
1 p. Not every day

6. Have you ever taken antihypertensive medication regularly?

- 0 p. No
2 p. Yes

7. Have you ever been found to have high blood glucose (eg in a health examination, during an illness, during pregnancy)?

- 0 p. No
5 p. Yes

8. Have any of the members of your immediate family or other relatives been diagnosed with diabetes (type 1 or type 2)?

- 0 p. No
3 p. Yes: grandparent, aunt, uncle or first cousin (but no own parent, brother, sister or child)
5 p. Yes: parent, brother, sister or own child

Total Risk Score

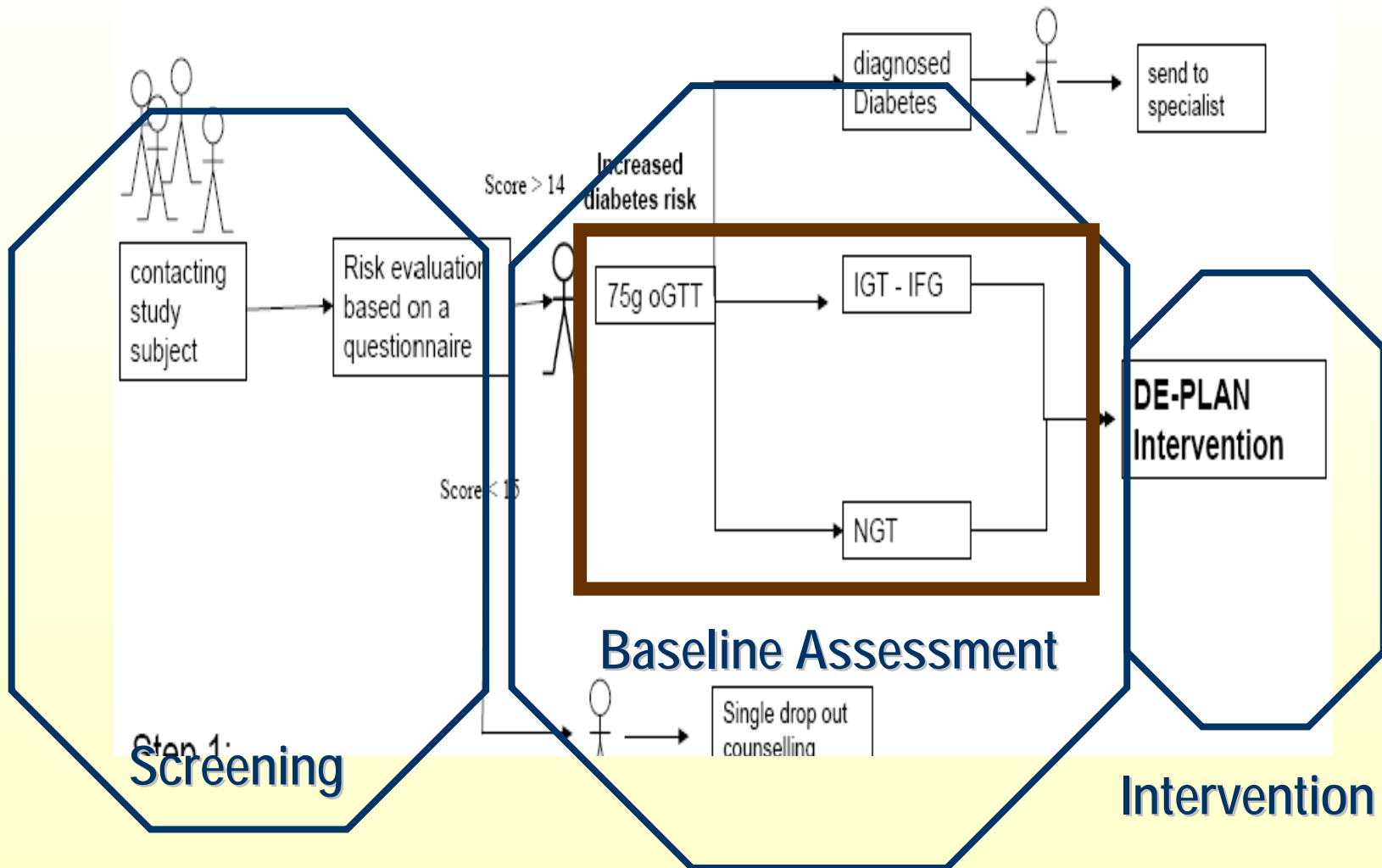
The risk of developing type 2 diabetes within 10 years is

- Lower than 7 Low: estimated 1 in 100 will develop disease
7–11 Slightly elevated: estimated 1 in 25 will develop disease
12–14 Moderate: estimated 1 in 6 will develop disease
15–20 High: estimated 1 in 3 will develop disease
Higher than 20 Very high: estimated 1 in 2 will develop disease

Please turn over

WP2 Methods

Advanced - Identification and Selection of the Subjects



DE_PLAN WP2



RESULTS

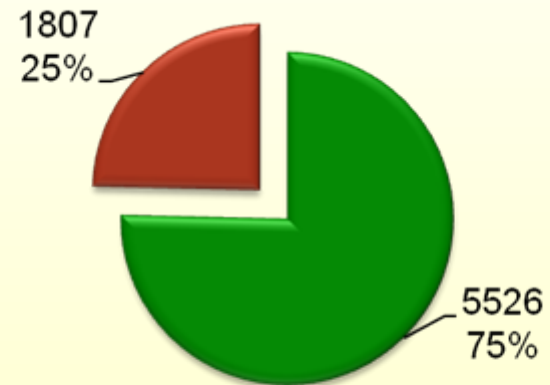
Baseline characteristics: gender and age

MEN 5943 (45%)
Mean age: 59,9 (7,5)* yr.



■ NG ■ Dysglycemic

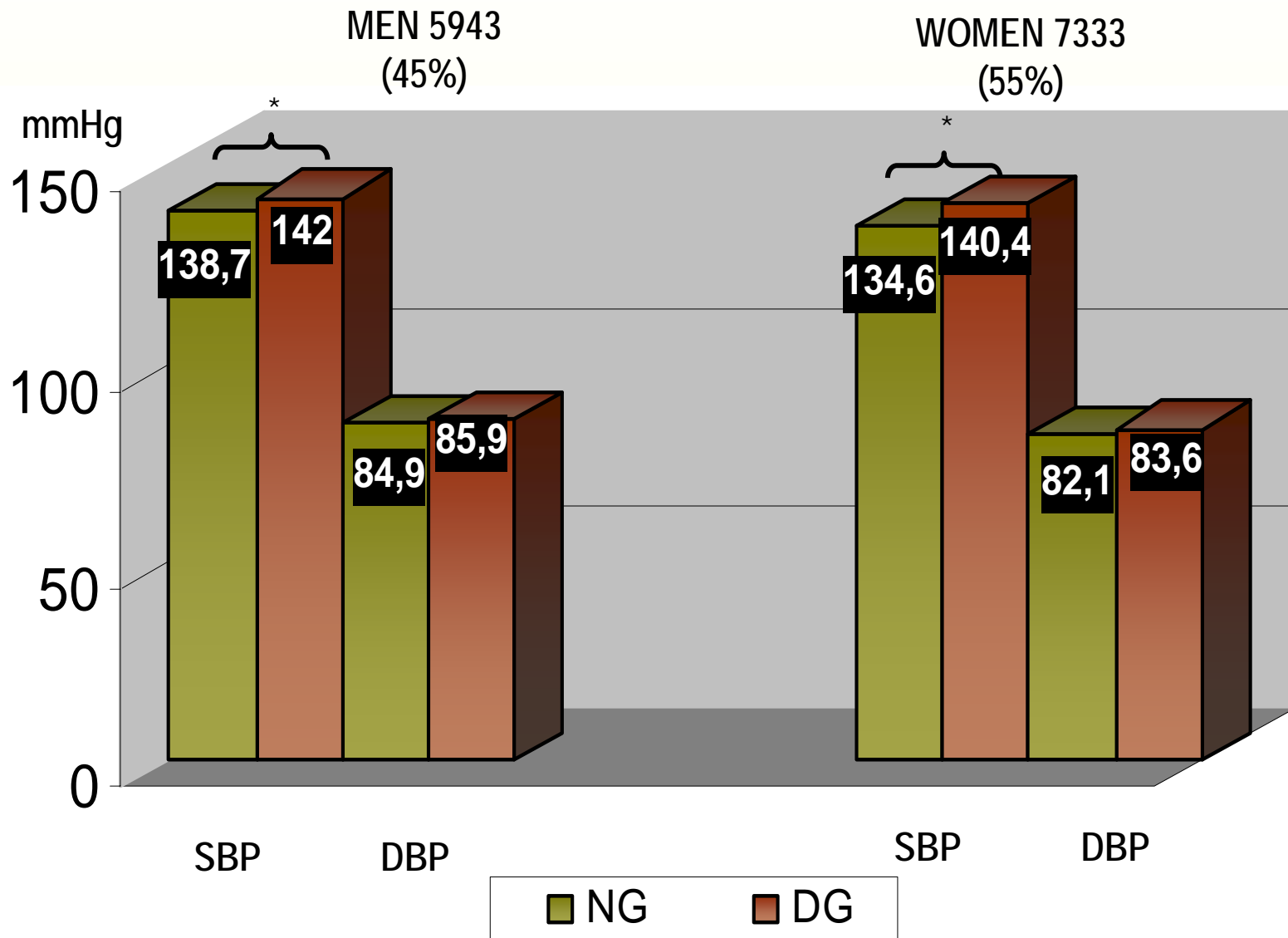
WOMEN 7333 (55%)
Mean age: 60 (7.7)* yr.



■ NG ■ Dysglycemic

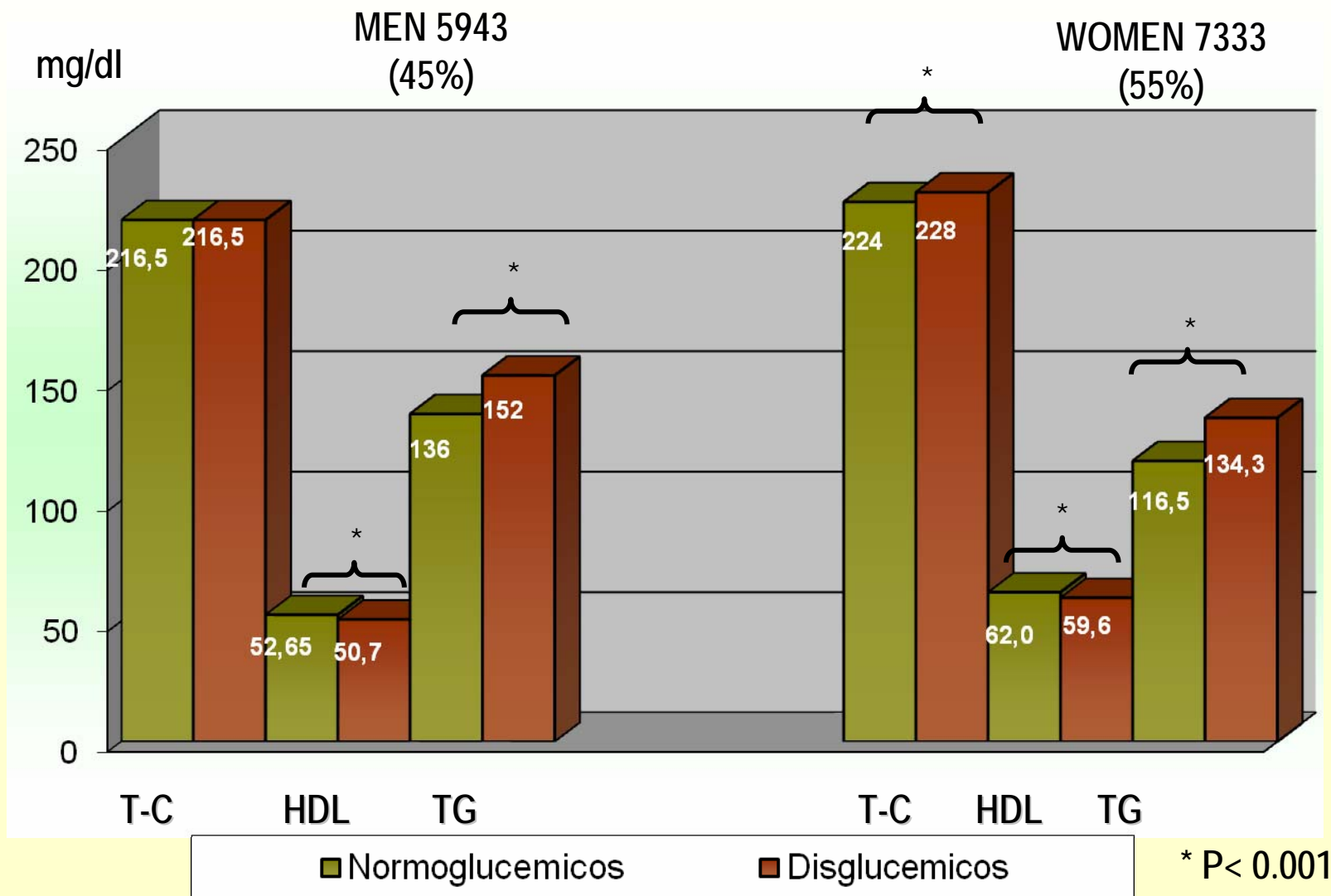
* p < 0,001

CV Risk Factors: Blood Pressure



* P < 0.001

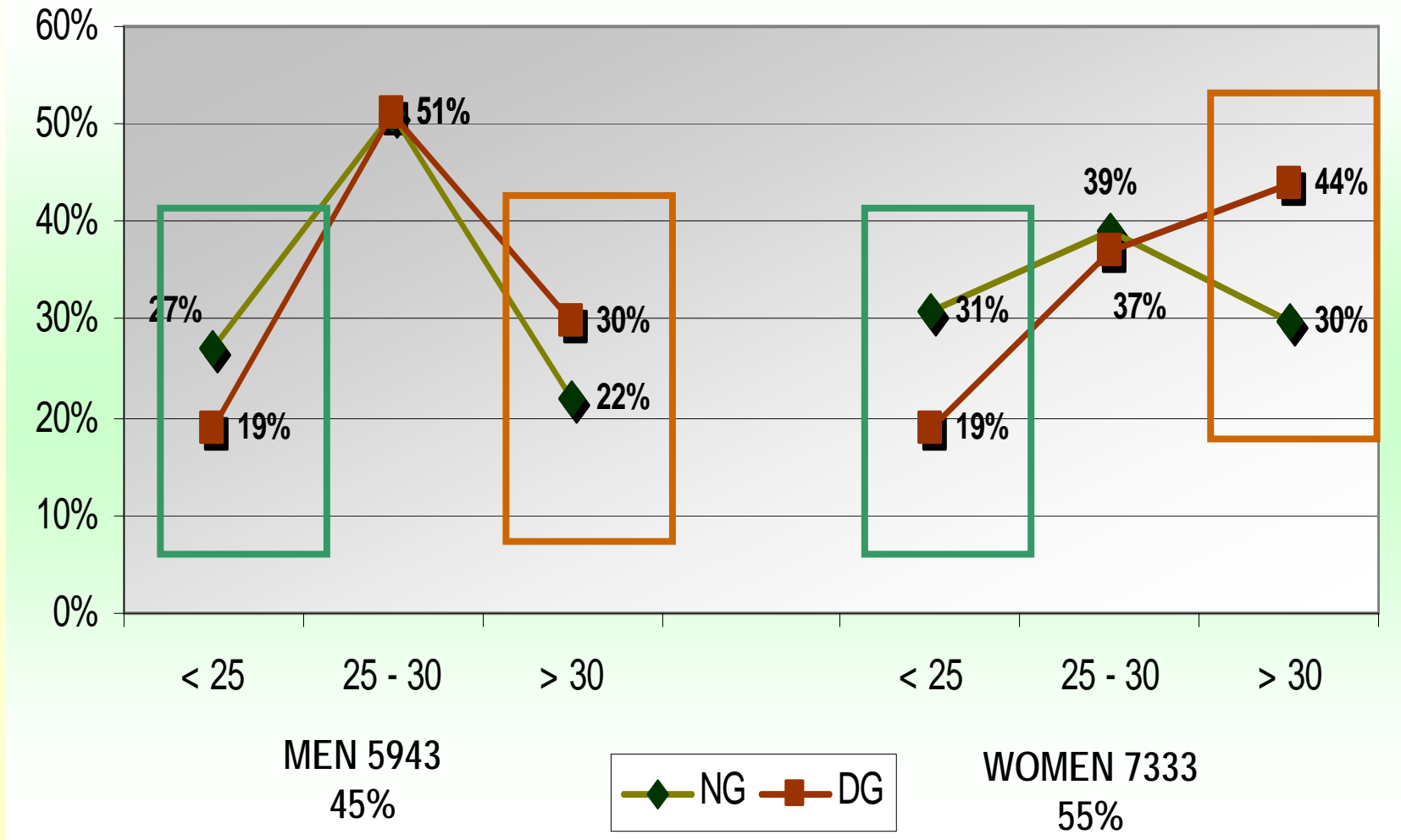
CV Risk Factors: Blood Lipids



CV Risk Factors: Body Mass Index(BMI) and Waist Circumference(WC)

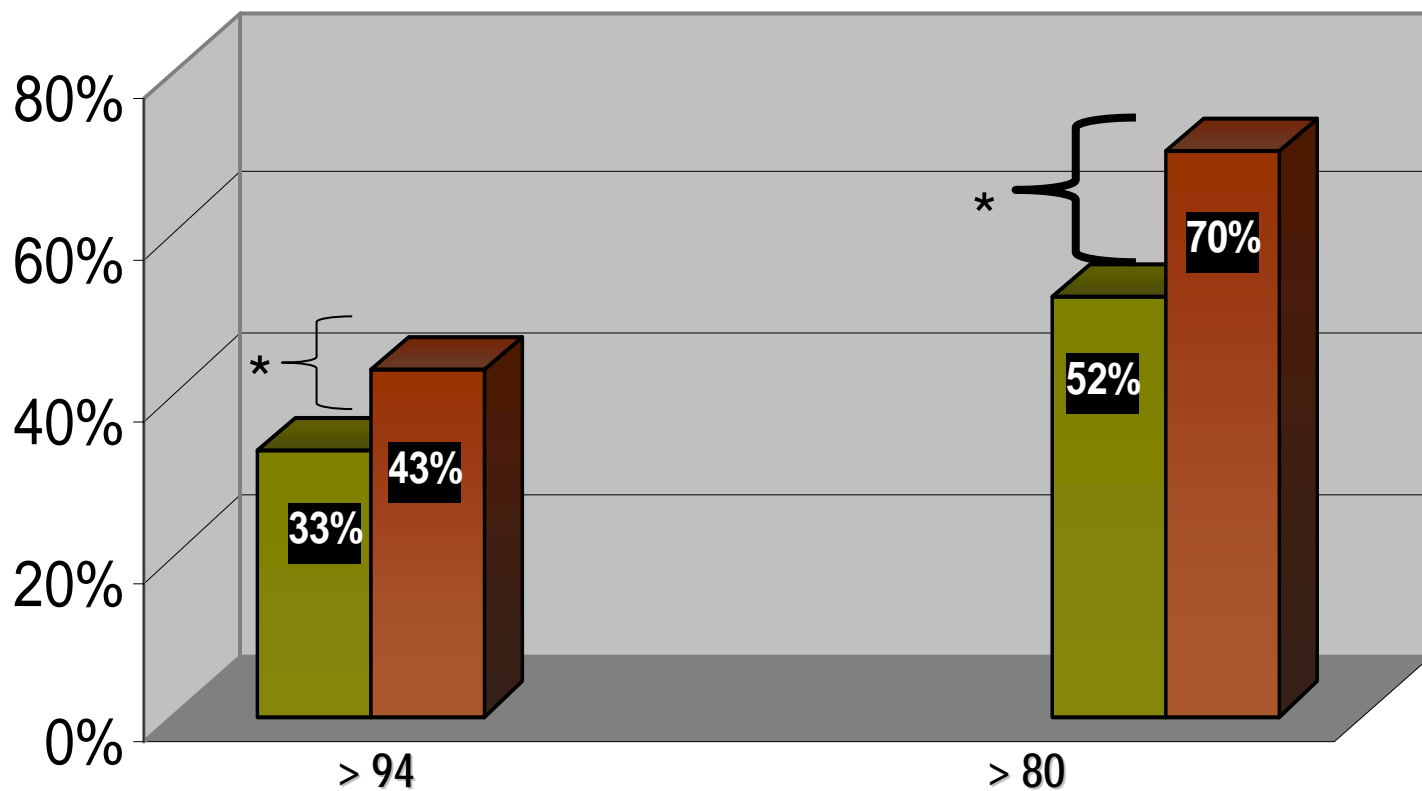
	Men n = 5943 (45%)	Women n = 7333 (55%)	P
BMI (Kg/m²)	Mean values	Mean values	
Normoglycaemic	27.5	27.9	p < 0.001
Dysglycaemic	28.4	29.8	p < 0.001
WC (cm)			
Normoglycaemic	97.4	88.9	p < 0.001
Dysglycaemic	100.7	94.7	p < 0.001

Body Mass Index (BMI) categories (%)



* P < 0.001

Waist Circumference (WC)



MEN 5943
45%

■ NG ■ DG

WOMEN 7333
55%

* P < 0.001

Odds ratio (OR) of risk factors with IGT (95% CI)




Variables		Men	Women
BMI (Kg/m²)	< 25	1 (ref))	1 (ref)
	25-30	1.21 (0.95-1.55)	0.92 (0.73-1.16)
	>30	1.21 (0.95-1.55)	1.26 (0.97-1.64)
WC (cm)	< 94 / < 80	1 (ref))	1 (ref)
	94-102 / 80-88	1.38 (1.09-1.75)	1.26 (0.96-1.66)
	>102 / >88	1.82 (1.40-2.37)	2.37 (1.79-3.13)
Physical activity	>30 min/day	1 (ref))	1 (ref)
	<30 min/day	1.25 (1.07-1.46)	1.31 (1.13-1.52)
Daily fruit & vegetable intake	yes	1 (ref))	1 (ref)
	No	1.25 (1.06-1.46)	1.29 (1.10-1.52)

Covariates age, BMI, W, physical activity, daily fruit/vegetable consumption

Conclusions WP2

1. Dysglycaemic individuals had a worse Risk Profile than normo-glycaemics in De-PLAN Study (BP, Blood Lipids, BMI and WC)
2. Low physical activity and central obesity are independently associated with IGT, in both men and women in the European population.
3. Waist circumference, low physical activity and low vegetal intake seem to be associated with IGT.

Work package 3 (steps)

1. Identification of the individuals at high risk of type 2 diabetes (screening)

2. Baseline assessment of high risk individuals (OGTT & CVRF measurements)

3. Intensive core intervention in different intervention settings

4. Continuous intervention for motivation maintenance and evaluation

CENTRES SURVEY (30/07/2010)

18 centres have data

Centres	COUNTRY	BASELINE	1 year FOLLOW-UP	2 year FOLLOW-UP	3 year FOLLOW-UP
Athens	GREECE	X	X		
Barcelona	SPAIN	X	X		
Belgrad	SERBIA	X	X	X	X
Dresden		X			
Genova	ITALY	X	X		
Graz	AUSTRIA	X	X		
helsinki	FINLAND				
Istanbul	TURKEY	X	X		
Kaunas	LITHUANIA	X	X		
Krakow	POLAND	X	X		
Krems	AUSTRIA	X	X		
Madrid	SPAIN	X	X	X	X
Oslo	NORWAY	X	X		
Paris	FRANCE	X			
Pisa	ITALY	X			
Salzburg	AUSTRIA	X			
Sta. Maria	ITALY	X	X	X	
Sofia	BULGARIA	X	X		
Tartu	ESTONIA	X	X		
TOTAL		18	14	3	2

DE-PLAN: Global figures

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THANKS!

OD_	P_Abd_0	P_Abd_1	PESO_0	Peso_1	TALL
BUJ	Perimetro de Cintura en Cms AÑO BASAL	Perimetro de Cintura en Cms AÑO 1	PESO EN KILOS	Peso en Kilos AÑO 1	A_0 TALL A (cm)
DEL					
UJET					
O					
54	94	97	70,00	70,00	168
71	94	87	84,50	85,00	168
48	109	93	77,50	78,00	154
22	115	100	75,00	66,00	155
202	114	111	88,00	90,00	172
396	113	105	89,50	84,50	160
37	112	115	85,50	88,30	163
498	111	108	73,00	78,80	146
15	110	116	104,70	103,00	174
389	109	105	63,10	57,20	150
12	109	108	90,20	85,00	168
452	108	103	72,00	64,00	153
203	107	93	58,50	50,20	168
18	107	106	83,00	80,00	157
220	106	101	55,00	49,10	137
310	106	93	65,80	63,80	146
447	105	96	73,00	68,80	150
26	105	102	76,00	68,40	143
212	104	89	66,90	66,00	160
155	104	95	62,00	63,40	147
186	104	103	80,00	80,20	154
243	104	97	78,60	71,00	167
330	104	104	69,40	63,70	162
463	103	91	70,00	70,70	157