ADI
Associazione Italiana di Dietetica e Nutrizione Clinica - ONLUS

STILI DI VITA e "MALATTIE DELLA CIVILIZZAZIONE"

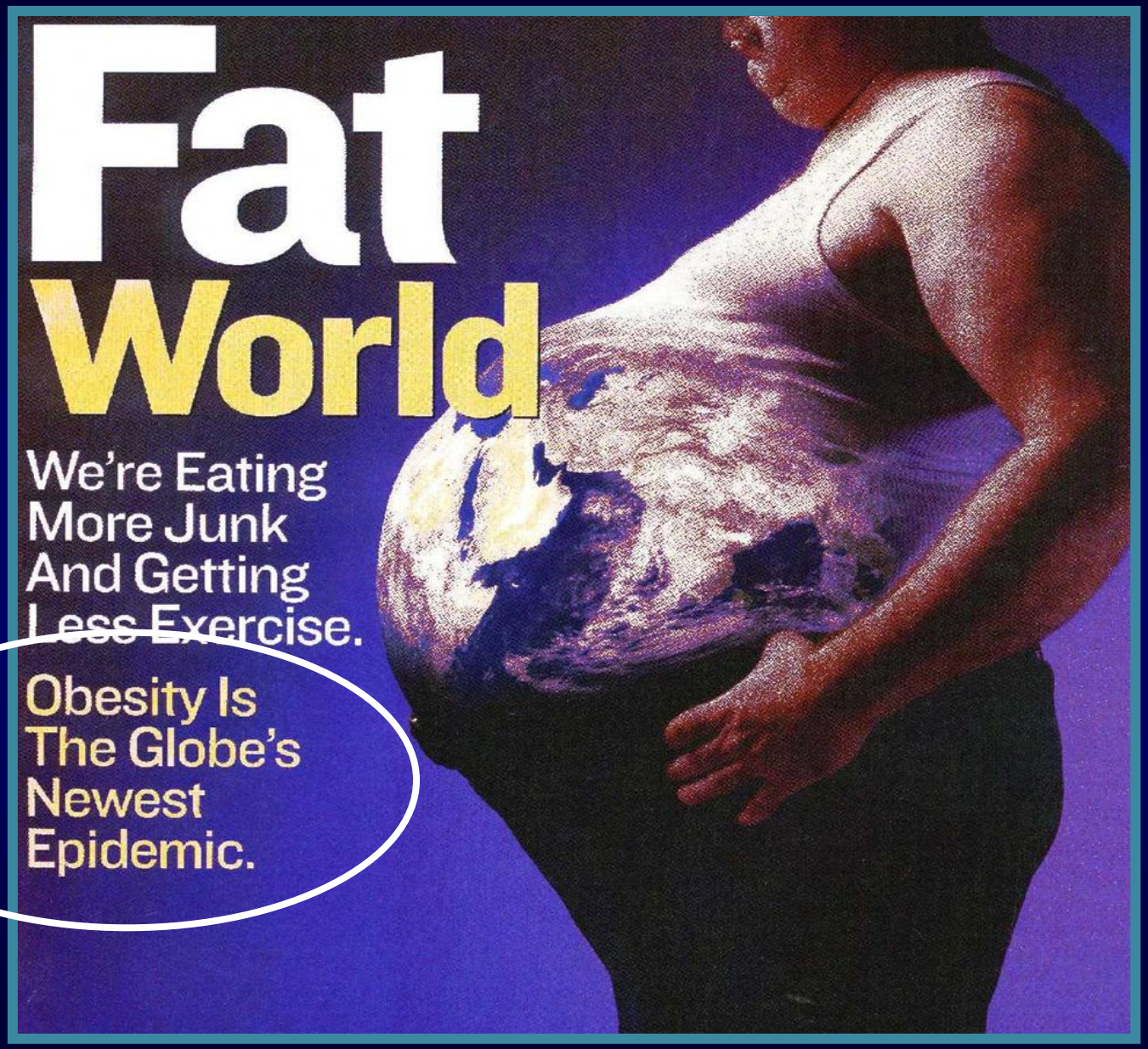
Claudio TUBILI

Presidente ADI Lazio

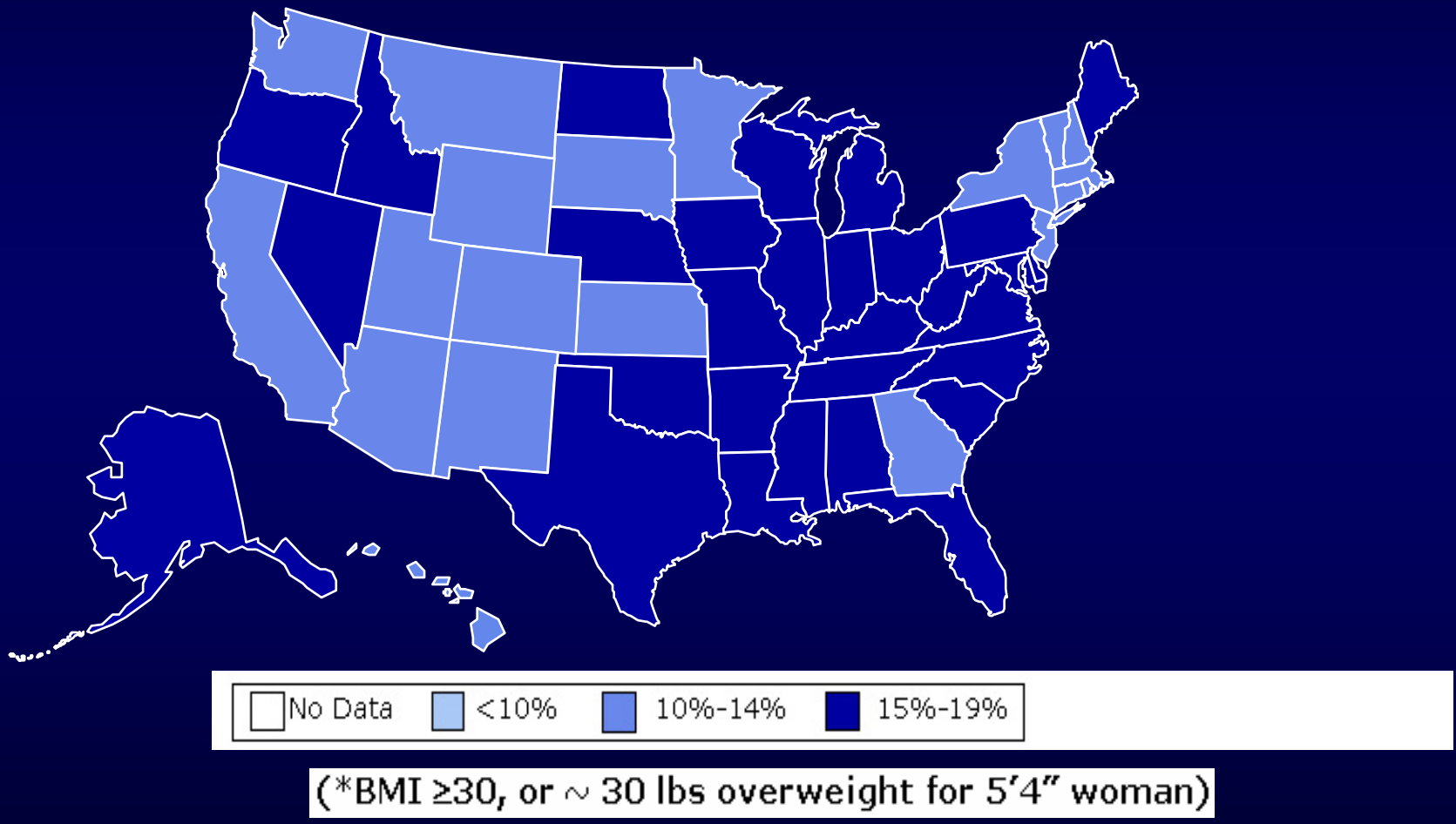
U. Dip. di Diabetologia e Malattie Metaboliche

Az. Osp. "S.Camillo – Forlanini"

ROMA


Fat
World
We're Eating
More Junk
And Getting
Less Exercise.
Obesity Is
The Globe's
Newest
Epidemic.

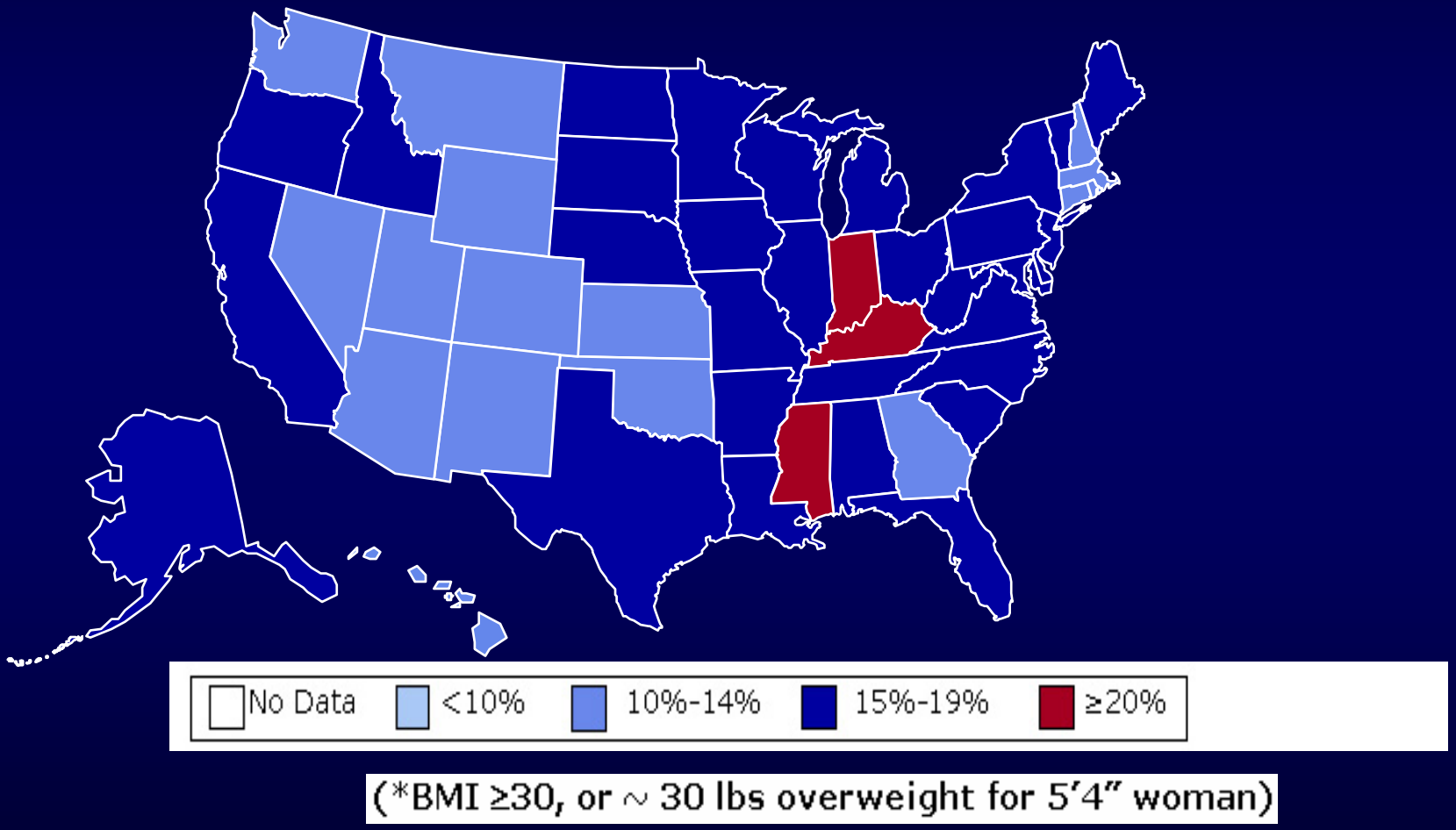
Obesity is rising among U.S. adults: 1996*



(*BMI ≥30, or ~ 30 lbs overweight for 5'4" woman)

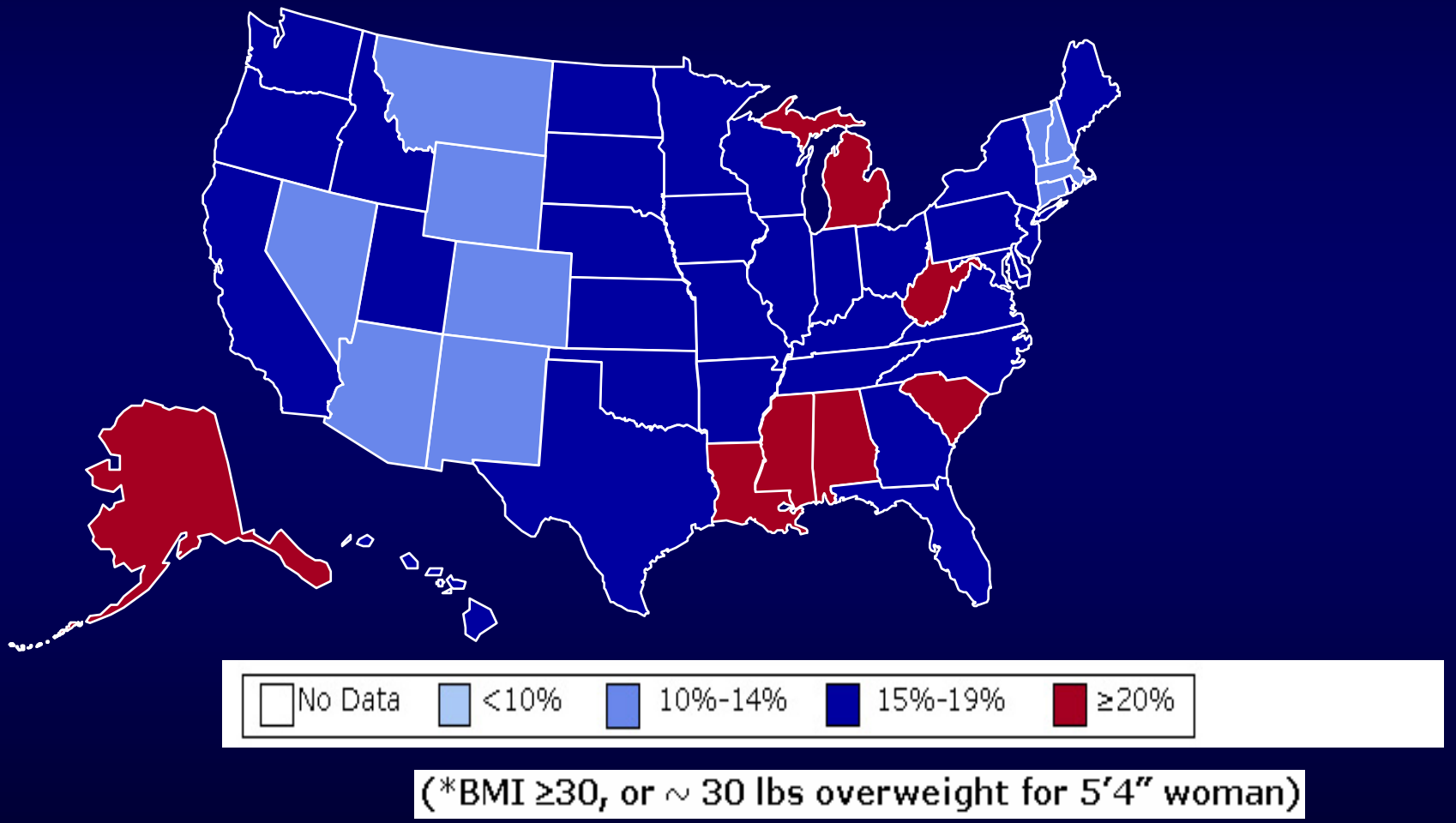
CDC 2003 Nutrition and physical activity

Obesity is rising among U.S. adults: 1997*



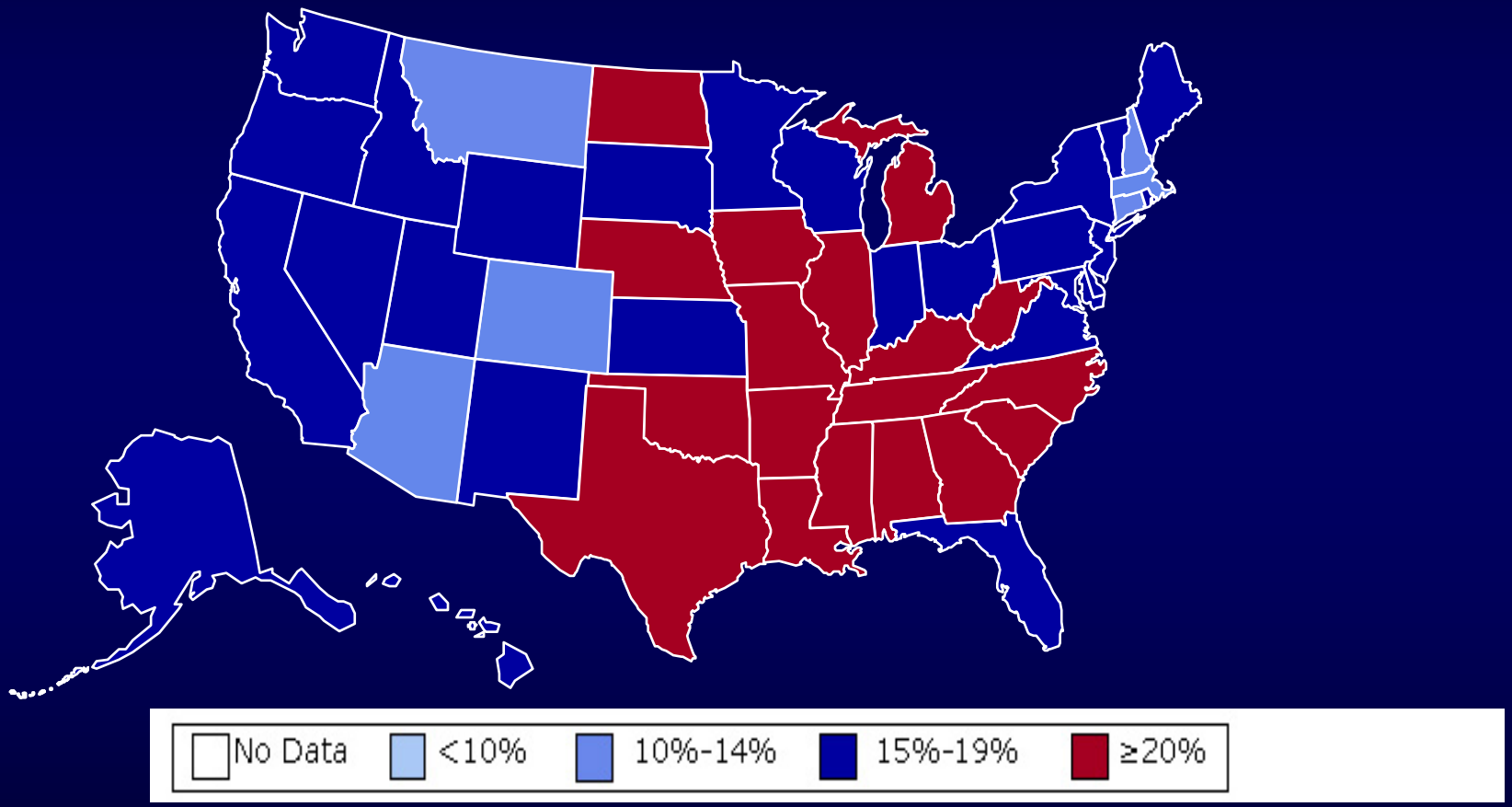
CDC 2003 Nutrition and physical activity

Obesity is rising among U.S. adults: 1998*



CDC 2003 Nutrition and physical activity

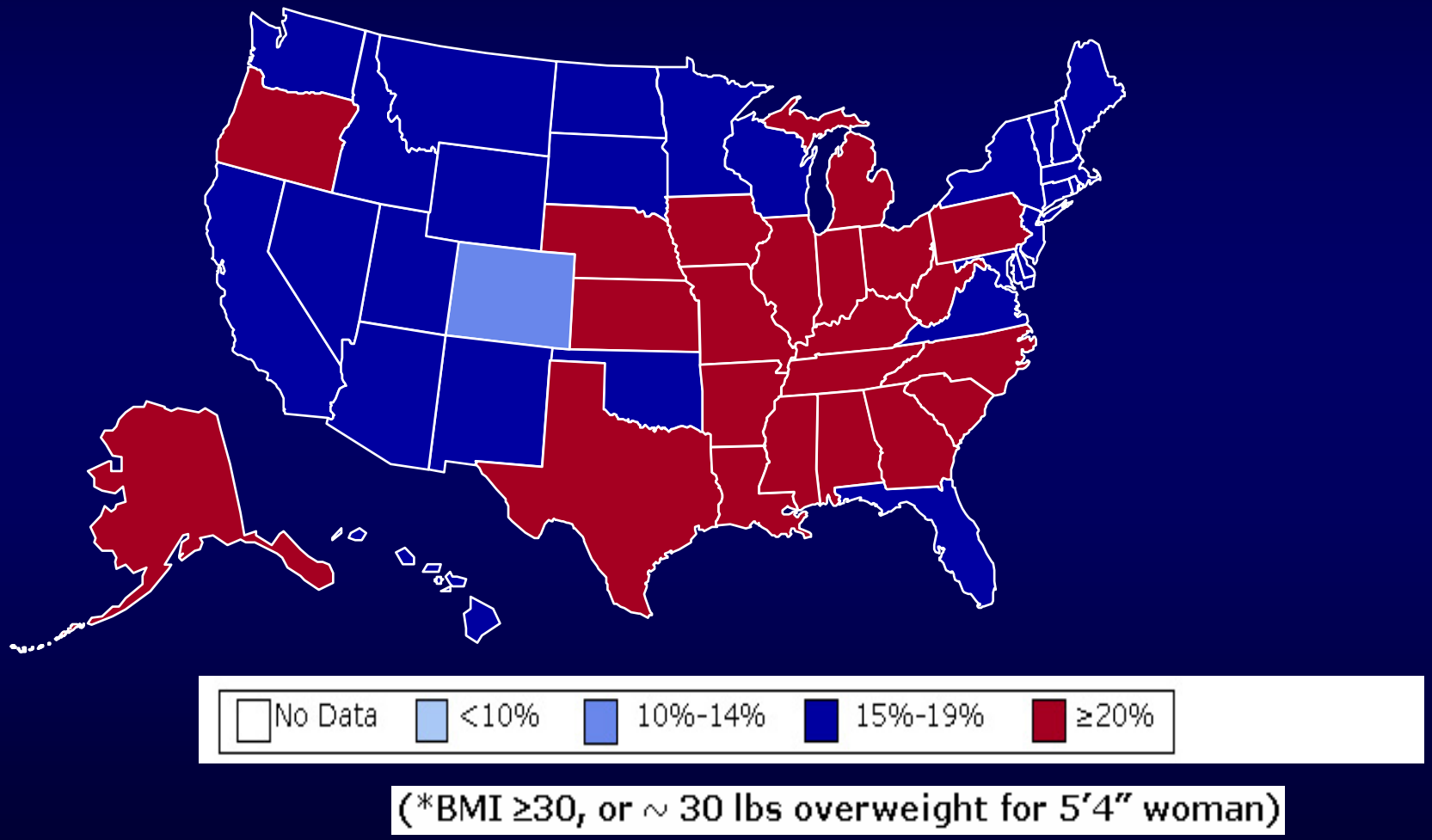
Obesity is rising among U.S. adults: 1999*



(*BMI ≥30, or ~ 30 lbs overweight for 5'4" woman)

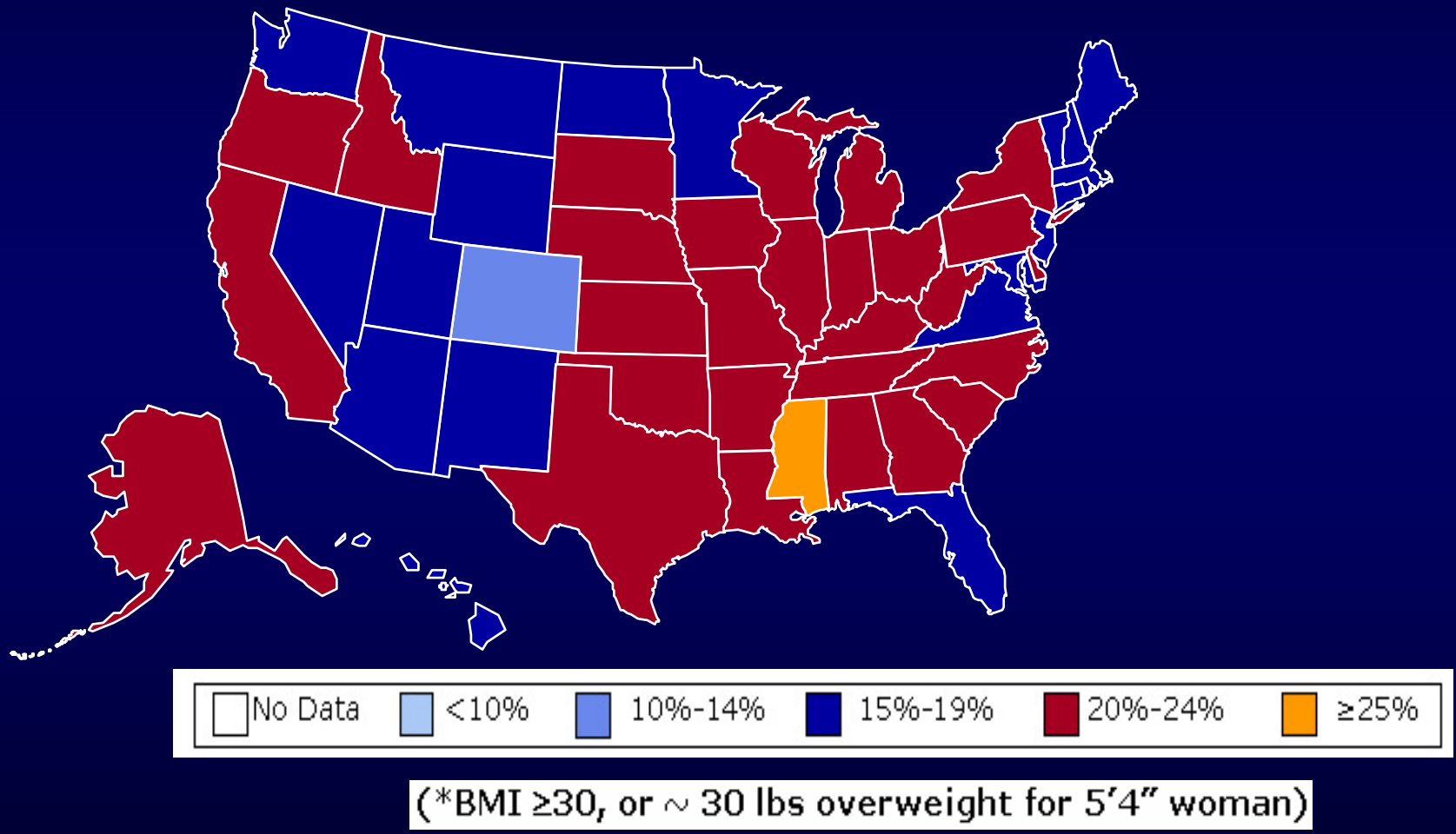
CDC 2003 Nutrition and physical activity

Obesity is rising among U.S. adults: 2000*



CDC 2003 Nutrition and physical activity

Obesity is rising among U.S. adults: 2001*

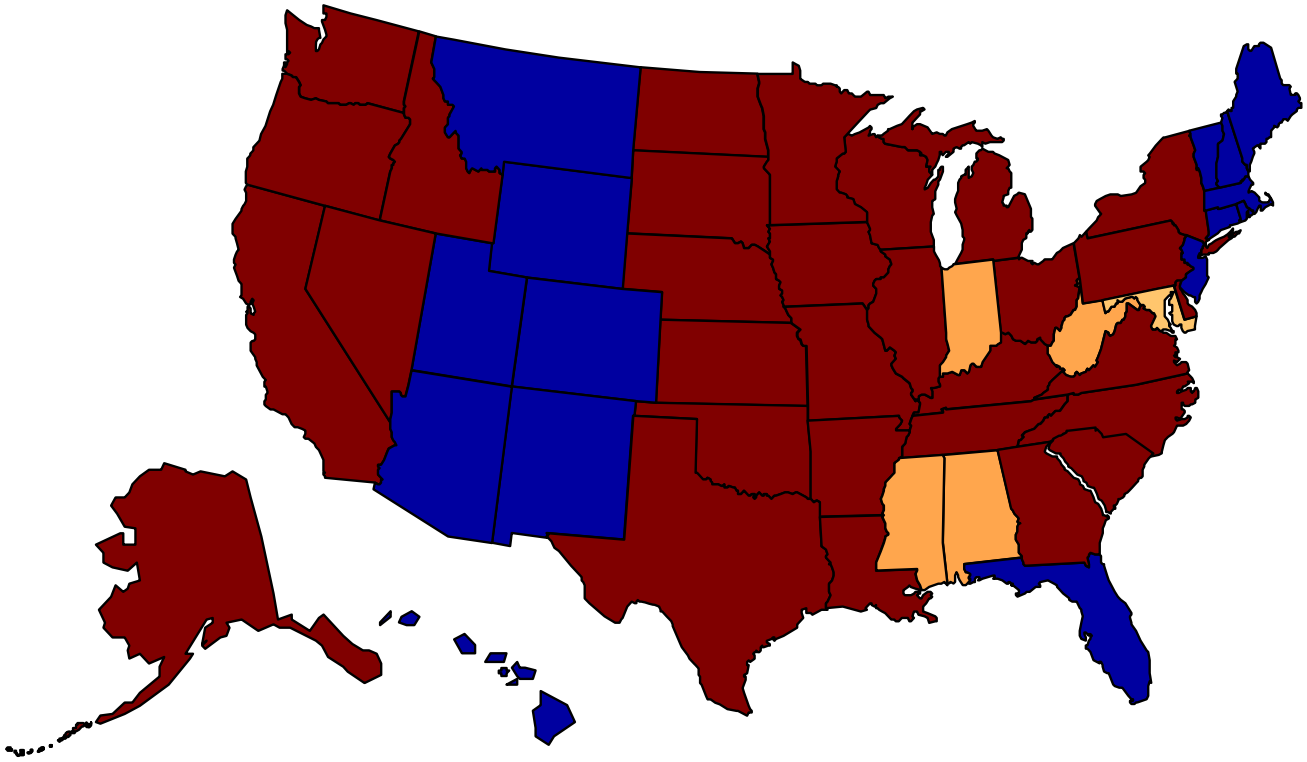


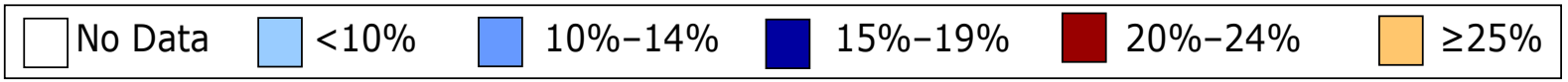
CDC 2003 Nutrition and physical activity

Obesity* Trends Among U.S. Adults

BRFSS, 2003

(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)





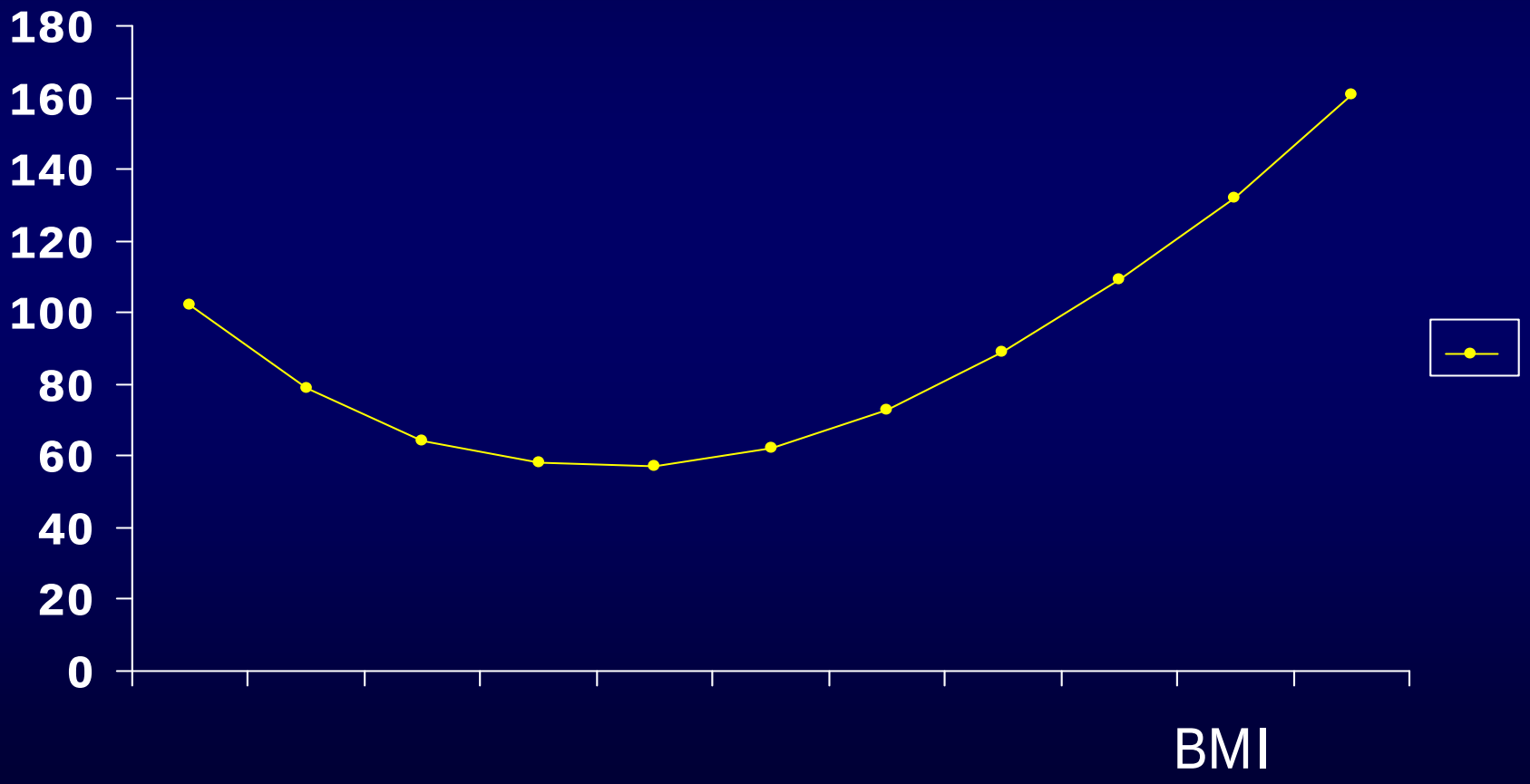
Source: Behavioral Risk Factor Surveillance System, CDC.

GLOBESITA' (OMS): CONSEGUENZE

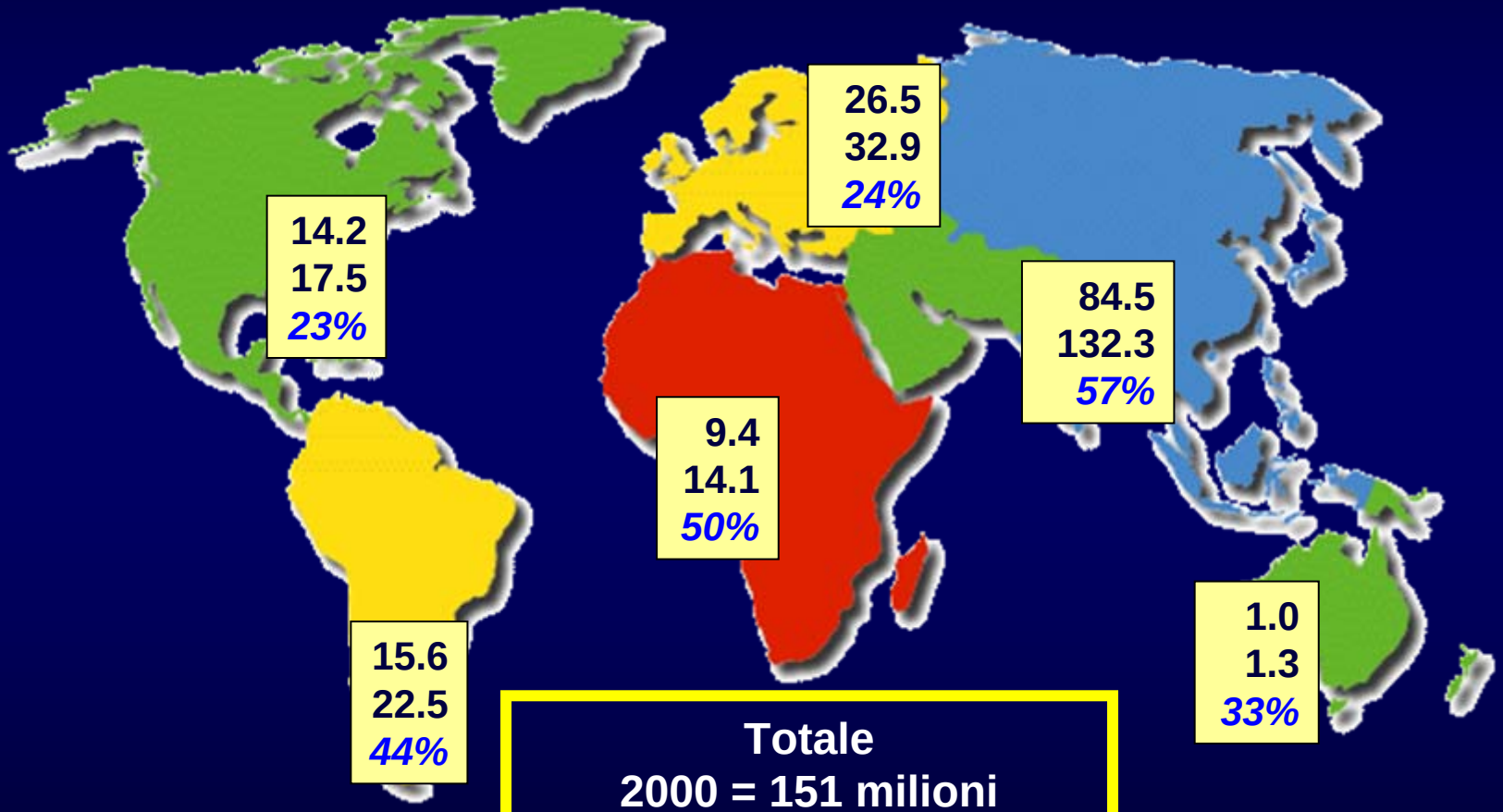


- Diabete (58%)
- Malattie Cardiovascolari (21%)
- Cancro (8-42%)
- Insufficienza respiratoria
- Fratture
- Colelitiasi
- Patologie ostetriche

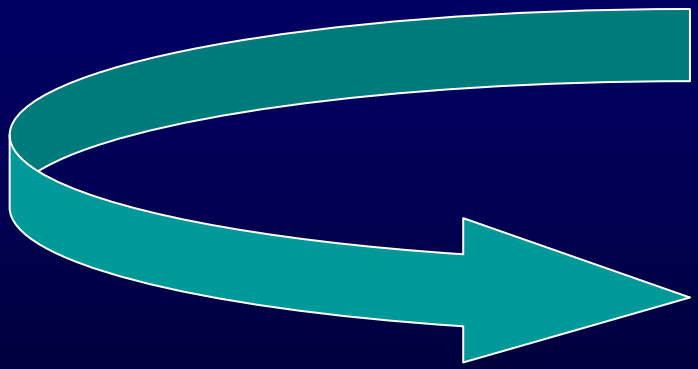
Obesità: mortalità e BMI

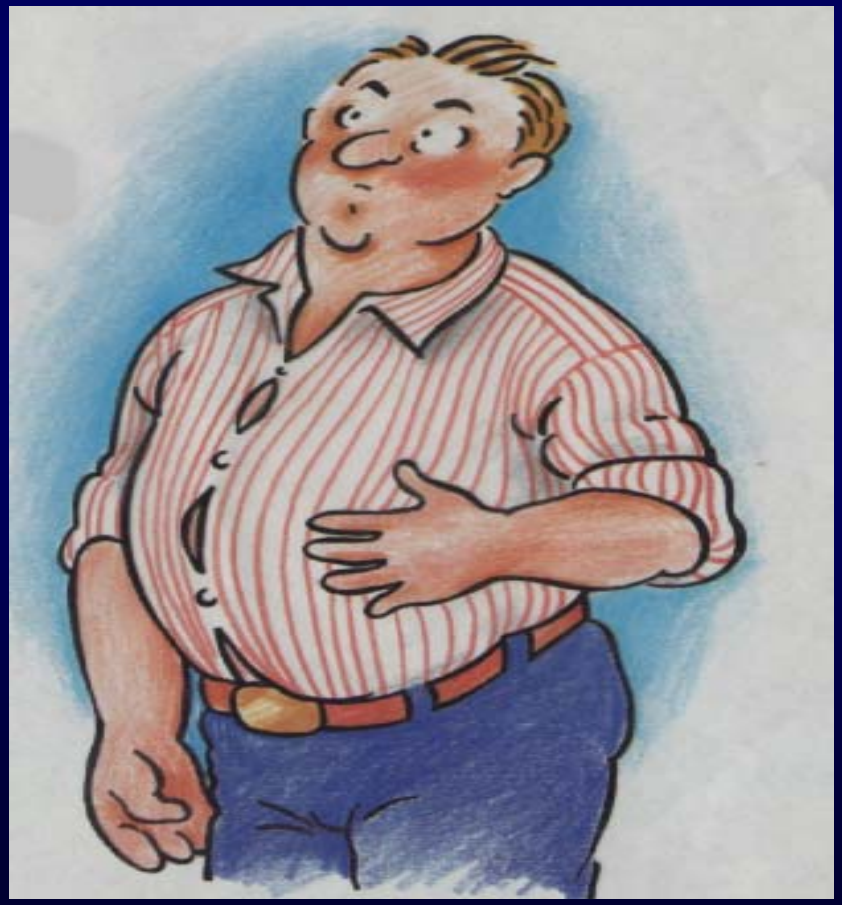


Proiezioni globali per l'epidemia di diabete: 2000-2025

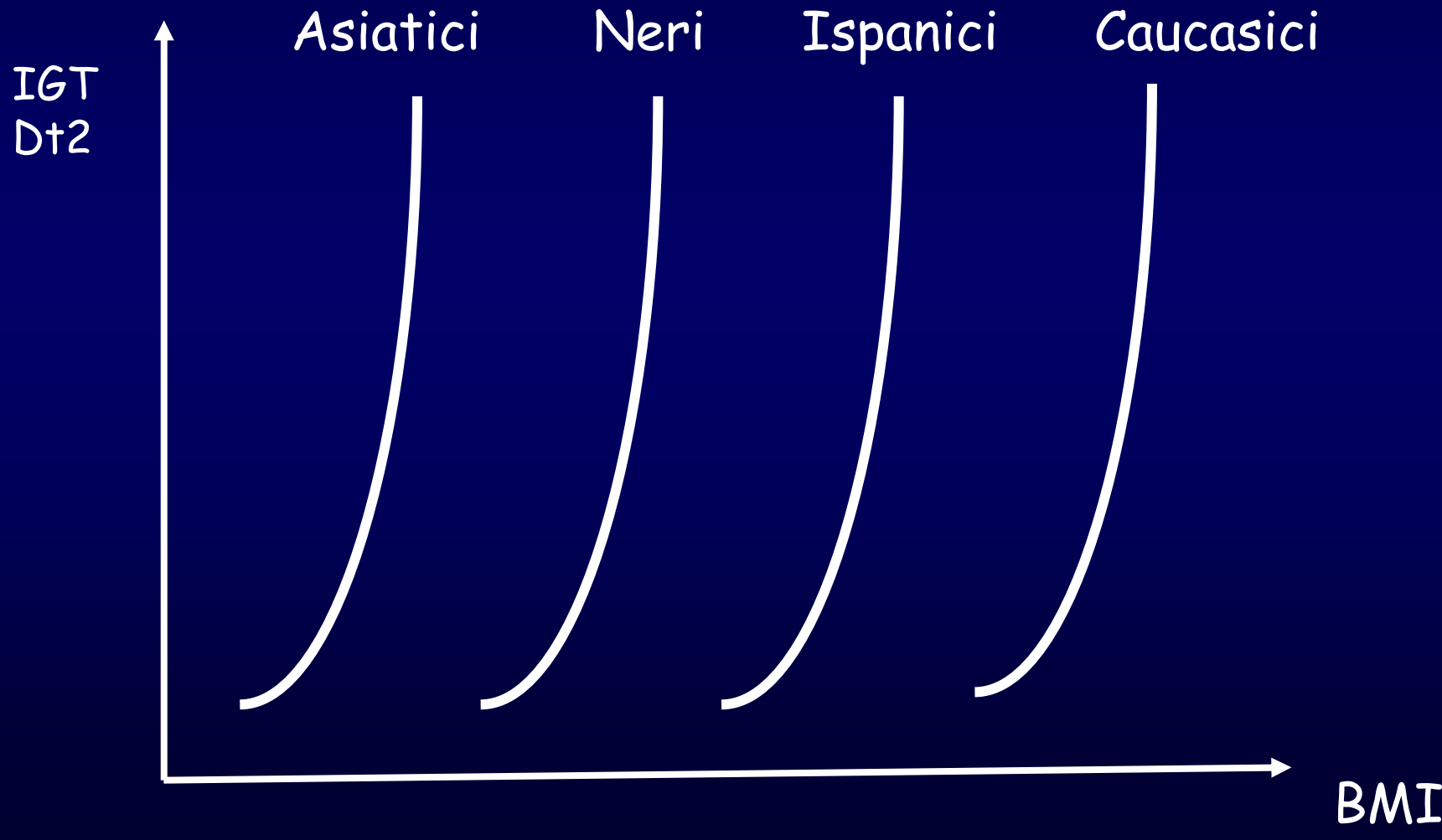




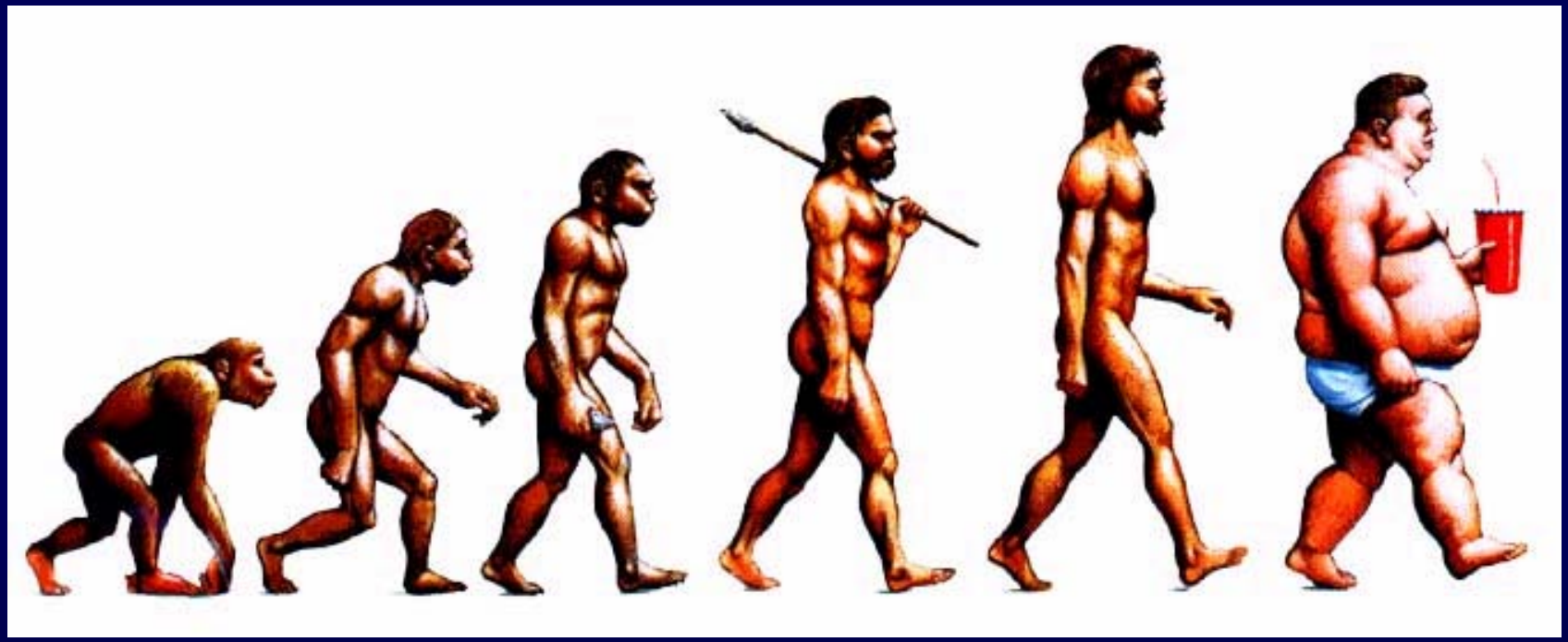




Grado di sovrappeso e IGT/Dt2 in adolescenti in relazione all'etnia *(Kiess W, Horm Res 2003: 59, 77-84)*



"Thrifty Gene" *(Neel JV, Am J Hum Genet 1962; 14: 353-62)*



"Piu' efficace capacita' di depositare Energia"

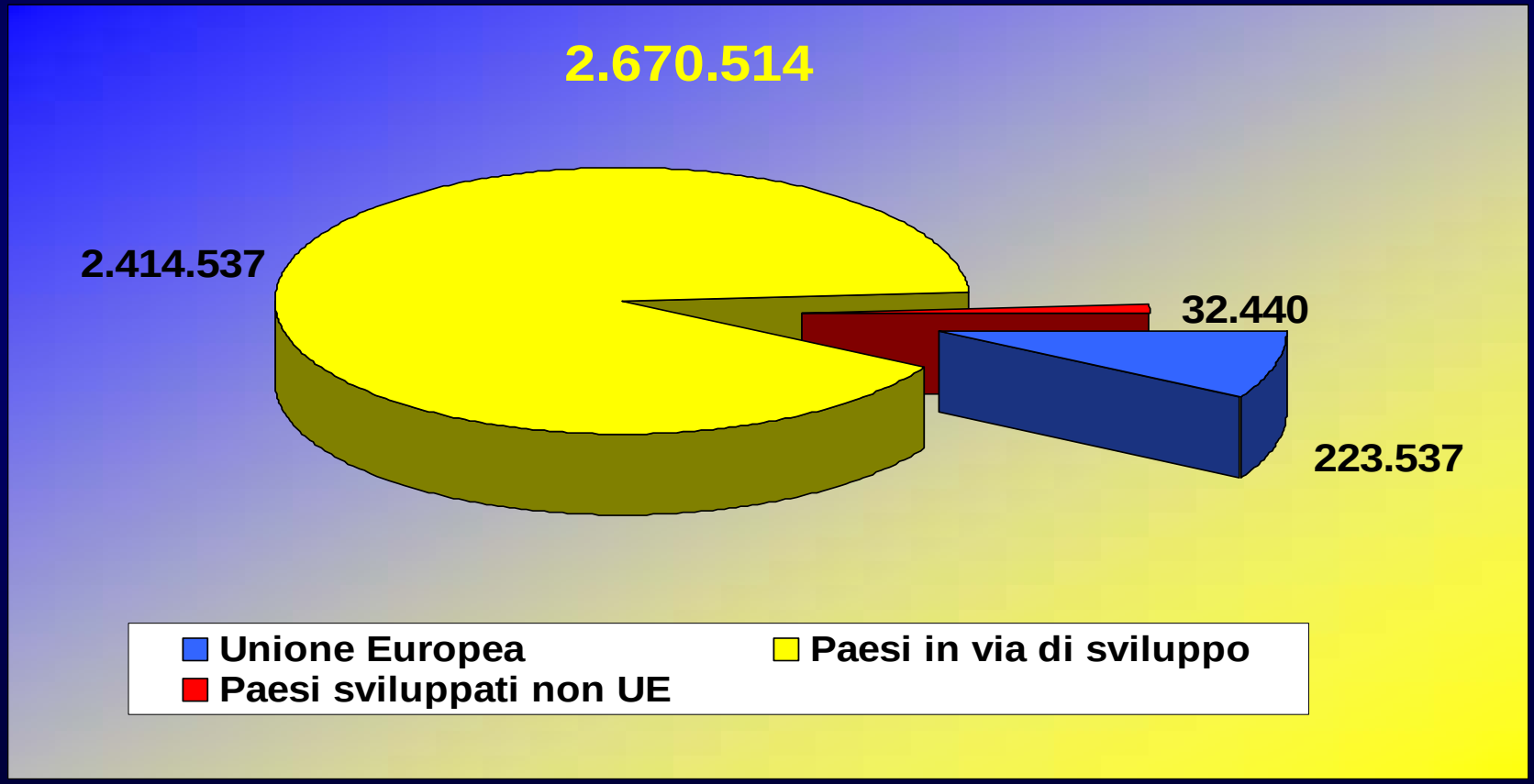
Top Ten del Diabete

- Nauru
- E.A.U.
- Qatar
- Bahrein
- Puertorico
- Singapore
- Bahamas
- Kuwait
- Seychelles
- Cayman





Immigrati regolari in Italia (2006)



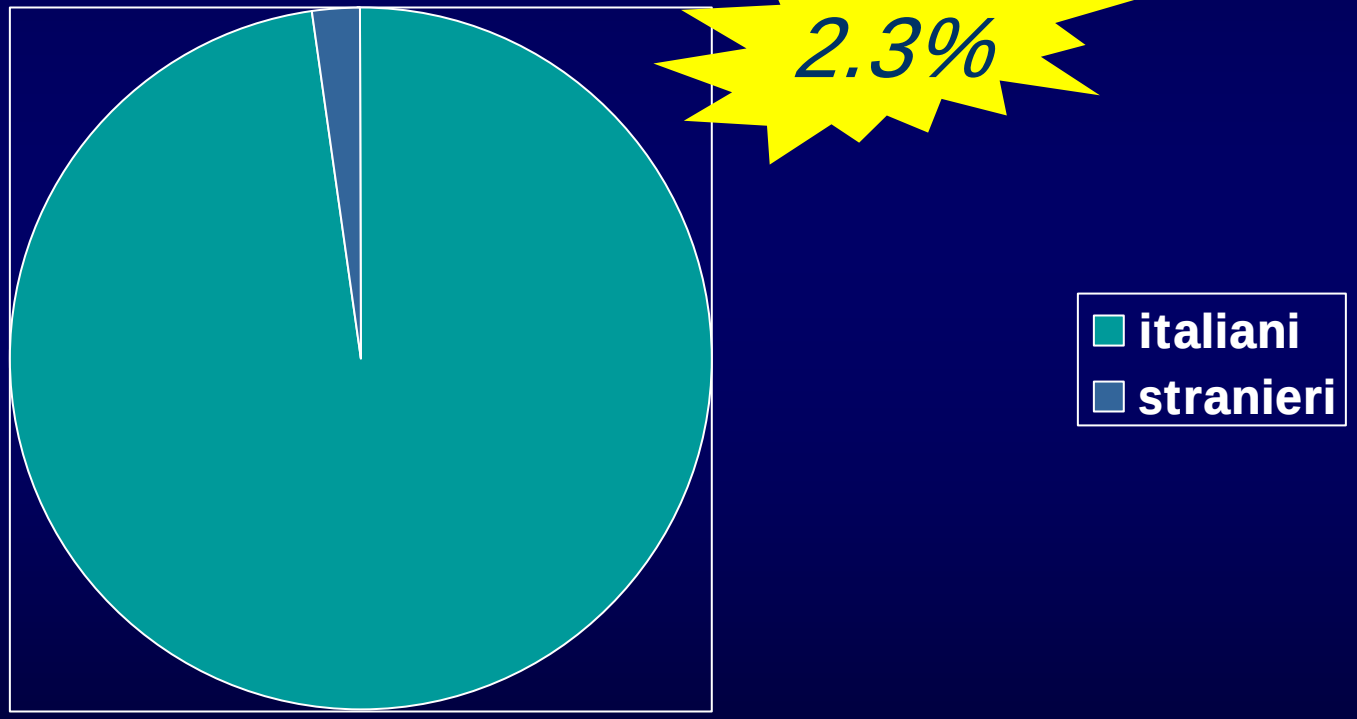
“Migrazioni e Salute in Italia”

Infezioni Sessuali
HIV
TBC
Salute del bambino
Patologie perinatali
Ostetricia
Tossicodipendenze



U.O. di Diabetologia e Malattie Metaboliche A.O. "S.Camillo – Forlanini"

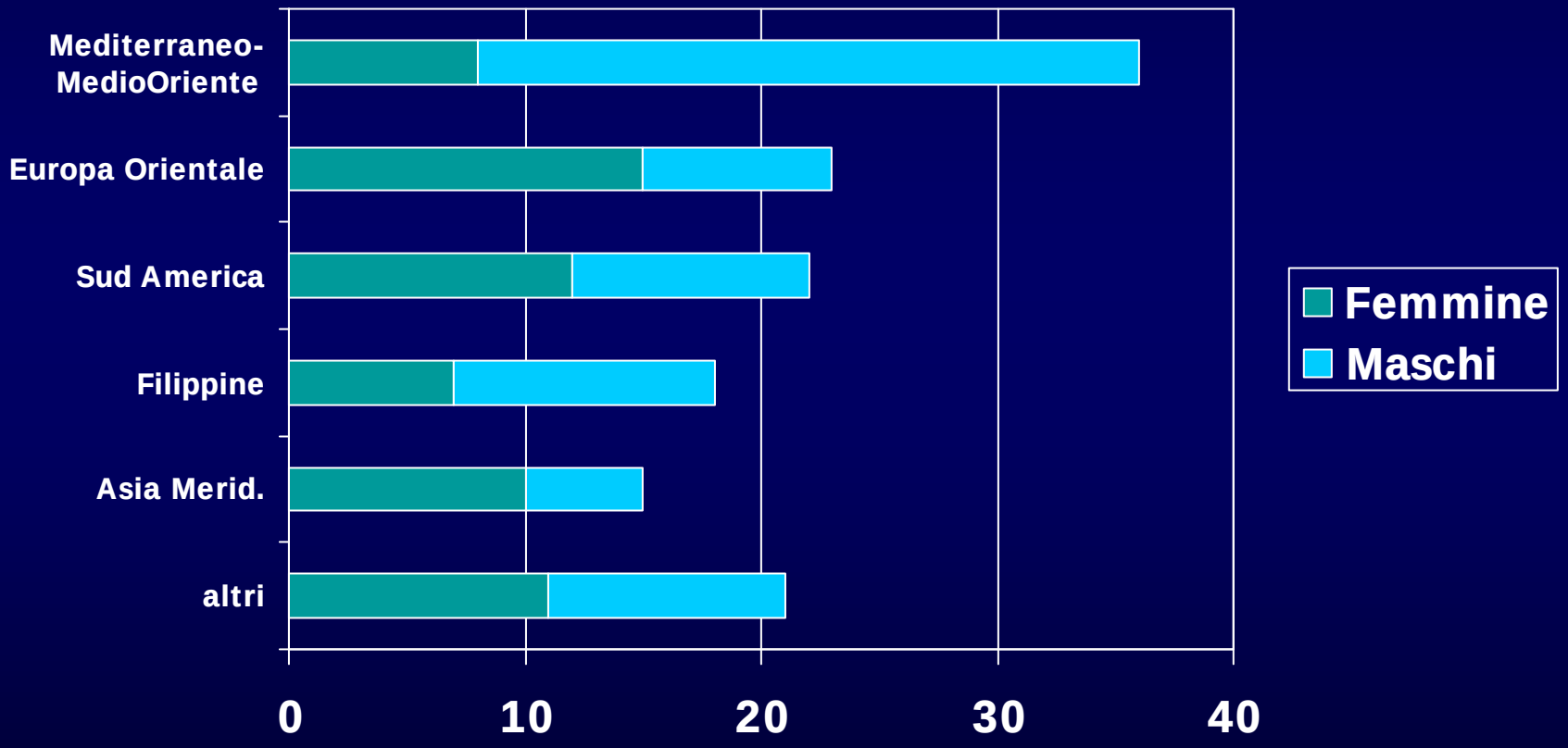
Pazienti stranieri afferenti all'Ambulatorio (132/5596)



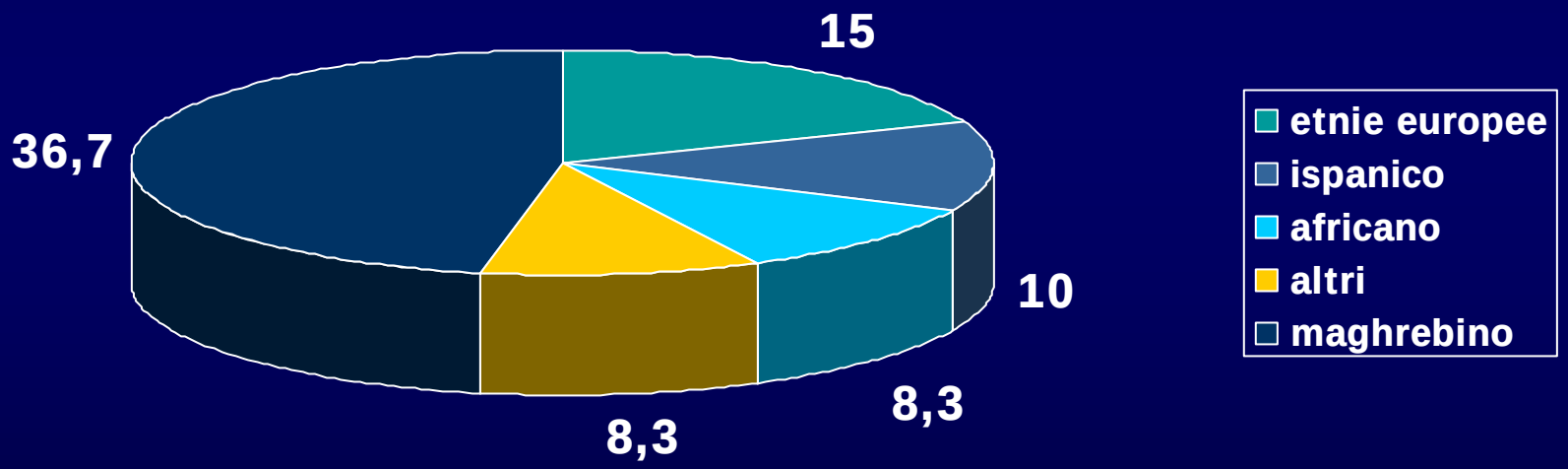
U.O. di Diabetologia e Malattie Metaboliche A.O. "S.Camillo – Forlanini"

	Eta' (aa.)	> 60 anni (%)	Durata di soggiorno (aa.)
Mediterraneo Medio Oriente	44 ± 14	13.8	3 ± 7
Europa Orientale	50 ± 18	34.7	4 ± 6
Sud America	55 ± 17	36.3	6 ± 3
Filippine	54 ± 18	27.7	7 ± 2
Asia Meridionale	53 ± 8	40.0	5 ± 5

U.O. di Diabetologia e Malattie Metaboliche A.O. "S.Camillo – Forlanini"

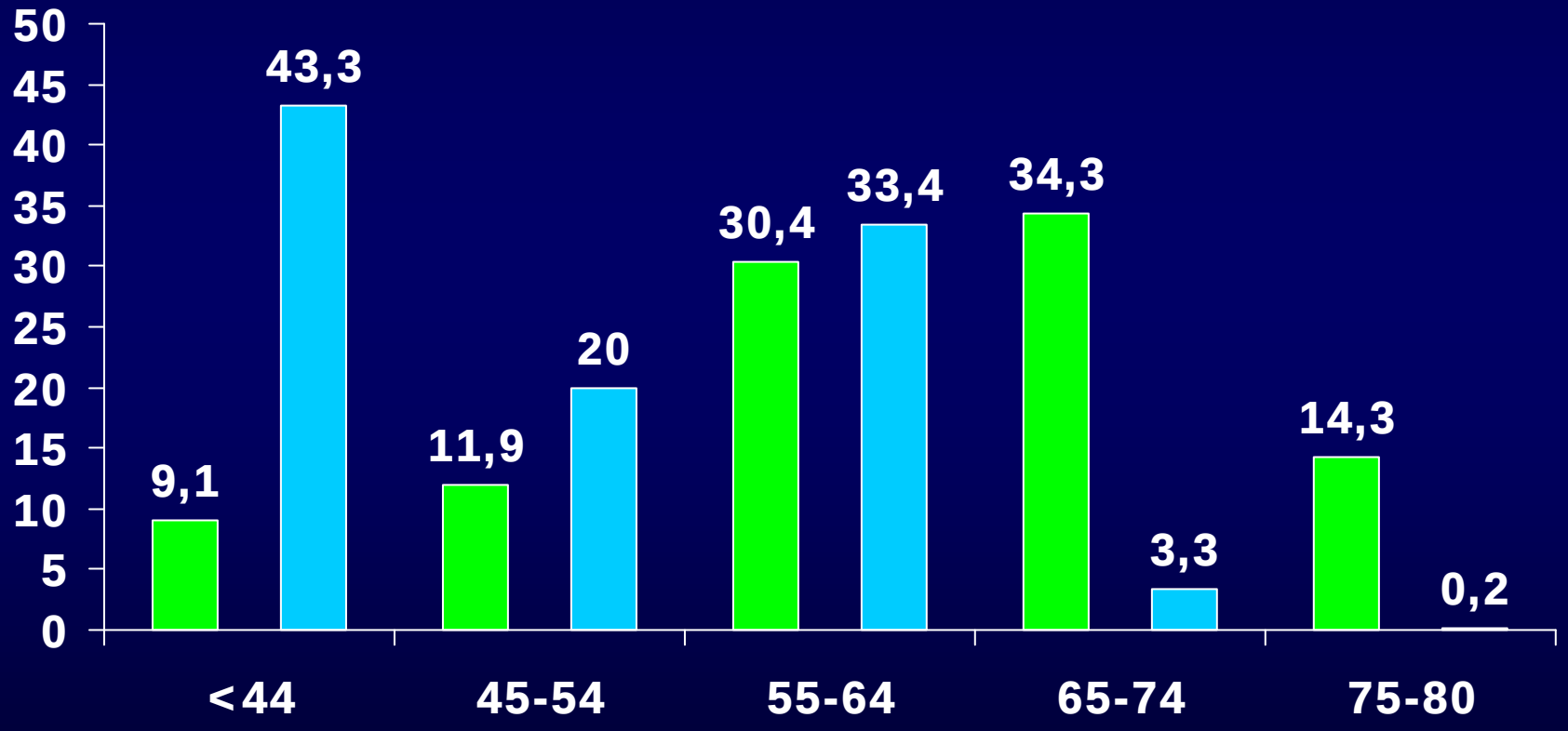


DAWN Italia Study:
etnia autodichiarata (%)



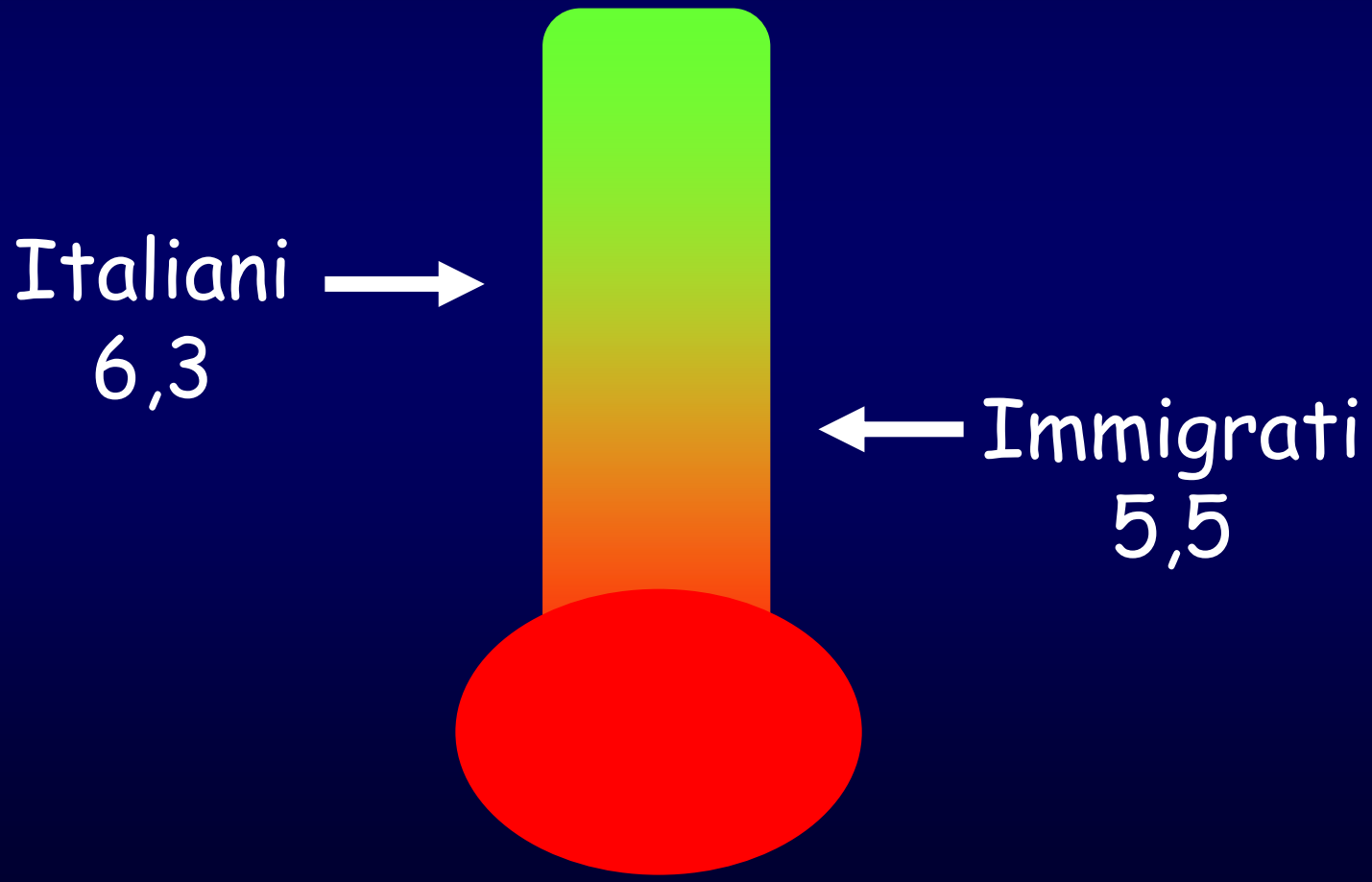
Rapporto 2007 Min Interno sull'Immigrazione

DAWN Italia Study:
classi di eta'



Rapporto 2007 Min Interno sull'Immigrazione

DAWN Italia Study:
atteggiamento nei confronti del diabete



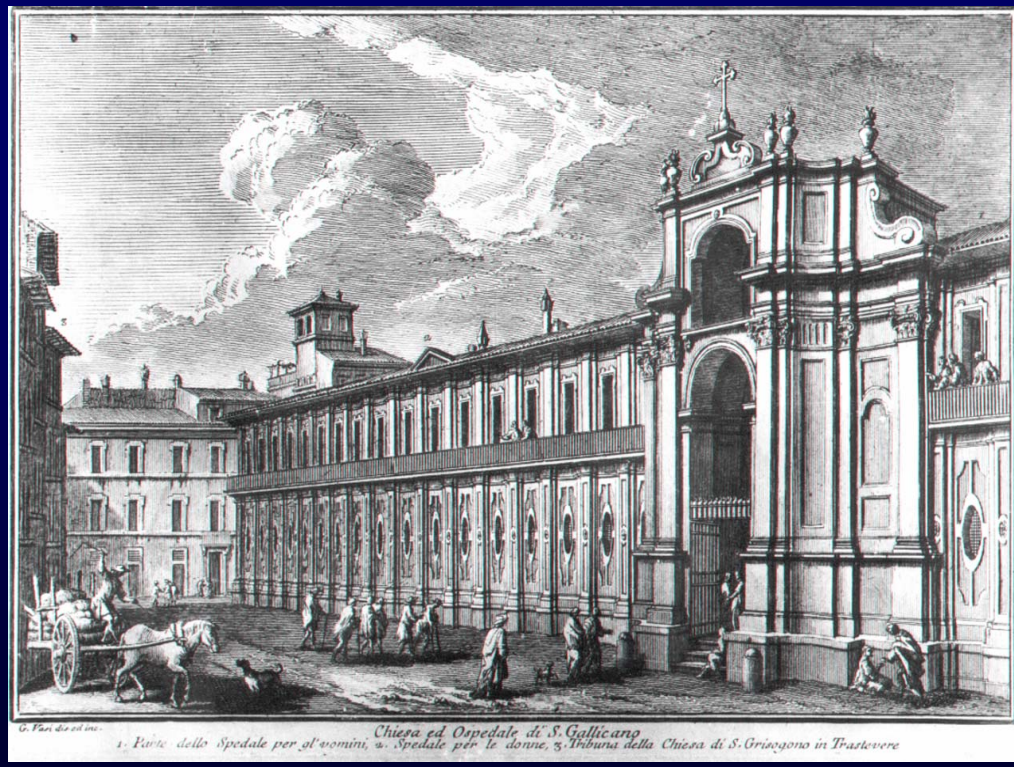
"MIGRATION AND DIABETES STUDY"

L. Nosotti, E. Pizzini, U. Fornari, L. Toma, C. Tubili*, A. Morrone

National Institute for Health, Migration and Poverty (NIHMP)

AO "S.Camillo – Forlanini"

Rome, Italy



MIGRANTS WITH DIABETES

- 4671 immigrati (1-9 2006);
- 4.9% diabetici
- 65.7% maschi - 34.3% femmine.
- Dt2 vs. Dt1 (86.9% vs 13.1%)
- Eta' 20 – 79 aa.
- 18% obesi.

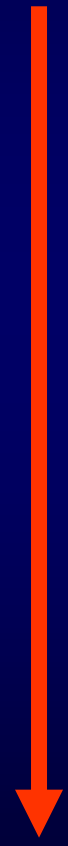


Questionari su:

- Stile di vita
- Livello di Informazione
- Relazione con i sanitari
- Aderenza alla
- Accesso alle cure
- Qualita' delle cure

STILI DI VITA E FATTORI DI RISCHIO

- ↓ Abitudini alimentari dei paesi di origine;
- "MODERNIZZAZIONE della dieta *(graduale aumento di cibi ricchi in grassi saturi, zuccheri semplici e poveri in fibra, largamente disponibili ed economici);*
- ↑ Alcool e fumo;
- ↑ Sedentarieta'



Terapia del Diabete : Ostacoli

- Analfabetismo
- Lingua
- Abitudini alimentari
- Convinzioni religiose
- Accesso alle cure
- Basso reddito
- Condizione femminile

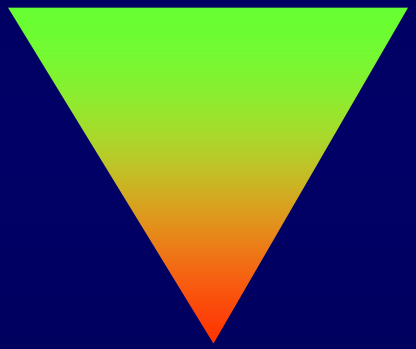
Sistema
Operatori
Pazienti



Educazione per Etnie (Larsen IF, Tidsskr Nor Laegeforen 2000, 120: 2804-6)

Dieta Prudente "Globale" *(Rivellese, 2004)*

- Cereali, legumi, semi oleosi
- Verdure, frutta
- Basso IG
- MUFA, n-3
- Pesce, pollo
- Latte e derivati (moderatamente)
- Alcool (moderatamente)



Acculturazione: due fasi ?

- Sedentarieta'
- Tabagismo
- Eccesso calorico
- Eccesso di grassi saturi

- Diete salutistiche
- Fitness
- Accesso alle cure
- prevenzione



Jaber LA, Lack of acculturation is a risk factor for diabetes in Arab immigrant in the US. Diab Care 2003, 26: 2010-2016

CONCLUSIONI

- Obesita', Diabete e Malattie Cardiovascolari costituiscono un problema di rilevanza planetaria, amplificato dall'acquisizione di stili di vita inappropriati in seguito a urbanizzazione, immigrazione e globalizzazione;
- Prevenzione e Terapia presuppongono un nuovo ruolo per Diabetologo, Dietista e Infermiere, attraverso l'acquisizione di metodologie comunicative ed educative diversificate nella forma e nei contenuti.

ATTIVITA' FISICA E PREVENZIONE DEL DT2: STUDI D'INTERVENTO

	campione	durata	RR
Malmo, 1991	181 IGT	6	0.37
Da Quing, 1997	577 IGT	6	0.53
Finnish Study, 2001	522 IGT	6	0.42
DPP, 2002	3234 IGT	2.8	0.42

FINNISH DIABETES PREVENTION STUDY

(Tuomiletho J, N Engl J Med 2001; 344: 1343-50)
(Lindstrom J, Lancet 2006; 368: 1673-9)

- ↓ 5 % peso
- ↓ 30% kcal da grassi
- ↓ 10% kcal grassi saturi
- ↑ 15 g/1000 kcal fibra
- > 4 h/sett. Esercizio

- 58 %

80 %, *anche se con calo di peso inferiore al "goal"*

DPP: Protocollo di intervento intensivo sullo stile di vita

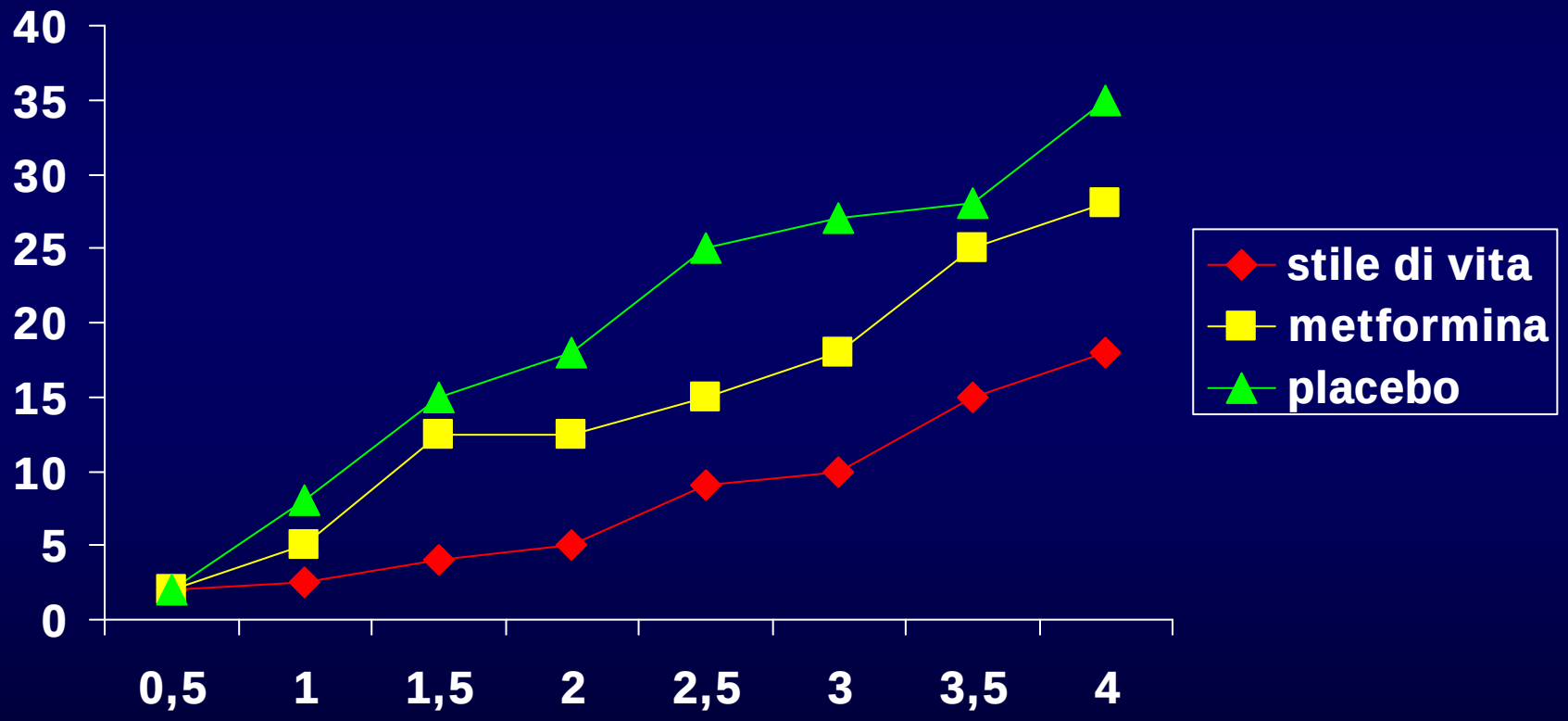
1. **Preparazione del personale:**

   aspetti specifici di nutrizione e gestione dell'attività fisica per seguire adeguatamente i partecipanti allo studio

2. **Interventi generali:**
   - 16 incontri individuali nelle prime 24 settimane e successivi contatti o visite 1 volta al mese per tutta la durata dello studio
   - Incontri di gruppo teorici (3 all'anno) e sessioni di attività fisica (2 alla settimana)
   - Sviluppo di strategie comuni per mantenere gli obiettivi posti (campagne periodiche motivazionali con competizioni tra team e passeggiate di gruppo)
3. **Interventi mirati:**
   - Strategie individuali: *training specifico in rapporto alle differenze culturali su alimentazione, esercizio fisico, automonitoraggio, tecniche di controllo degli stimoli, raggiungimento degli obiettivi, problem-solving*
   - Per chi aveva comunque difficoltà a mantenere gli obiettivi: *motivazione su base individuale come prestito di attrezzatura per attività fisica a casa, abbonamenti in palestre qualificate, diete speciali, visite a domicilio*

DPP: incidenza cumulativa di Diabete

(N Engl J Med 2002; 346: 393-403)



“Healthy People 2010”

- Incrementare la quantita’ di attivita’ fisica moderata o vigorosa per tutta la popolazione e per i sottogruppi a rischio;

- Creare luoghi ove l’individuo possa essere attivo e facilitarne l’accesso.

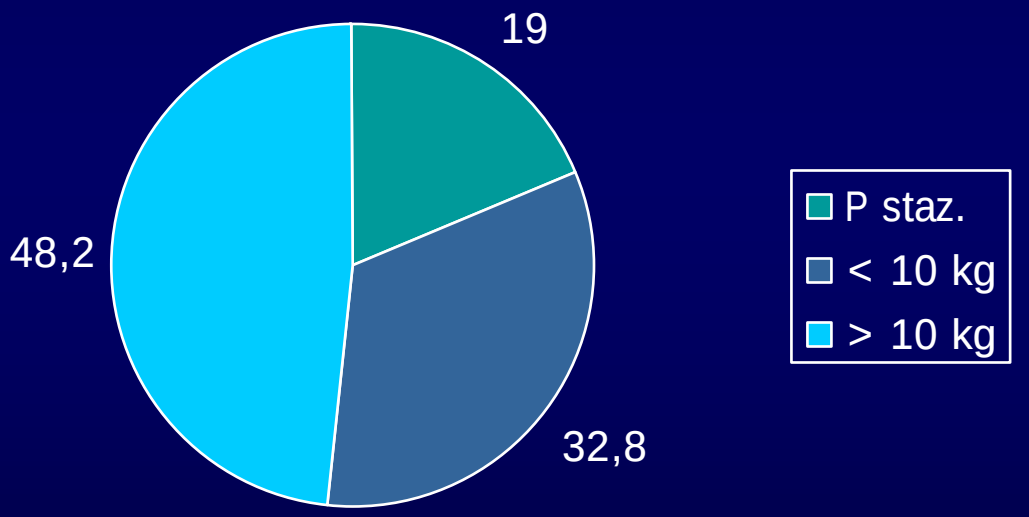
(U.S. Dept. Health & Human Serv.)

STRESS E DIABETE

- Immigrants are subjected to a notable burden of stress in their migratory journey
- Stress could be a risk factor for type 2 diabetes?
- Would hyperalimentation under stress lead to obesity?
- Is there on the contrary a reduction of caloric imput under stress?

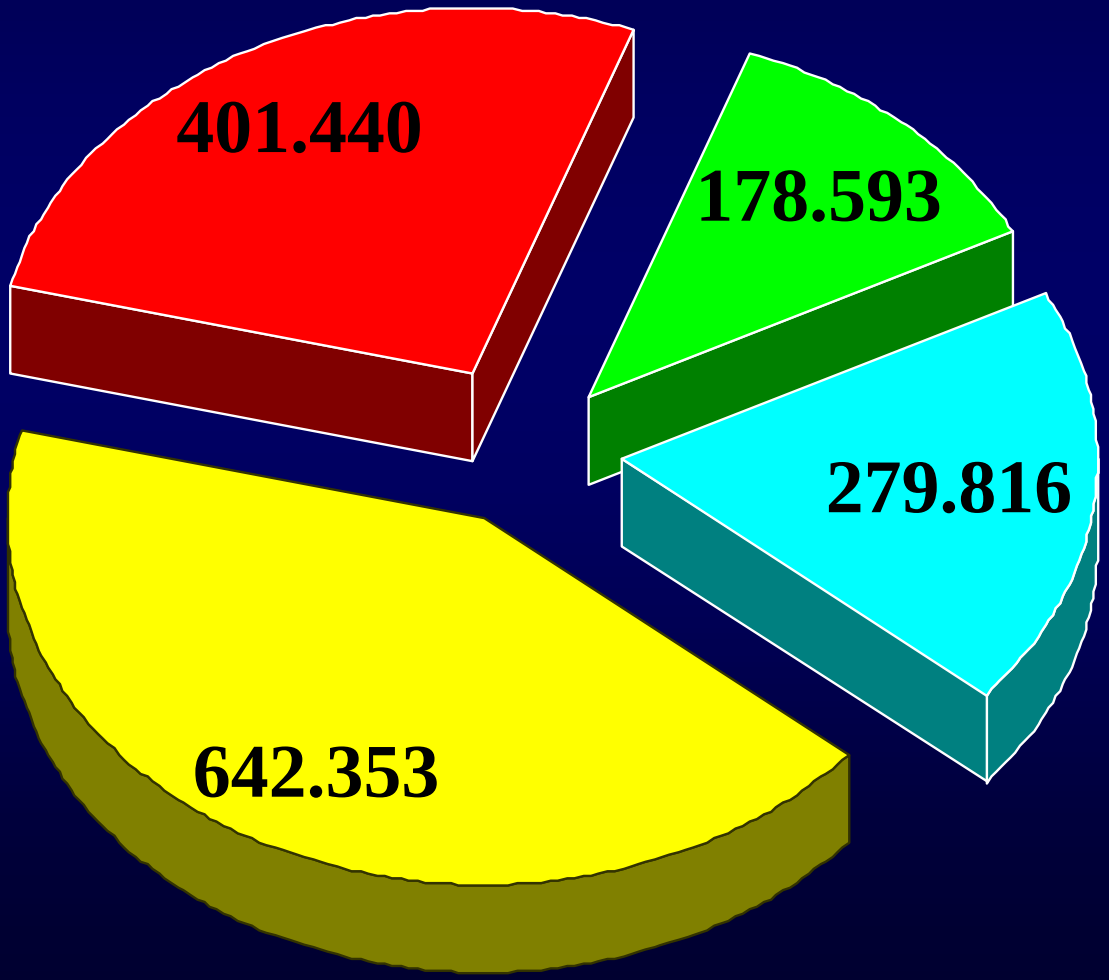
Studio FILITAL *(Pozzilli, 2004)*

- 366 soggetti (M 126, F 240)
- Eta' 43.9 ± 9.8
- Permanenza in Italia 12.9 aa
- DIABETE TIPO 2: 5.6% (1.5% neodiagnosi)



Modifica Abitudini Alimentari → ↑ Peso → Diabete Sindrome Metabolica

Country of origin of immigrants



42,5% from East Europe

26,5% from Africa

LIFESTYLE AND RISK FACTORS FOR TYPE 2 DIABETES

- Migrants could therefore be more at risk of developing obesity and type 2 diabetes with respect to the Italians
- In reality, however, even Italians has to a large extent lost the habit of a "Mediterranean diet" with lower consumption of fruits, vegetables and fish and higher consumption of foods containing more fat and less fiber

LIFESTYLE AND RISK FACTORS FOR TYPE 2 DIABETES

- As for the other important risk factor for type 2 diabetes, that of sedentariness, immigrants often engage in physical exercise, and do more manual jobs compared to the more sedentary jobs of Italians

PROPOSALS

- System level:
- collaboration with patient associations
- cooperation between public and private structures, and also between national and international institutions
- screening for unrecognized diabetes in high-risk individuals

PROPOSALS

- Healthcare provider level:
- cooperation between primary and secondary care
- training of health workers in cross-cultural medicine
- multidisciplinary approach for diabetes, with the use of linguistic-cultural mediators in health structures

PROPOSALS

- **Patient level:** health education campaigns must also be carried out in schools and places where immigrants meet and must also include the distribution of multi-lingual information material
- multiple risk factors interventions
- improving preconception care for immigrant women

Urbanizzazione

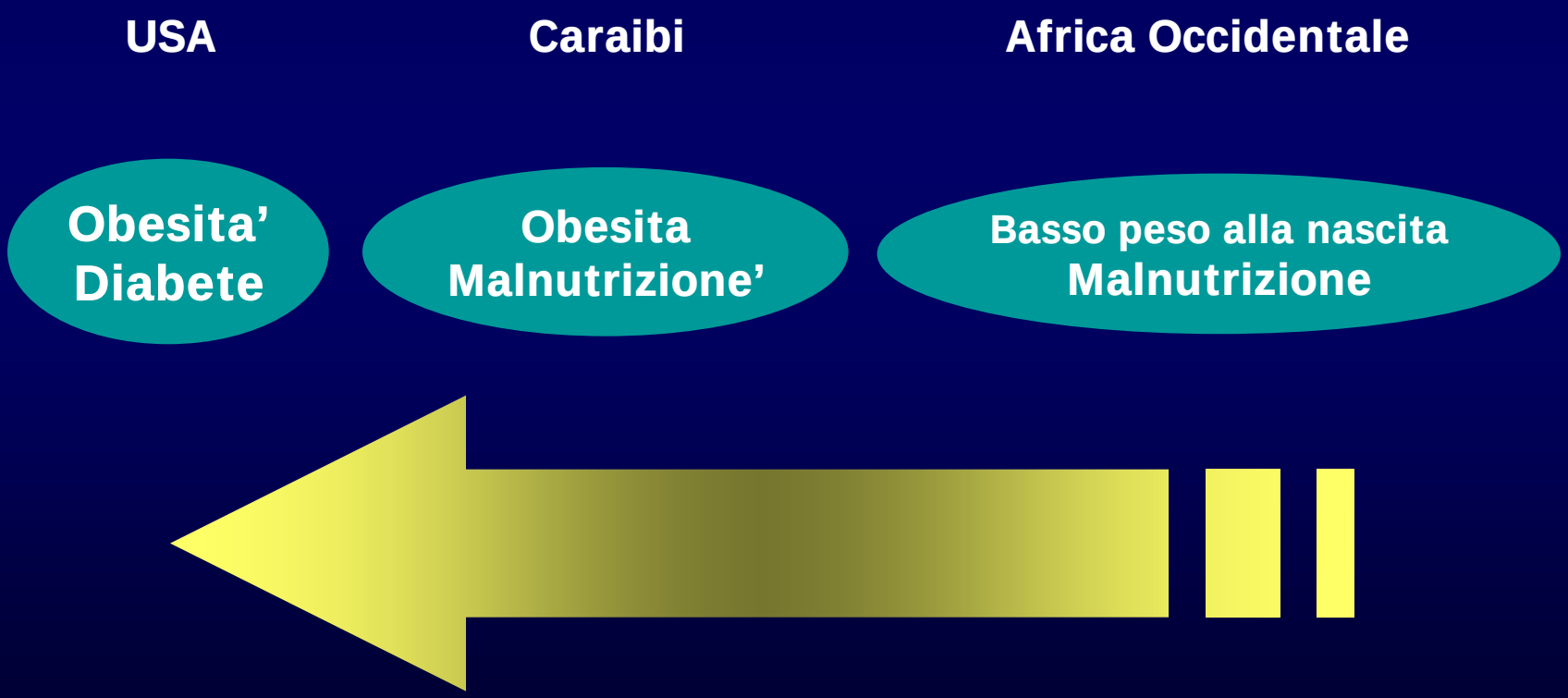
Immigrazione → "The Diabetes Century"

Globalizzazione

"COCACOLONIZZAZIONE"

Nutritional Consequences of the African Diaspora. *Luke A, et al*

Annu Rev Nutr 2001; 21: 47-71





GENI E AMBIENTE

Indiani Pima

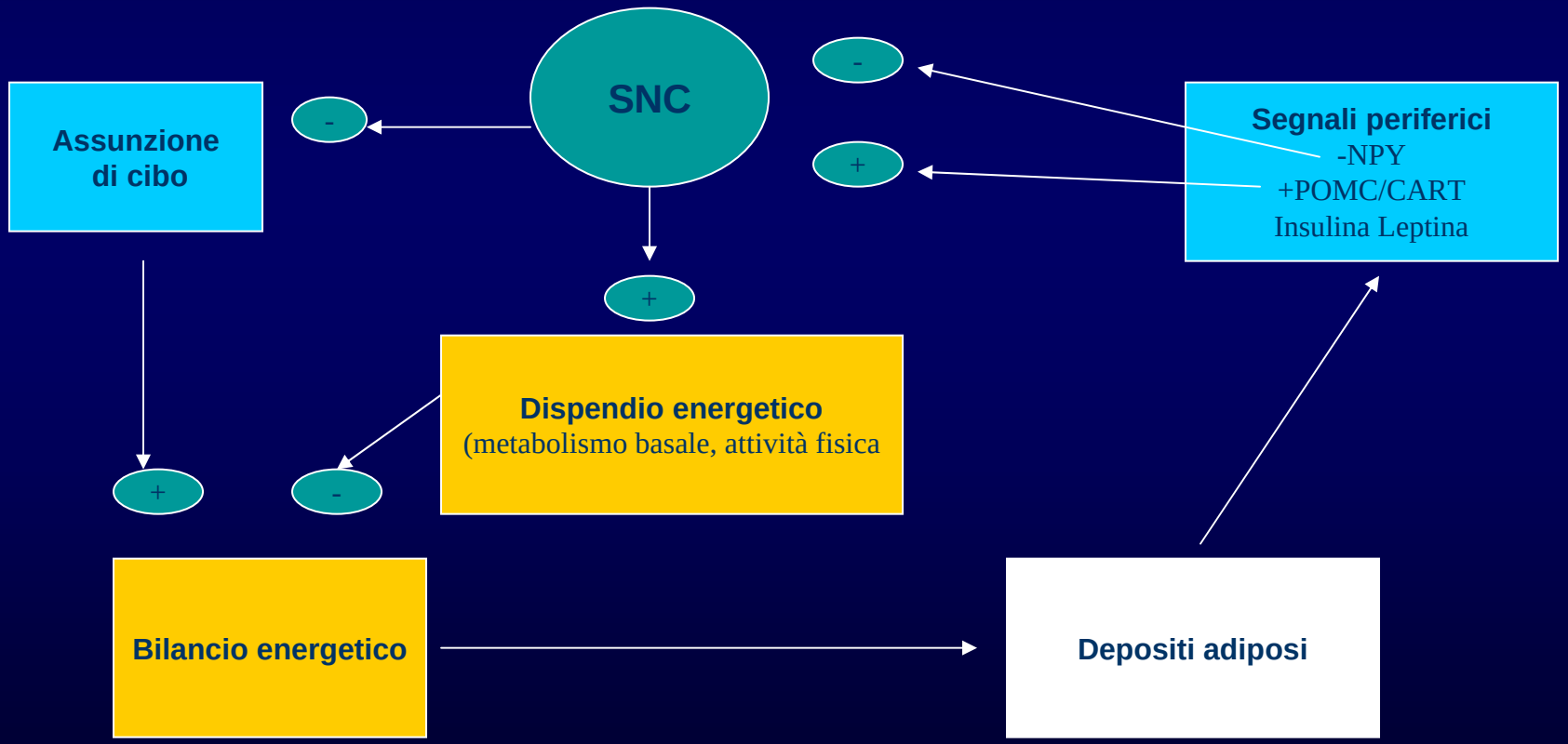
Arizona, 1890 - 1990



OBESITÀ MONOGENICHE nell'uomo

GENE	CARATTERISTICHE FENOTIPICHE	TRASMISSIONE
Leptina	Obesità severa ad esordio precoce iperfagia ipogonadismo iperinsulin.leptina bassa	recessiva
Recettore per la Leptina	Obesità severa ad esordio precoce iperfagia ipogonadismo iperinsulin.leptina elevata	recessiva
Pro-convertasi 1	Obesità severa ad esordio precoce iperfagia ipogonadismo elevati liveli di proinsulina leptina appropriata	recessiva
Recettore melanocortinico-4	Obesità severa ad esordio precoce iperfagia iperinsulin. Statura elevata aumento della densità min. ossea leptina appropriata	codominante
Propiomelanocortina	Obesità severa ad esordio precoce iperfagia iposurrenalismo neonatale severo cute pallida capelli rossi	recessiva
Fattore di trascrizione SIM1	Obesità severa ad esordio precoce iperfagia velocità di crescita accelerata leptina appropriata per il grado di obesità	Dominante?

OBESITÀ E IR SONO ESPRESSIONE DI INTERAZIONI GENICHE COMPLESSE:

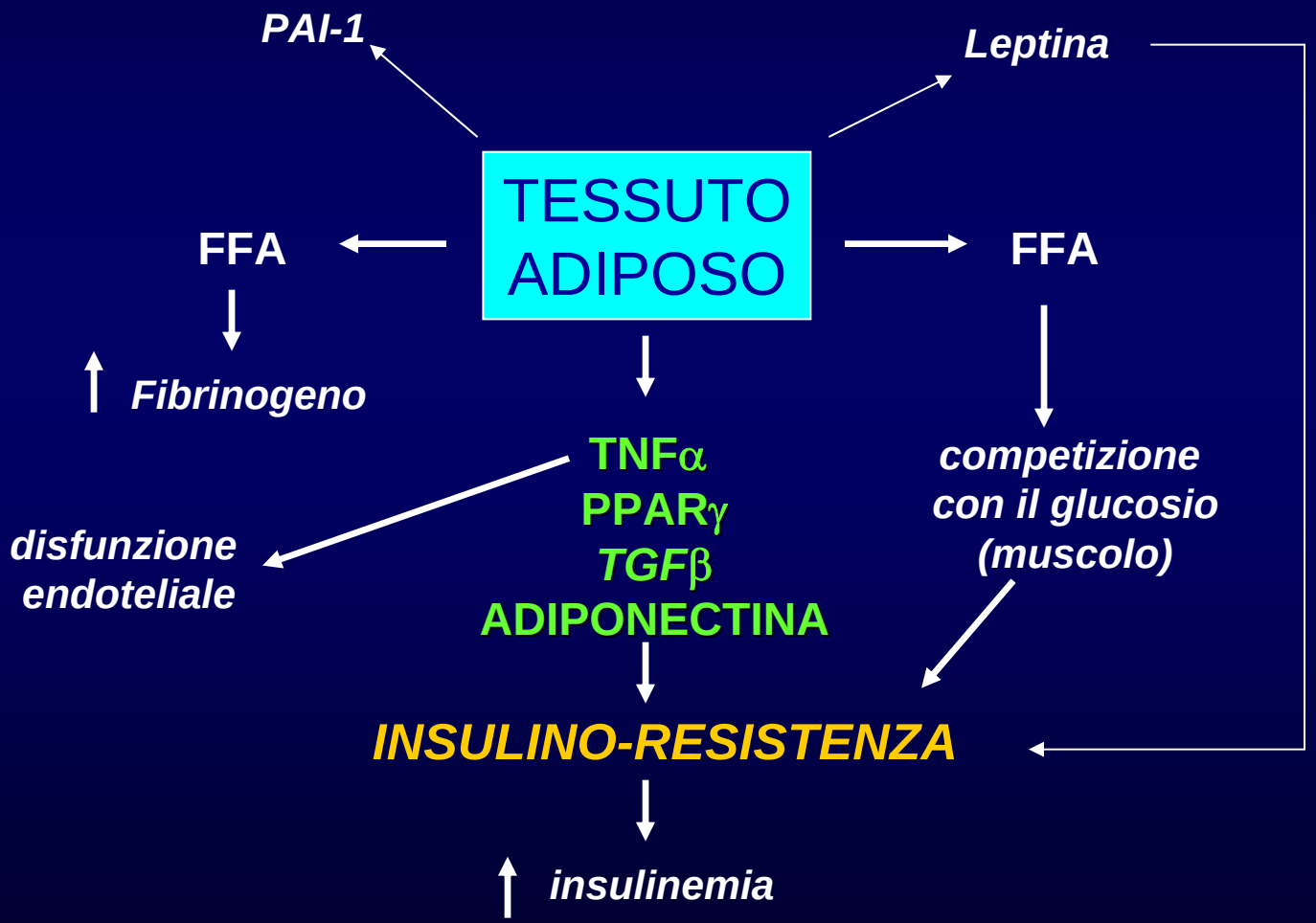


Loci genetici correlati con l'obesità nell'uomo.

GENE	(PROTEINA)	LOCALIZZAZIONE CROMOSOMICA
ASIP	(proteina di segnale aguti)	20q11.2-q12
CPE	(carbossipeptidasi)	4q28
LEP	(leptina)	7q32
LEPR	(recettore della leptina)	1p31
TUB	(proteina tubby)	11p15.4-p15.5
UCP2	(uncoupling protein 2)	11q13
UCP3	(uncoupling protein 3)	11q13
MC3R	(recettore 3 della melanocortina)	20q13
MC4R	(recettore 4 della melanocortina)	18q21-q22
POMC	(pro-opiomelanocortina)	2p23.2
NPYR5	(recettore del neuropeptide Y)	4q31-q32
MSTN	(miostatina)	2q32.1
CCKAR	(recettore della colecistochinina A)	4p15.1
TNFA	(tumor necrosis alfa)	6p21.3

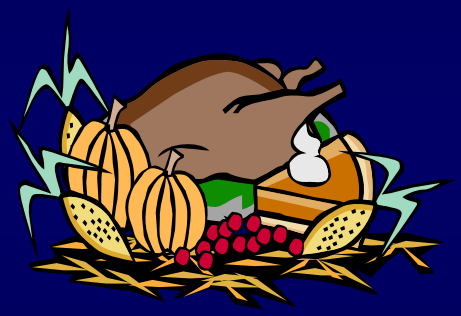
(studi di linkage di QTL)

INSULINO-RESISTENZA:
fisiopatologia



Obesità Diabete

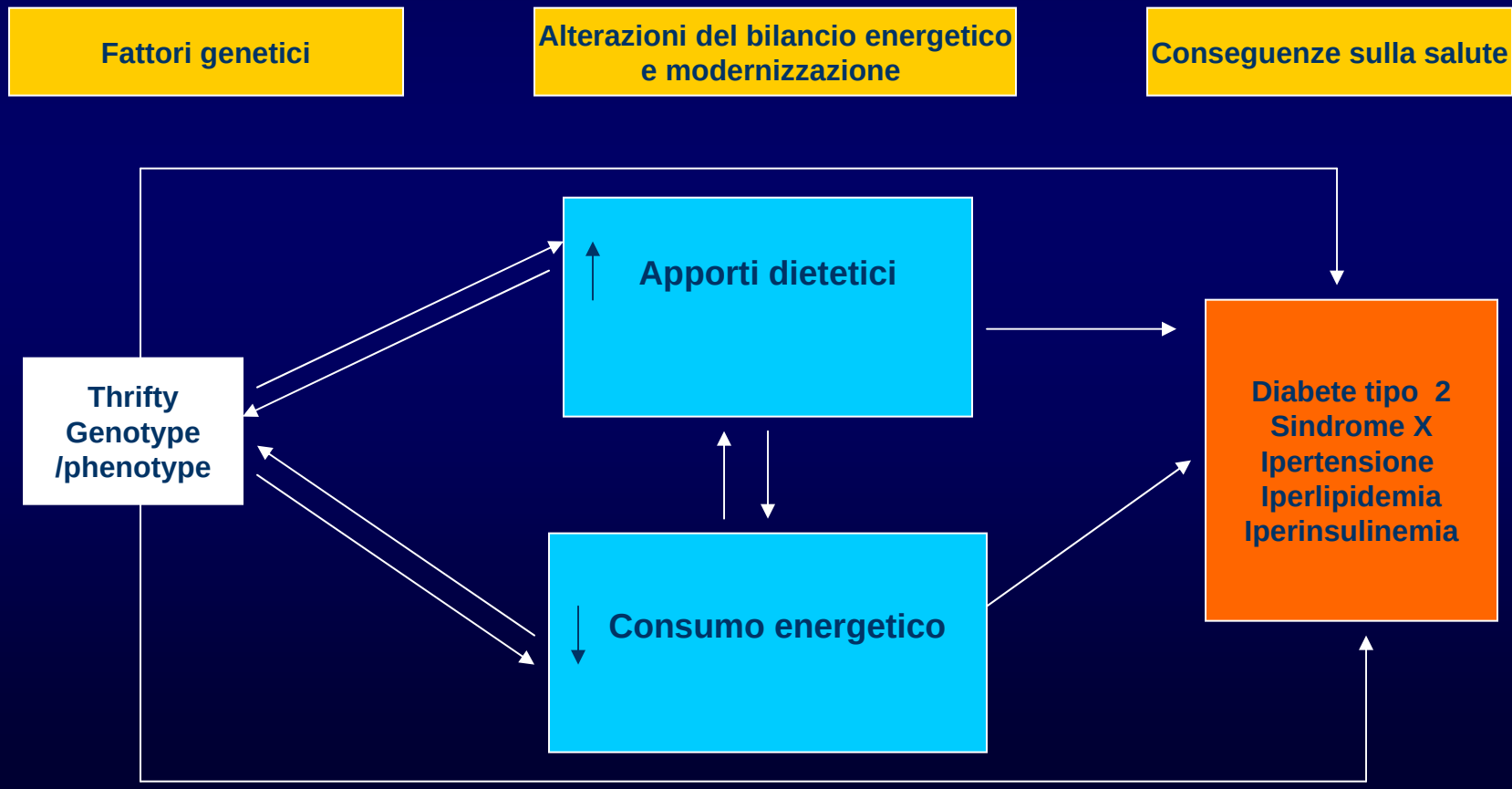
- Resistina
- Recettore β_3 adrenergico
- *Uncoupling proteins* UCP
- Lipoprotein lipasi
- Glicogeno sintetasi muscolare
- MIR - KO



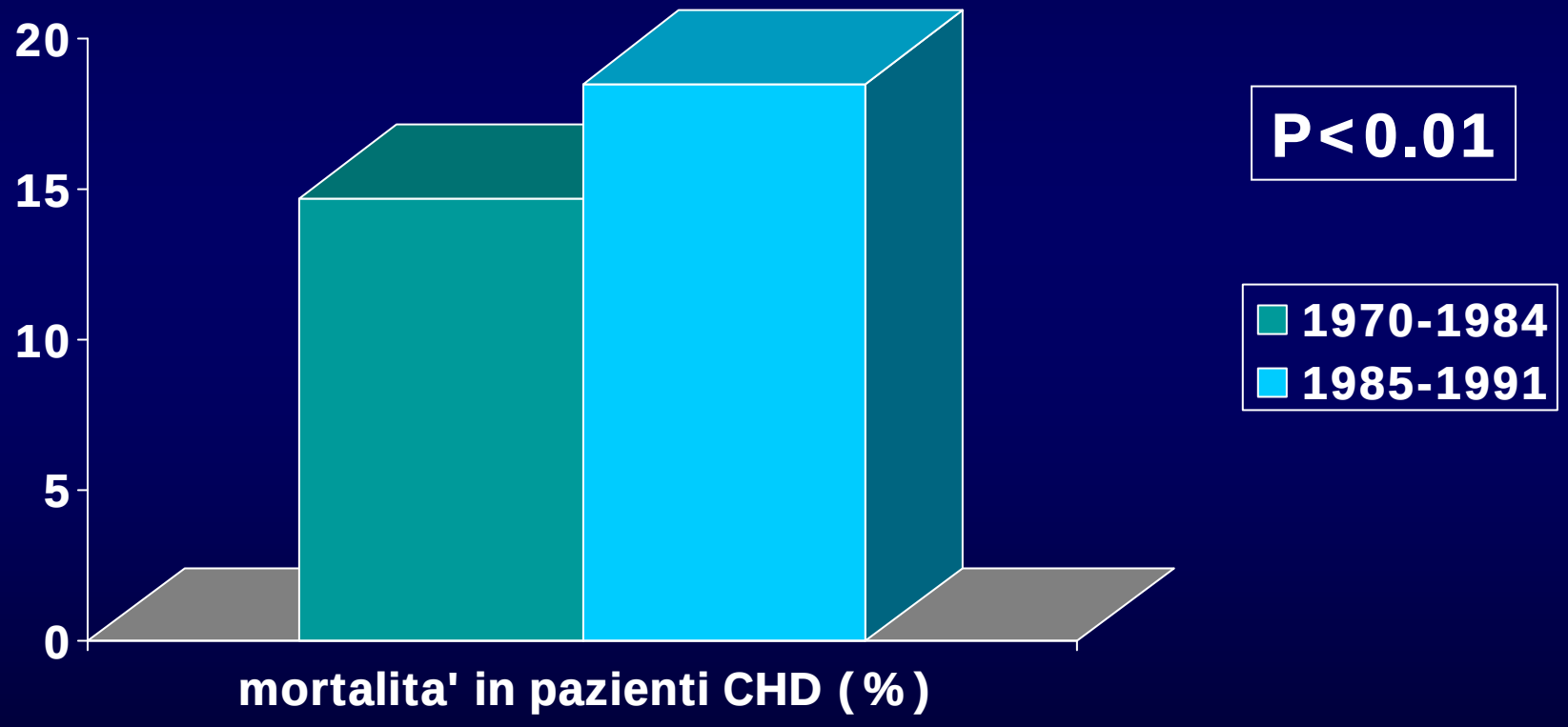
Ambiente



Influenze dell'evoluzione e della modernizzazione sulla patogenesi della sindrome metabolica

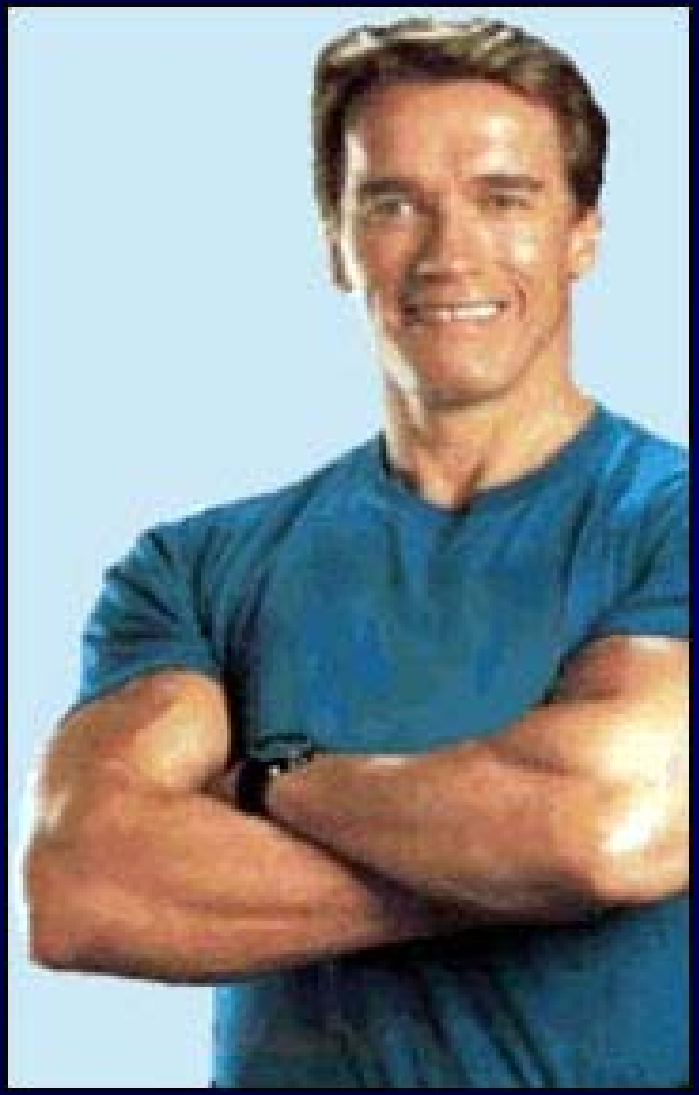


Immigrazione e Stress



Brodov Y, Isr Med Assoc J 2002, 4: 326-30

ESERCIZIO FISICO come strumento di PREVENZIONE



- "Lezioni" dall'Epidemiologia
- Problematiche prescrittive

Pima Action

