Toward a Health-promoting Primary Care
The Basque Health Service Experience

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Primary Care Research Unit of Bizkaia
Basque Health Service
Bilbao, Basque Country (Spain)

Research visit
Washington, December 2014
Effective D&I Require...

I will... Basque Health System & Evidence

Implementation research & continuous learning

Primary care centers and communities

Context

Evaluation

Engagement

Mathematica Policy Research
<table>
<thead>
<tr>
<th>BIZITZA OSASUNTSUA</th>
<th>OSASUN-KARPETA</th>
<th>INFORMAZIO NABARMENA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bizitza osasuntsua</td>
<td>Hemendik zure osasun informazioa begiratu ahal izango du modu seguruan eta konfidentzialean: txostenak, medikazioa, hurrengo hitzordua... eta zure osasunerako interesgarriak diren...</td>
<td>▶️ Ebola birusari buruzko informazio gehiago.</td>
</tr>
<tr>
<td>Txertoak</td>
<td></td>
<td>▶️ 2014. urtean hasiak diren osasunaren alorreko ikerketa-proiektuetarako laguntzak</td>
</tr>
<tr>
<td>Adikzioak</td>
<td></td>
<td>▶️ Tratamendu medikoak heterzelako</td>
</tr>
</tbody>
</table>
1.1.2. Life expectancy (LE) and healthy life years (HLY) at birth, by gender, 2012

Source: Eurostat Statistics Database.
Health spending 2013 Basque Country: $3.695 per capita and 8.8% GDP

Note: $US PPP – purchasing power parity.
Basque Public Health System

25,816 government employees
8,246 nurses, 6,305 physicians, 4,055 auxiliary nurses, 7,210 other professionals

320 public Primary Health Care facilities

Public Health

3 Mental Health networks

Free provision of services:
Integrated Healthcare Organisations

Public hospitals
12 Acute Hospitals
(4,278 beds)
4 Chronic Hospitals
(524 beds)
4 psychiatric hospitals
(777 beds)
2 Long-term Mental H (Private hospitals)

• Emergencies
• Acute care
• Medium-long stay

Pharmacy (out-of-patient)

€ Co-payment
Challenges for Sustainability of the Health System

- Demographic & epidemiological environment
  - ageing of population, lifestyles

Chronic disease prevalence

- Economic crisis & expensive technologies

Source: PREST- Stratification Database in the Basque Country (2010-2011); BIOEF 2013
TO PRESERVE THE BASQUE HEALTH SERVICE, PUBLIC, UNIVERSAL AND OF QUALITY

INTEGRATED ANSWER TO NEW CHALLENGES: CRONICITY, AGEING AND DEPENDENCY

CULTURE OF DISEASE PREVENTION AND HEALTH PROMOTION

PEOPLE

QUALITY

EQUITY

UNIVERSALITY

SOLIDARITY

ENGAGEMENT OF PARTICIPATION PROFESSIONALS

STRENGTHEN RESEARCH AND INNOVATION

SUSTAINABILITY

SUSTAINABILITY

Osakidetza

EUSKO JAURLARITZA GOBIERNO VASCO

OBASUN SAILA DEPARTAMENTO DE SALUD
The impact of lifestyle on health is undeniable (GBD 2010 www.healthmetricsandevaluation.org)

Burden of disease attributable to 15 leading risk factors in 2010, expressed as a percentage of Spain DALYs

- Dietary risks
- High body-mass index
- Smoking
- High blood pressure
- High fasting plasma glucose
- Physical inactivity
- Alcohol use
- High total cholesterol
- Drug use
- Ambient PM pollution
- Occupational risks
- Lead
- Low bone mineral density
- Intimate partner violence
- Radon

Categories of DALYs:
- War & disaster
- Intentional injuries
- Unintentional injuries
- Transport injuries
- Other non-communicable
- Musculoskeletal disorders
- Diabetes/urogen/blood/endo
- Mental & behavioral disorders
- Neurological disorders
- Digestive diseases
- Cirrhosis
- Chronic respiratory diseases
- Cardio & circulatory diseases
- Cancer
- Other communicable
- Nutritional deficiencies
- Neonatal disorders
- Maternal disorders
- NTD & malaria
- Diarrhea/LRI/other infectious
- HIV/AIDS & tuberculosis
The impact of life style on health is undeniable.

GBD 2010 www.healthmetricsandevaluation.org

Burden of disease attributable to 15 leading risk factors in 2010, expressed as a percentage of United States DALYs.
Estimation of Cigarette Smoking–Attributable Morbidity in the United States

Brian L. Rostron, PhD, MPH; Cindy M. Chang, PhD, MPH; Terry F. Pechacek, PhD

Objective To estimate the burden of major medical conditions attributable to cigarette smoking in the United States.

Results Using National Health Interview Survey data, we estimated that 6.9 million (95% CI, 6.5-7.4 million) US adults had had a combined 10.9 million (95% CI, 10.3-11.5 million) self-reported smoking-attributable medical conditions. Using chronic obstructive pulmonary disease prevalence estimates obtained from National Health and Nutrition Examination Survey self-reported and spirometry data, we estimated that US adults had had a combined 14.0 million (95% CI, 12.9-15.1 million) smoking-attributable conditions in 2009.
Incidence of diabetes by # healthy lifestyles (no smoking, physical activity, nutrition & BMI<30)
n at risk=23.153, follow-up=7.8y, 35-65y, adjusted by age, sex & social class EPIC–Potsdam 1994-2006

Incidence of Chronic Disease by # healthy lifestyles (no smoking, physical activity, nutrition & BMI<30)

n at risk=23.153, follow-up=7.8y, 35-65y, adjusted by age, sex & social class EPIC–

Potsdam 1994–2006

<table>
<thead>
<tr>
<th>Healthy lifestyles prevalence</th>
<th>Proportion of patients advised in PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 9% accumulate 4= phys activity, diet, no smk, moderate OH</td>
<td>• 68% stop smoking</td>
</tr>
<tr>
<td>• 41% accumulate 3</td>
<td>• 51% physical activity</td>
</tr>
<tr>
<td>• 32% accumulate 2</td>
<td>• 35% alcohol</td>
</tr>
<tr>
<td>• 15% only 1</td>
<td>• 33% weight control</td>
</tr>
<tr>
<td>• 3% cero</td>
<td></td>
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</tbody>
</table>


Lz de Munain J et al. 2003
Effective healthy lifestyle promotion interventions are available: 5 A’s

A1 ASSESS
- Health behaviors
- Self-efficacy

A2 ADVISE
- Health risks
- Benefits of change
- Appropriate amount, intensity, and frequency of behavior

A3 AGREE
- Collaboratively set physical activity goals based on patient’s interest and confidence to perform the behavior

A4 ASSIST
- Identify personal barriers and problem-solving techniques
- Identify potential community opportunities for physical activity and social support

A5 ARRANGE
- Specify plan for follow-up visits, telephone calls, mailed reminders

Personal Action Plan
1. List specific goals in behavioral terms
2. List barriers and strategies to address barriers
3. Specify follow-up plan
4. Share plan with practice team and patient’s social support

Review

Behavioral Treatment of Obesity in Patients Encountered in Primary Care Settings
A Systematic Review

Thomas A. Wadden, PhD; Meghan L. Butryn, PhD; Patricia S. Hong, BA; Adam G. Tsai, MD, MSCE

**IMPORTANCE**  In 2011, the Centers for Medicare & Medicaid Services (CMS) approved intensive behavioral weight loss counseling for approximately 14 face-to-face, 10- to 15-minute sessions over 6 months for obese beneficiaries in primary care settings, when delivered by physicians and other CMS-defined primary care practitioners.

**CONCLUSIONS AND RELEVANCE**  Intensive behavioral counseling can induce clinically meaningful weight loss, but there is little research on primary care practitioners providing such care. The present findings suggest that a range of trained interventionists, who deliver counseling in person or by telephone, could be considered for treating overweight or obesity in patients encountered in primary care settings.
• Sound epidemiological evidence about the huge health impact of healthy lifestyles / Less than 10% of the population enjoy regular physical activity, healthy diet, no smoking and moderate alcohol drinking.

• Effective health promotion interventions available in primary care: USPSTF 5 A’s / Not used in routine primary care practice.

• Many innovative initiatives fail due to implementation weaknesses in addressing barriers and facilitators
  – changing people’s lifestyles
  – changing clinical practice and the organization of PC
2nd chapter...
Is integration of healthy lifestyle promotion into primary care feasible? Discussion and consensus sessions between clinicians and researchers

Gonzalo Grandes¹, Alvaro Sanchez*¹, Josep M Cortada², Laura Balague³, Carlos Calderon⁴, Arantza Arrazola⁵, Itziar Vergara⁶, Eduardo Millan⁷ for the "Prescribe Vida Saludable" group⁸

Results: The Health Belief Model, the Theory of Planned Action, the Social Learning Theory, "stages of change" models and integrative models were considered the most useful by the expert panel. Effective intervention strategies, such as the "5 A's" strategy (assess, advise, agree, assist and arrange) are also available. However, none of these can be directly implemented or continuously maintained under current PHC conditions. These strategies should therefore be redesigned by adjusting the intervention objectives and contents to the operation of primary care centres and, in turn, altering the organisation of the centres where they are to be implemented.

Conclusion: It is recommended to address optimisation of health promotion in PHC from a research perspective in which PHC professionals, researchers and managers of these services cooperate in designing and evaluating innovative programs. Future strategies should adopt a socio-ecological approach in which the health system plays an essential role but which nevertheless complements other individual, cultural and social factors that condition health. These initiatives require an adequate theoretical and methodological framework for designing and evaluating complex interventions.
The ‘Prescribe Vida Saludable’ (PVS) Project
Prescribe Healthy Life

Gonzalo Grandes, Alvaro Sánchez, Haizea Pombo, Josep M Cortada, Catalina Martinez, Paola Bully, Aitor Sanz, Patxi Cirarda, Maribel Cifuentes, Gonzalo Bacigalupe & Marie-Pierre Gagnon on behalf of PVS group

PRIMARY CARE RESEARCH UNIT OF BIZKAIA

FUNDDED BY: Basque Health Department: 2005COM09; 2007111009; 2009111072
Carlos III Institute of Health of the Spanish Ministry of Health: Exp. PS09/01461; RETICS G03/170 and RD06/0018/0018
CAIBERCAI08/01/0065
Primary Health Care

Municipality

School

PVS e strategy: Co-production of Health Model

A1: Assess
A2: Advice
A3: Agree
A4: Assist
A5: Arrange follow-up

Admission Staff
Nurses
Doctors
Primary Care Team
Physical Activity Instructors
Teachers
Local Authorities
Occupational Health
Introduce tus datos para entrar en la aplicación

Practica vida saludable - PVS

El sedentarismo, la dieta inapropiada y el tabaco son las tres principales causas de enfermedad y muerte en los países industrializados. El 80% de las enfermedades cardiovasculares, el 90% de diabetes tipo 2 y el 30% de todos los cánceres, podrían ser prevenidos si la población siguiera una dieta saludable, un adecuado nivel de actividad física y dejara de fumar. Estudios recientes atribuyen a la adopción de los mencionados hábitos, una potencial reducción de la mortalidad en un 60% y un incremento en la expectativa de vida en 14 años.

Realizar 30 minutos de actividad física todos los días, seguir una dieta de tipo mediterráneo y no fumar, es la mejor manera de asegurar beneficios para tu salud y una mejor calidad de vida, ahora y en tus años futuros.

¿Quieres conocer si cumples los niveles mínimos recomendados para obtener beneficios en salud debido a tus hábitos y estilos de vida?

Número de Tis  
(El número TIS tiene 8 dígitos sin espacios)

Fecha de la última modificación: 16/05/2013
### Ejercicio

#### Ejercicio ligero

- ¿Cuántos días a la semana haces ejercicio físico de intensidad ligera, como cuando paseas viendo escaparates o charlando?

  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7

- ¿Cuántos minutos al día realizas ejercicio ligero?

  - 0-9
  - 10-19
  - 20-29
  - 30-39
  - 40 o más

#### Ejercicio moderado

- ¿Cuántos días a la semana haces ejercicio físico de intensidad moderada, que acelera tu corazón y te hace respirar con mayor intensidad de lo normal?

  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7

- ¿Cuántos minutos al día realizas ejercicio moderado?

  - 0-9
  - 10-19
  - 20-29
  - 30-39
  - 40 o más
Resultados de la encuesta

<table>
<thead>
<tr>
<th>Cuestionario</th>
<th>Resultado</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ejercicio</td>
<td>Inadecuado</td>
</tr>
<tr>
<td>Dieta</td>
<td>Inadecuado</td>
</tr>
<tr>
<td>Tabaco</td>
<td>Inadecuado</td>
</tr>
</tbody>
</table>

Recomendaciones

**Ejercicio**

Tu nivel de actividad física es INADECUADO con respecto a los niveles recomendados para personas de tu edad y sexo. Para obtener beneficios saludables de la actividad física, se recomienda hacer 30 minutos de actividad física moderada (caminar a paso rápido, natación, etc) todos o la mayoría de los días de la semana o 20 minutos de actividad física intensa (correr, aerobic intenso, etc) al menos 3 días de la semana.

**Dieta**

Tu consumo de frutas y verduras es INADECUADO con respecto a los niveles recomendados para personas de tu edad y sexo. Para poder obtener beneficios saludables se recomienda comer 5 raciones de frutas y verduras al día, en donde una ración de fruta corresponde a una pieza y una ración de verdura corresponde a un plato normal de unos 200 gramos.

**Tabaco**

Con toda seguridad, lo mejor que puedes hacer para mejorar tu salud y la de los que te rodean, es dejar de fumar ya.

Si quieres modificar tus hábitos saludables, los profesionales de atención primaria te pueden ayudar. Gracias por tu colaboración.
PVS innovation: Co-production of Health Model

Primary health care

Municipality

School

A1: Assess
A2: Advice A3: Agree
A4: Assist
A5: Arrange follow-up

EHR

Admission Staff
Nurses
Doctors
Physical Activity Instructors
Local Authorities

Teachers

Occupational Health
ADMINISTRATIVE INTEGRATION: CITATION

PROMPT regarding patient status
Cues to action
CLINICAL INTERVENTION TOOL

ASSESS

ADVICE

ASSIST

ARRANGE

FOLLOW-UP
PERSONALIZED ADVICE

Consejo sedentarios

Considero que debes aumentar tu nivel de actividad física, ya que, si realizas ejercicio físico regularmente, obtendrás numerosos beneficios para tu salud.

**Beneficios personales:**

<table>
<thead>
<tr>
<th>ESTADO</th>
<th>Sistema</th>
<th>Beneficio Personal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardio-circulatorio</td>
<td>Favorece el bombeo del corazón y la elasticidad de las arterias</td>
<td></td>
</tr>
<tr>
<td>Musculo-esquelético</td>
<td>Fortalece los músculos, articulaciones y huesos</td>
<td></td>
</tr>
<tr>
<td>Metabolismo</td>
<td>Reduce el sobrepeso, la grasa corporal, la hipertensión, el colesterol y el azúcar</td>
<td></td>
</tr>
<tr>
<td>Respiratorio</td>
<td>Mejora los bronquios y la capacidad respiratoria</td>
<td></td>
</tr>
<tr>
<td>Nervioso</td>
<td>Mejora nuestro estado de ánimo, calidad de sueño y favorece la relajación</td>
<td></td>
</tr>
<tr>
<td>Inmunológico</td>
<td>Protege de infecciones y varios tipos de cáncer</td>
<td></td>
</tr>
</tbody>
</table>

**Recomendaciones:**

<table>
<thead>
<tr>
<th>Tipo de Actividad</th>
<th>Empleo recomendado</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderada</td>
<td>Acumular 30 minutos de actividad física en días consecutivos</td>
</tr>
<tr>
<td>Vigorosa</td>
<td>Realizar 3 o más episodios a la semana</td>
</tr>
</tbody>
</table>

**Colesterol Total:**
- < 160
- 160 - 199
- 200 - 239
- 240 - 279
- 280 +

**HDL Colesterol:**
- < 35
- 36 - 59
- 60 +

**Presión arterial:**
- Óptima
- Normal
- Normal Alta
- Grado I
- Grado I y III

**Diabetes:**
- Diabético

**Edad:**
- >= 44
- 45 - 54
- 55 - 64
- 65 +

**Habitos de vida:**
- Inactivo
- Dieta inadecuada
- Tabaco
- Alcohol

**Probabilidad de infarto en la próxima década:**
Este es el momento de aprender a tomarse el pulso.
Antes de tomarse el pulso se debe estar 5 minutos en reposo.
Es recomendable recién levantado.
Patologías del paciente: Diabetes, Obesidad

Frecuencia cardíaca en reposo: 50
Fecha inicio: 26/02/2011

¿Quieres realizar algún otro tipo de actividad física? Sí

Actividad física aeróbica - Días laborables
Actividad física aeróbica: Aeróbic de bajo impacto
El rango de pulsaciones recomendado para realizar la actividad física es: 115 - 135
Duración por sesión (minutos/día): 30
Frecuencia (n° de sesiones por semana): 1

Plan Personalizado
Fecha inicio: 02/12/2010

<table>
<thead>
<tr>
<th>Semanas</th>
<th>MinutosSemana</th>
</tr>
</thead>
<tbody>
<tr>
<td>de 29/11/2010 a 5/12/2010</td>
<td>30</td>
</tr>
<tr>
<td>de 6/1/2010 a 12/12/2010</td>
<td>30</td>
</tr>
<tr>
<td>de 13/12/2010 a 19/12/2010</td>
<td>50</td>
</tr>
<tr>
<td>de 20/12/2010 a 26/12/2010</td>
<td>50</td>
</tr>
<tr>
<td>de 27/12/2010 a 2/1/2011</td>
<td>70</td>
</tr>
<tr>
<td>de 3/1/2011 a 9/1/2011</td>
<td>70</td>
</tr>
<tr>
<td>de 10/1/2011 a 16/1/2011</td>
<td>90</td>
</tr>
<tr>
<td>de 17/1/2011 a 23/1/2011</td>
<td>90</td>
</tr>
<tr>
<td>de 24/1/2011 a 30/1/2011</td>
<td>110</td>
</tr>
<tr>
<td>de 31/1/2011 a 6/2/2011</td>
<td>110</td>
</tr>
</tbody>
</table>
PVS innovation: Co-production of Health Model

Primary health care

Municipality

School

A1: Assess
A2: Advice
A3: Agree
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Admission Staff
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Occupational Health
Teachers

EHR
PVS Phase I modelling innovative health promotion intervention at primary care and community level

Structured group discussion and consensus sessions
Descriptive Stage (3-4 sessions)
To reach **commitment** of the majority of the professionals with a common health promotion goal.

Creative Stage (3 sessions)
To achieve **competence** in planning the preliminary intervention program: state specific objectives & actions, identify agents & resources involved.

Piloting Stage (3-5 sessions)
To experience active **cooperation** among the multidisciplinary team within the center and with community agents.
Engaging professionals: % participants in each formative evaluation session / total professionals of the center

![Graph showing the percentage of participants in each session for different professionals.](image-url)
PVS innovation: Co-production of Health Model

Primary health care

Municipality

School

Primary Care Team

Admission Staff

Nurses

Doctors

Physical Activity Instructors

Teachers

Local Authorities

Occupational Health

A1: Assess

A2: Advice

A3: Agree

A4: Assist

A5: Arrange follow-up

EHR
3rd chapter...
Phase II: 2 year feasibility: A1 Assess proportion of patients newly assessed about lifestyles
Pilot evaluation PVS II 2011-2013
2 year implementation performance indicators

Low implementation center

Medium implementation center

High implementation center

Medium implementation center

<table>
<thead>
<tr>
<th>Estándares</th>
<th>A4 (25%)</th>
<th>A2 (90%)</th>
<th>A1 (95%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium</td>
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<td></td>
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<tr>
<td>High</td>
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</table>

10408 attendees
5904 attendees
3839 attendees
2575 attendees
We describe factors that determine changes in performance of primary care centers involved in piloting the health promotion innovation ‘Prescribe Vida Saludable’ (PVS):

– Why was observed such a wide variation in the adoption of PVS innovation across sites?

– How can we improve future implementation of health promotion interventions in primary care?

Based on methodology by Laura J. Damschroder & Julie Lowery: Implementation Science 2013, 8:51
http://www.implementationscience.com/content/8/1/51
• Success of PVS implementation associated to 18 factors related to:
  1) Primary care center’s Implementation climate
  2) Modeling of the implementation strategy
  3) Piloting implementation process
• Strong implementation strategies required to influence these multiple factors.
• CFIR framework is a useful tool for understanding implementation process and designing implementation strategies
Collaborative modeling:

**Intervention source**
- Evidence strength & quality
- Design quality and packaging
- Adaptability

**Relative advantage**
- Complexity

**Engaging**

**Planning**
- Reflecting
- Evaluating
- Organizational tracking

**Executing**

**Self-efficacy**

**Learning climate**
- Patient needs & resources
- Tension for change

**External policy & incentives**
- Available resources
- Structural characteristics
% Primary care attendees (sample n=2469) that report meeting PA recommendations

- Reference
- PVS centers
- Exposure level

Month:
- Month 0-6
- Month 6-12
- Month 12-18
% primary care attendees reporting CHANGING at least 1 behaviour, 12 month follow-up after first contact with PVS

Exposure to different actions of the programme: A1 assessment, A2 advice, A4 prescription of a behaviour change plan
HealthyLife Project: Hybrid Implementation-Effectiveness Cluster Randomized Trial

48 especially motivated primary care centres

Randomization

**INTERVENTION**
- facilitation of collaborative modeling of implementation + dissemination
- collaborative modeling of implementation strategy + dissemination

**CONTROL**
guideline dissemination strategies

= no change in performance
= Centre performance improved
= Centre performance declined

3655 Attendees
HealthyLife Project: Hybrid Implementation-Effectiveness Cluster Randomized Trial

48 especially motivated primary care centres

Randomization

INTERVENTION
- facilitation of collaborative modeling of implementation + dissemination

INTERVENTION
- collaborative modeling of implementation strategy + dissemination

CONTROL
- guideline dissemination strategies

- no change in performance
- Centre performance improved
- Centre performance declined

Baskerville NB 2012: facilitation X 2.7 adoption of interventions in routine clinical practice

Lanham HJ 2009, Dixon-Woods M 2011: Primary Care Services are complex adaptive social systems. strategies for change: relationships, conversation, discussion and consensus

Grimshaw et al. Practice guidelines dissemination: median absolute improvement in performance 14.1%
HealthyLife Project: Hybrid Implementation-Effectiveness Cluster Randomized Trial

Context
- Urbanistic
- Socio-economic characteristics

Commitment
- Structure & size
- Readiness to change
- Communication & organizational climate
- Active participation
- Incentives

Engagement
- Teamwork
- Communication
- Community engagement
  - Community managers
  - Clinical leader
  - Champion
  - Primary care workforce

3655 Attendees

48 especially motivated primary care centres

= no change in performance
= Centre performance improved
= Centre performance declined
Comments

• Collaborative modeling of implementation strategies is feasible in especially motivated centers:
  – In this phase, shared decision making and practice facilitation were perceived by professionals as the most positive components associated with adoption of the intervention.

• Pilot evaluation of these strategies allowed us to formulate implementation questions:
  – Why was observed such a wide variation in the adoption of PVS innovation across sites?
  – How can we improve future implementation of health promotion interventions in primary care?
Comments

• We identified 18 factors that determine changes in health promotion implementation performance of primary care centers:

• These factors are related to:
  1) Primary care center’s Implementation climate
  2) Collaborative modeling of the implementation strategy
  3) The process of engaging, planning, executing, reflecting and evaluating
Lessons learned along this long journey can be used for designing stronger and more effective implementation strategies.

This improved strategies will be used for scaling up health promotion interventions and will be evaluated in successive implementation trials.

Implementation research is an endless process of continuous learning on how to improve quality, sustainability of the health systems and health.
Questions, comments?

As you set out for Ithaka
hope the voyage is a long one,
full of adventure, full of discovery.

C.P. Cavafy

Thank you!