



# World Spine Care

## Advanced Management of Yellow Flags. Community based education programs to prevent disability

The Third Botswana Spine Care Conference May 7 and 8, 2018, Gaborone, Botswana

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# What do we know?

- Prevention first time occurrence
- Low back pain and early care prevention of disability
- Two strategies
  - Primary prevention of spine pain
  - Secondary prevention of spine disability
  - It is a community decision
  - It becomes a community problem if we do not act
  - Where should we put the funds and act accordingly?
  - The aging population needs special attention

# Mass Media Campaign in Australia

## 2001 Volvo Award Winner in Clinical Studies: Effects of a Media Campaign on Back Pain Beliefs and Its Potential Influence on Management of Low Back Pain in General Practice

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**Study Design.** Quasi-experimental, nonrandomized, nonequivalent, parallel group-controlled study involving before and after telephone surveys of the general population and postal surveys of general practitioners was conducted, with an adjacent state used as a control group.

Disability resulting from low back pain has become a public health problem. Its incidence in Australia, as in other industrialized countries,<sup>29</sup> has been rising at a disturbing rate in recent years.<sup>28</sup> This places a heavy financial burden on the individual, the family, the employer

# The Results 2001

## ■ Key Points

- Attitudes and beliefs have been recognized as important in the development of back-related disability.
- A population-based media campaign of providing positive messages about back pain can successfully alter societal views toward this problem.
- A favorable effect in the proposed management of low back pain by general practitioners was also observed.
- The findings suggest that a primary preventive strategy of altering population beliefs about back pain may be a highly effective means of reducing back-related disability.



# Countries Replicating Australian Study

- Norway
- Scotland
- Alberta, Canada



# Follow up Mass Media Campaign 2008

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## Understanding the Characteristics of Effective Mass Media Campaigns for Back Pain and Methodological Challenges in Evaluating Their Effects

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Erik L. Werner, MD,§ and Jill A. Hayden, DC, PhD¶||

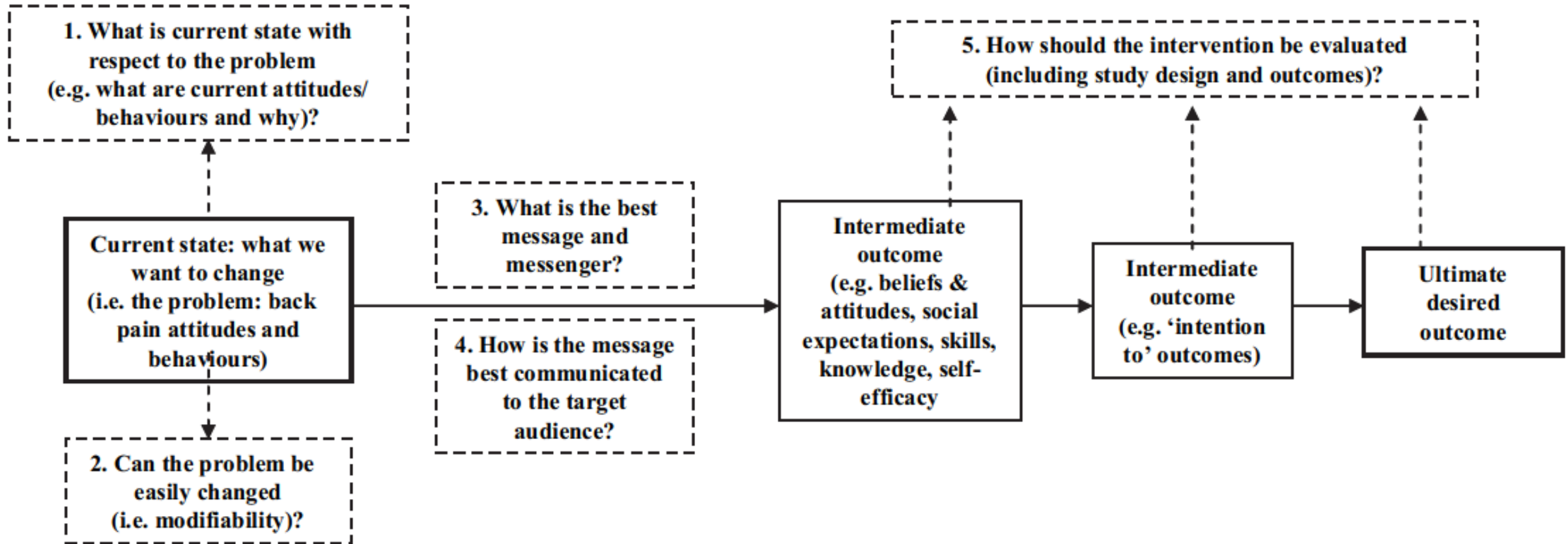
**Study Design.** Workshop at the Low Back Pain Forum VIII: Primary Care Research on Low Back Pain held in Amsterdam in June 2006.

**Objectives.** The aim of the workshop was to 1) describe and compare characteristics and outcomes of back

participants were synthesized and incorporated into the final manuscript.

**Results.** The outcome of discussion and expert consensus around lessons learned from these campaigns are described.

# Theoretical Model 2008



(Buchbinder et al 2008)

# The Results

## ■ Key Points

- Mass media campaigns designed to alter societal views about back pain and promote behavior change have now been performed in several countries with mixed results.
- There is limited empirical understanding of the characteristics of effective (or ineffective) health campaigns based on underlying general theories of health behavior change.
- Use of a theoretical framework to identify important issues may improve the planning and evaluation of mass media interventions for low back pain.

# Systematic Review(JAMA 2016)

Original Investigation

## Prevention of Low Back Pain A Systematic Review and Meta-analysis

Daniel Steffens, PhD; Chris G. Maher, PhD; Leani S. M. Pereira, PhD; Matthew L Stevens, MScMed (Clin Epi);  
Vinicius C. Oliveira, PhD; Meredith Chapple, BPhy; Luci F. Teixeira-Salmela, PhD; Mark J. Hancock, PhD

**IMPORTANCE** Existing guidelines and systematic reviews lack clear recommendations for prevention of low back pain (LBP).

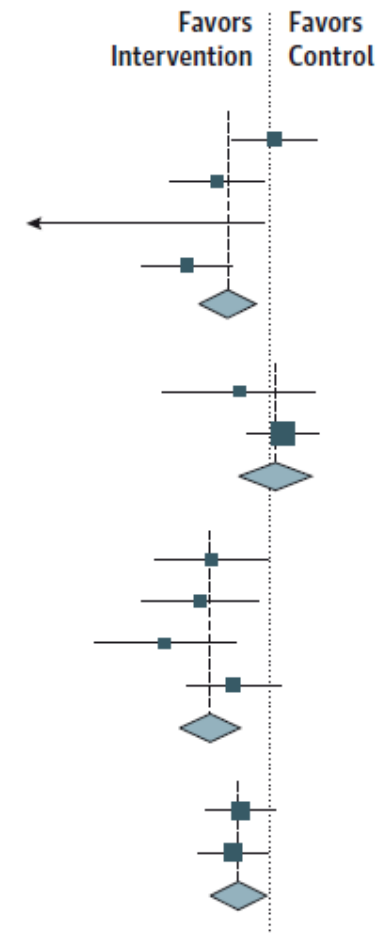
**OBJECTIVE** To investigate the effectiveness of interventions for prevention of LBP.

## Systematic Review(JAMA 2016)

- Primary prevention of low back pain
  - Exercise in combination with education
  - Successful
    - To prevent back pain on a moderate level
    - More successful in reducing work sickness
- No other intervention was effective (back belt, ergonomic, intervention, shoe insoles)

# Systematic Review(JAMA 2016)

Source	Intervention		Control		RR (95% CI)
	No. of Events	No. of Patients	No. of Events	No. of Patients	
<b>Exercise vs control (short-term)</b>					
Helewa et al, <sup>21</sup> 1999	28	113	37	157	1.05 (0.69-1.61)
Warming et al, <sup>42</sup> 2008	14	35	22	33	0.60 (0.37-0.96)
Moore et al, <sup>25</sup> 2012	0	13	10	17	0.06 (0.00-0.96)
Sihawong et al, <sup>26</sup> 2014	23	261	53	269	0.45 (0.28-0.71)
Pooled effect: $I^2 = 67.9\%$					0.65 (0.50-0.86)
<b>Exercise vs control (long-term)</b>					
Kellett et al, <sup>33</sup> 1991	8	37	14	48	0.74 (0.35-1.58)
Helewa et al, <sup>21</sup> 1999	35	101	45	148	1.14 (0.79-1.64)
Pooled effect: $I^2 = 0\%$					1.04 (0.73-1.49)
<b>Exercise and education vs control (short-term)</b>					
Soukup et al, <sup>39</sup> 1999	11	34	20	35	0.57 (0.32-1.00)
Lønn et al, <sup>22</sup> 1999	11	38	20	35	0.51 (0.29-0.90)
Larsen et al, <sup>35</sup> 2002	9	101	28	113	0.36 (0.18-0.73)
Warming et al, <sup>42</sup> 2008	14	35	29	51	0.70 (0.44-1.13)
Pooled effect: $I^2 = 0\%$					0.55 (0.41-0.74)
<b>Exercise and education vs control (long-term)</b>					
Soukup et al, <sup>40</sup> 2001	18	31	27	35	0.75 (0.53-1.07)
Glomsrød et al, <sup>30</sup> 2001	20	37	27	35	0.70 (0.50-0.99)
Pooled effect: $I^2 = 0\%$					0.73 (0.55-0.96)
<b>Education vs control (short-term)</b>					





# NIH Recommendations

- **Physical activity prolongs your optimal health.**
  - Without regular physical activity, the body slowly loses its strength, stamina and ability to function well. People who are physically active and at a healthy weight live about 7 years longer than those who are not active and are obese
- **Physical activity improves physical wellness, reduced risk factors**
  - Too much sitting and other sedentary activities can increase your risk of cardiovascular disease. One study showed that adults who watch more than 4 hours of television a day had a 46% increased risk of death from any cause and an 80% increased risk of death from cardiovascular disease. Becoming more active can help lower your blood pressure and also boost your levels of good cholesterol.

# NIH Recommendations

- **Physical activity boosts mental wellness.**
  - Regular physical activity can relieve tension, anxiety, depression and anger. You may notice a "feel good sensation" immediately following your physical activity, and most people also note an improvement in general well-being over time as physical activity becomes a part of their routine.
- **This is true also for spine pain, but public health is failing to address the benefit of moderate regular benefit of exercise for the prevention of spine pain**
- **The recommendations are:**
  - 30 min 5 days a week or
  - 3X 10 minutes 5 days a week
  - Walking is the most recommended
  - Every person seeking spine care should get education and exercise recommendation

# Exercise Benefit NIH

- Improves blood circulation, reduces the risk of heart disease
- Keeps weight under control
- Helps in the battle to quit smoking
- Improves blood cholesterol levels
- Prevents and manages high blood pressure
- Prevents bone loss
- Boosts energy level
- Helps manage stress
- Releases tension
- Promotes enthusiasm and optimism
- Counters anxiety and depression
- Falling asleep faster and sleep more soundly
- Improves self-image
- Increases muscle strength, increasing the ability to do other physical activities
- Provides a way to share an activity with family and friends
- Reduces risk of developing CHD/CVD by 30-40 percent
- Reduced risk of stroke by 20 percent in moderately active people and by 27 percent in those who are highly active
- Establishes good heart-healthy habits in children and counters the conditions (obesity, high blood pressure, poor cholesterol levels, poor lifestyle habits, etc.) that lead to heart attack and stroke later in life
- Helps delay or prevent chronic illnesses and diseases associated with aging and maintains quality of life and independence longer for seniors

# Community Implementation

- Exercise
  - Community walking program
  - Community Yoga program
  - Any form of exercise seem to have an effect, the most important is to get the community to move and exercise
- Education
  - De-mystify and de-medicalize back pain
  - Make a “back book” widely available in combination with community exercise programs
  - Make the prevention of back disability a priority even if cannot prevent back pain in itself
  - The “Diabetes Model”

# Stockholm, Sweden



STOCKHOLM

Founded 1987, NGO  
89,000 members, training advice via  
internet, 1700 volunteer leaders, is a  
national leader





# Community Programs

## Exercise programs

- WHO “Straighten Up” program
- WSC Yoga project



# Community Effectiveness

[Cochrane Database Syst Rev. 2015 Jan 5;1:CD008366. doi: 10.1002/14651858.CD008366.pub3.](#)

## Community wide interventions for increasing physical activity.

[Baker PR<sup>1</sup>](#), [Francis DP](#), [Soares J](#), [Weightman AL](#), [Foster C](#).

### + Author information

#### Abstract

**BACKGROUND:** Multi-strategic community wide interventions for physical activity are increasingly popular but their ability to achieve population level improvements is unknown.

**OBJECTIVES:** To evaluate the effects of community wide, multi-strategic interventions upon population levels of physical activity.

**SEARCH METHODS:** We searched the Cochrane Public Health Group Segment of the Cochrane Register of Studies, The Cochrane Library, MEDLINE, MEDLINE in Process, EMBASE, CINAHL, LILACS, PsycINFO, ASSIA, the British Nursing Index, Chinese CNKI databases, EPPI Centre (DoPHER, TRoPHI), ERIC, HMIC, Sociological Abstracts, SPORT Discus, Transport Database and Web of Science (Science Citation Index, Social Sciences Citation Index, Conference Proceedings Citation Index). We also scanned websites of the EU Platform on Diet

Results are mixed



# WHO

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## 2. Physical activity for health

- 2.1 Public health significance of physical activity
- 2.2 Mandate on physical activity for health
- 2.3 Importance of national and regional physical activity guidelines

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## 3. Development of recommendations for physical activity for health

- 3.1 Scope and target audience
- 3.2 Development process

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## 4. Recommended population levels of physical activity for health

- 4.1 Introduction
- 4.2 Age group: 5–17 years old
- 4.3 Age group: 18–64 years old
- 4.4 Age group: 65 years old and above
- 4.5 Future review of recommendations and research gaps



# The WHO Model for Care



- **Patient centered**
  - Evidenced based and responsive to patient preferences (IOM 2001, OECD 2010)
- **Integrated care**
  - Is a worldwide trend in health care reforms i.e. better coordinated and integrated forms of care provision
- **Value Based Care (VBC)**
  - Reducing health care costs, while improving quality and safety, is the goal and is today's challenge (VBC, OECD 2010-2017, Porter NEJM 2010).
  - How can we generate value for patients, clinicians and payers alike?

# Patient-Centered Model



World  
Spine Care

## Medical Model

Patient's role is passive  
*(Patient is quiet)*

Patient is the recipient of  
treatment

Physician dominates the conversation  
*(Does not offer options)*

Care is disease-centered  
*(Disease is the focus of daily activities)*

Physician does most of the talking

Patient may or may not adhere to  
treatment plan



## Patient-Centered Model

Patient's role is active  
*(Patient asks questions)*

Patient is a partner in the treatment plan  
*(Patient asks about options)*

Physician collaborates with the patient  
*(Offers options; discusses pros & cons)*

Care is quality-of-life centered  
*(The patient focuses on family & other activities)*

Physician listens more & talks less

Patient is more likely to adhere to treatment plan  
*(Treatment accommodates patient's cultures & values)*

## NICE Guidelines 2002 NSLBP

- Treatment
  - Patient education and reassurance
  - Exercise
  - Manual therapy
  - Acupuncture
  - Acetaminophen first
  - NSAID, short term opioids
- Repeat if not successful

## Synthesis Guidelines 2010 NSLBP

- Treatment Acute  $\leq 3$  months
  - Patient education and reassurance
  - Short term acetaminophen or NSAID or
  - Spinal manipulation or
  - Activity/Exercise
- Treatment Chronic  $> 3$  months
  - Same as above +
  - Back exercise
  - Cognitive Behavioral Therapy
  - Possibly short term opioids



## Synthesis Guidelines 2010 NSLBP

- **Treatment Acute  $\leq 3$  months**
  - Patient education and reassurance
  - Short term acetaminophen or NSAID or
  - Spinal manipulation or
  - Activity/Exercise
- **Treatment Chronic  $>3$  months**
  - Same as above +
  - Back exercise
  - Cognitive Behavioral Therapy
  - Possibly short term opioids

## Synthesis Guidelines 2016 NSLBP (Wong et al)

- **Treatment Acute  $\leq 3$  months**
  - Patient education and reassurance (stay active)
  - Manipulation
  - Muscle relaxants
- **Treatment Chronic  $>3$  months**

**Home and clinic based interventions:**

  - Structured education (advice to stay active), reassurance, and:
    - Exercise
    - Manipulation or mobilization
    - Clinical or relaxation massage
    - Non-steroidal anti-inflammatory drugs
    - Needle acupuncture
  - Multimodal care (that includes the combination of (for patients who have high levels of disability or significant distress):
    - a) Exercise
    - b) Cognitive/behavioral approaches



# Continuum of Care

