



The ALIGN implementation strategy: Using theory and empirical research to design a strategy to support physiotherapy and chiropractic uptake of evidence-based guidelines for acute low-back pain

Dr Denise O'Connor¹, Dr Simon French, Prof Sally Green on behalf of the ALIGN Study Group

¹Senior Research Fellow, NHMRC Public Health Fellow
Australasian Cochrane Centre, School of Public Health and Preventive Medicine
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Outline

- Background
- Describe two studies to identify barriers and enablers to practice change
- Approach to designing a targeted strategy to support practice change
- Description of ALIGN strategy
- Key messages

Common problem; good evidence to guide practice



EVIDENCE MANAGEMENT FOR ACUTE MUSCULOSKELETAL PAIN

Australian Acute Musculoskeletal Pain

→ Information Sheet | February 2004

1

Acute Low Back Pain

→ A partnership approach to pain management

> What Is Acute Low Back Pain?
Acute low back pain is pain felt in the lower back that lasts for a short time (i.e. less than three months).

Most people have pain in their low back at some stage in their lives. In most cases, it will get better in several weeks; however, this varies from person to person. Acute low back pain may happen again over time.

> What Causes Acute Low Back Pain?
In around 95% of cases it is not possible to pinpoint the cause of the pain. However, it is not necessary to know the specific cause in order to manage the pain effectively.

It is rare for the pain to be caused by a serious medical problem.

> What Should I Do When I Have Acute Low Back Pain?
If your pain bothers you, it is important to see your health practitioner, to work with them to manage your pain, and to stay active.

MAIN MESSAGES

- Work with your health practitioner to manage your pain and address your concerns
- Stay active

1 See your health practitioner
A history and a physical examination are needed to assess for any serious medical conditions that may be associated with your pain, although these are rare.

Your practitioner can provide you with information about your pain once they have assessed you. Ask for an explanation if unfamiliar terms are used. Sometimes a diagram can be useful.

Additional investigations, such as xrays and blood tests, are not needed in the majority of cases of acute low back pain. They do not help with your pain or your ability to move your back.

It is normal to worry about the cause of your pain and the impact it may have on you. Talking to your health practitioner about your concerns can be helpful. You will usually find there is no serious cause and that there are ways to relieve your symptoms.

WHAT THE RESEARCH SAYS

A panel of experts recently reviewed the scientific studies on the effectiveness of treatments for acute low back pain and found that not all treatments have been studied in detail.

The findings of this review are published in the report *Evidence-based Management of Acute Musculoskeletal Pain* available at www.nhmrc.gov.au. The results are summarised below.

Effective
Measures that are effective for relieving acute low back pain are staying active (relieves pain better than resting in bed), having written information (it is

helpful to discuss written information with your health practitioner) and heat wrap therapy (a treatment not routinely available in Australia).

Mixed results*
There are mixed results from scientific studies on the use of muscle relaxants, anti-inflammatory drugs (NSAIDs) and spinal manipulation. Some studies show these measures relieve acute low back pain and some do not.

Inconclusive*
Studies on acupuncture, back exercises, back schools, bed rest, cognitive behavioural therapy, injection therapy and topical treatments for acute low

back pain have not tested these treatments against placebo.

No studies done*
There are no studies that have looked at: pain-relieving medication (analgesics), electromyographic biofeedback, lumbar supports, massage, multi-disciplinary rehabilitation in the workplace, traction and TENS for the treatment of acute low back pain.

*** It is important to note that these findings do not mean that these measures will not help you; they indicate that more research is needed.**

Australian Government
National Health and Medical Research Council

Evidence of a 'know-do' gap

Health Care Delivery

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Managing Low Back Pain—A Comparison of the Beliefs and Be

DANIEL C.

Determine sample their back pain. With physicians and attitudes. Family radiographs are that back pain were more likely they can help p satisfied with th physicians and (Cherkin DC, MacC physicians and chin

VIEWS ON R ACUTE LOW ONTARIO C

Carlo Ammendola, DC
Richard Glazier, MD, M

ABSTRACT

Background: R patients with acut small percentage (Objectives: To community in On 40% to 50% of aad estimated \$5 billion the diagnosis and in \$14 billion in consu ments, and lawsuits.

Back pain is one problems affections. Swedish studi will experience bac 40% to 50% of aad estimated \$5 billion the diagnosis and in \$14 billion in consu ments, and lawsuits. According to the and Expenditure Si back pain sought ca doctors of medicine chiropractors.* Bec chiropractors made from allopathic and 2.8 visits, respecti back pain were to of that chiropractors p there is little inform chiropractors actual efficacy of chiroprac care for this problem. Because of conc given patients with how family physio patients with back p

Results: There v stated that radiogr lasting less than 1 supported by exti **Conclusions:** T community, whic radiography are n chiropractic practi Manipulative Phy: **Key Indexing:**

Advances in Physiotherapy 2003; 5(1)

Danish Phy: Back Pain

LENA HAMM, MD¹, B1
ANDERS MUNCK², and
¹Audit Project Odense,
²Physiotherapist, Slagø

Abstract

Aim: To study Danish phys pists' management of low bac the light of the report "Lo pain", published in 1999 by r sh Centre for Evaluation and Technology Assessment (DAC **Method:** Two hundred and k physiotherapists nationwide r during 4 weeks in May 1999; tively all patients with "lo pain"; 4725 patients were re representing a total of 123.

INTRODUCTION

In a 2-week period, ev experiences back problems population within the past; (1). Thirty-seven per cent pain seek treatment, as a 2 practitioner, and 9% are re (1).

In 1999, the Danish C Health Technology Asses lished the report "Low ba an interdisciplinary worki evidence-based guidelines c sis and treatment of low b report was in agreement w guidelines. The report recu ulation as well as exercis ti Specific exercise therapy approach, involving a co specific exercises and jus mended as a diagnostic m



Research Report

Physical ' Back Pain Therapists

How does the self-rep low back pain rela care practitioners?

Annette Bishop *, Ne

Primary Care Musculoskeletal Reso

Received 9 May 2007; rec

Abstract

Guidelines for the management of low bac titioners (HCPs) remains suboptimal. The aim UK physiotherapists (PTs) and general practi tional postal survey of GPs ($n = 2000$) and (PABTPT), and a vignette of a patient with i activity and bedrest. Data from 1022 responde Although the majority of HCPs reported pr mediations, 28% reported they would advise t scores with higher biomedical ($F_{1,98} = 77.5$, advice to remain off work. We have demons patients with NSLBP are diverse. Many HCPs tudes and beliefs of these HCPs were associa studies need to investigate whether approach © 2007 International Association for the Stuc

Keywords: Attitudes and beliefs, Health care practi

1. Introduction

Low back pain (LBP) is common, af adults in any one year, of whom 1 in 4 ex eptant disability [37]. Only 25% of patient; primary care will be symptom free 12 [18]. The last two decades have also seen

* Corresponding author. Tel.: +44 1782 58390 583911.

Email address: a.bishop@spbc.keele.ac.uk (A.1

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ARTICLE IN PRESS



Available online at www.sciencedirect.com



Manuel Th

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Primary care clinicians us nonspecific low back pain

Peter M. Kent ^{a,b,*}, Jenni

^a Monash Department of Clinical
^b Department of Epidemiology & Preventive Medicine, Faculty
^c Department of Physiotherapy, School of Primary Health Ca

^d School of Physiotherapy, Faculty of
Received 22 December 2006; received

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Abstract

This study investigated the assessment of acute (<1 clinicians. The aims were to determine the methods use to which clinicians assess across domains of health. Survey disciplines (Physiotherapy, Manipulative Physiother Medicine). Descriptive statistics (proportions and frequ use, Mann-Whitney U tests were used to determine be Bonferroni-adjusted inferential confidence intervals were: from five health domains. The results indicate that the considerably, as 44 out of 48 assessment techniques show assessment across domains of health in this condition w and less commonly assess activity limitation and psychos impairment, 99% (95%CI 98–100%) assess pain, 21% (9 psychosocial function). Adoption of greater standardisat of this standardisation to improve patient outcomes. © 2008 Elsevier Ltd. All rights reserved.

Keywords: Low back pain; Diagnostic; Primary health care; Re

1. Background

Approximately 80% of low back pain (LBP) in mary care remains a diagnostic enigma and is com labelled nonspecific low back pain (NSLBP) (Spe and David, 1985; Deyo et al., 1992). In contrast, sp

* Corresponding author. Monash Department of Clinical Epid ogy at Cabrini Hospital, 183 Watlington Road, Malvern, Victoria Australia. Tel.: +61 3 9508 1389; fax: +61 3 9508 1368.

E-mail address: peter.kent@monash.edu.au (P.M. Kent

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MANUAL

CHIROPRACTIC & MANUAL THERAPIES

RESEARCH

Open Access

Management of people with acute low-back pain: a survey of Australian chiropractors

Bruce F Walker^a, Simon D French^{b,c}, Matthew J Page^d, Denise A O'Connor^e, Joanne E McKenzie^f, Katherine Beringer^g, Kerry Murphy^h, Jenny L Keating^g, Susan Michieⁱ, Jill J Francis^j and Sally E Green^k

Abstract

Introduction: Chiropractors commonly provide care to people with acute low-back pain (LBP). The aim of this survey was to determine how chiropractors intend to support and manage people with acute LBP and if this management is in accordance with two recommendations from an Australian evidence-based acute LBP guideline. The two recommendations were directed at minimising the use of plain x-ray and encouraging the patient to stay active. **Methods:** This is a cross sectional survey of chiropractors in Australia. This paper is part of the ALIGN study in which a targeted implementation strategy was developed to improve the management of acute LBP in a chiropractic setting. This implementation strategy was subsequently tested in a cluster randomised controlled trial. In this survey phase of the ALIGN study we approached a random sample of 880 chiropractors in three States of Australia. The mailed questionnaire consisted of five patient vignettes designed to represent people who would typically present to chiropractors with acute LBP. Four vignettes represented people who, according to the guideline, would not require a plain lumbar x-ray, and one vignette represented a person with a suspected vertebral fracture. Respondents were asked, for each vignette, to indicate which investigation(s) they would order, and which intervention(s) they would recommend or undertake. **Results:** Of the 880 chiropractors approached, 137 were deemed ineligible to participate, mostly because they were not currently practising, or mail was returned to sender. We received completed questionnaires from 274 chiropractors (response rate of 37%). Male chiropractors made up 66% of respondents, 75% practised in an urban location and their mean number of years in practice was 15. Across the four vignettes where an x-ray was not indicated 68% (95% Confidence Intervals (CI): 64%, 71%) of chiropractors responded that they would order or take an x-ray. In addition 51% (95%CI: 47%, 56%) indicated they would give advice to stay active when it was indicated. For the vignette where a fracture was suspected, 95% (95% CI: 91%, 97%) of chiropractors would order an x-ray. **Conclusions:** The intention of chiropractors surveyed in this study shows low adherence to two recommendations from an evidence-based guideline for acute LBP. Quality of care for these patients could be improved through effective implementation of evidence-based guidelines. Further research to find cost-effective methods to increase implementation is warranted.

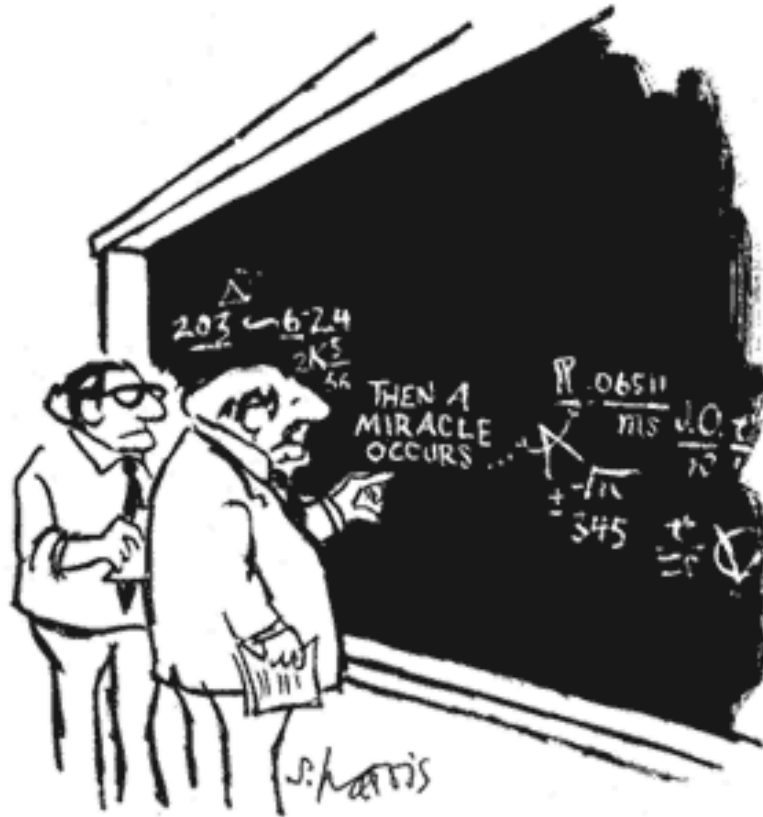
Introduction

Low back pain (LBP) is a common and costly problem in high income countries like Australia. At any one time, approximately one in five Australians has LBP, and four out of five Australians will experience it at some time in their lives [1]. The direct and indirect cost of LBP in 2001 was estimated to total AUD\$9,175 million [2]. Chiropractors provide a significant proportion of the care for people with LBP in Australia [3]. In 2004, an evidence-based clinical practice guideline for acute LBP [4] was sent to all primary health care providers in Australia, including chiropractors. The guideline provided evidence-based recommendations for the diagnosis, prognosis and treatment of acute non-specific LBP in primary care settings. Two relevant key messages were (i) that plain x-rays of the lumbar spine are not routinely recommended for people with acute non-specific LBP as



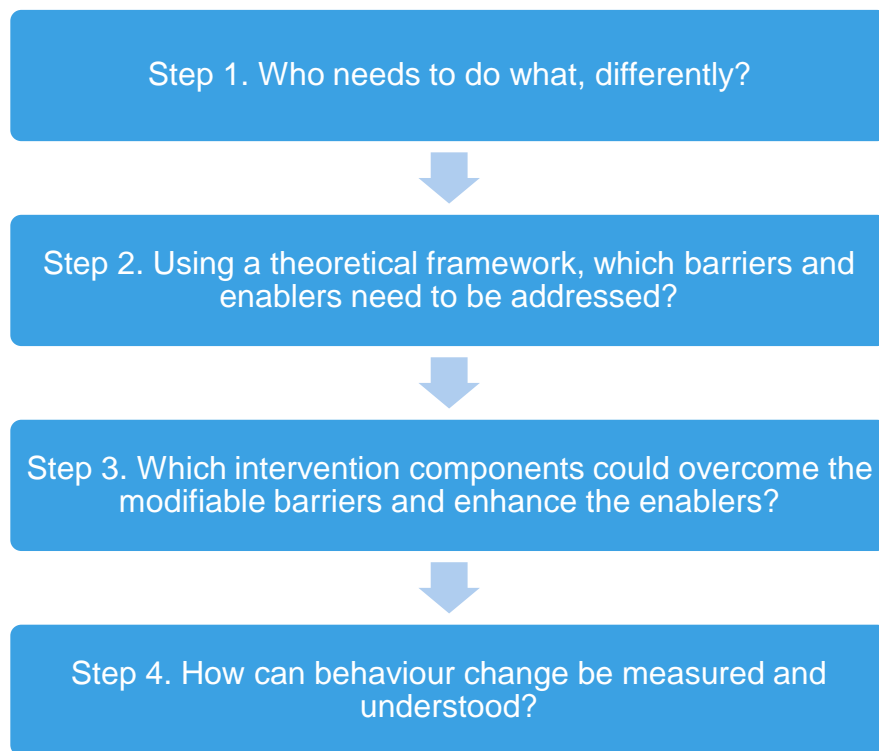
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Practice change is complex..



"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."

One approach to supporting practice change



French et al. *Implementation Science* 2012, **7**:38
<http://www.implementationscience.com/content/7/1/38>



METHODOLOGY

Open Access

Developing theory-informed behaviour change interventions to implement evidence into practice: a systematic approach using the Theoretical Domains Framework

Simon D French^{1,2*}, Sally E Green¹, Denise A O'Connor¹, Joanne E McKeirnie¹, Jill J Francis³, Susan Michie⁴, Rachelle Buchbinder^{1,5,9}, Peter Schattner⁶, Neil Spike⁶ and Jeremy M Grimshaw^{7,8}

Abstract

Background: There is little systematic operational guidance about how best to develop complex interventions to reduce the gap between practice and evidence. This article is one in a Series of articles documenting the development and use of the Theoretical Domains Framework (TDF) to advance the science of implementation research.

Methods: The intervention was developed considering three main components: theory, evidence, and practical issues. We used a four-step approach, consisting of guiding questions, to direct the choice of the most appropriate components of an implementation intervention: Who needs to do what, differently? Using a theoretical framework, which barriers and enablers need to be addressed? Which intervention components (behaviour change techniques and mode(s) of delivery) could overcome the modifiable barriers and enhance the enablers? And how can behaviour change be measured and understood?

Results: A complex implementation intervention was designed that aimed to improve acute low back pain management in primary care. We used the TDF to identify the barriers and enablers to the uptake of evidence into practice and to guide the choice of intervention components. These components were then combined into a cohesive intervention. The intervention was delivered via two facilitated interactive small group workshops. We also produced a DVD to distribute to all participants in the intervention group. We chose outcome measures in order to assess the mediating mechanisms of behaviour change.

Conclusions: We have illustrated a four-step systematic method for developing an intervention designed to change clinical practice based on a theoretical framework. The method of development provides a systematic framework that could be used by others developing complex implementation interventions. While this framework should be iteratively adjusted and refined to suit other contexts and settings, we believe that the four-step process should be maintained as the primary framework to guide researchers through a comprehensive intervention development process.

Acute Low-back pain Implementing Guidelines iNto allied health practice

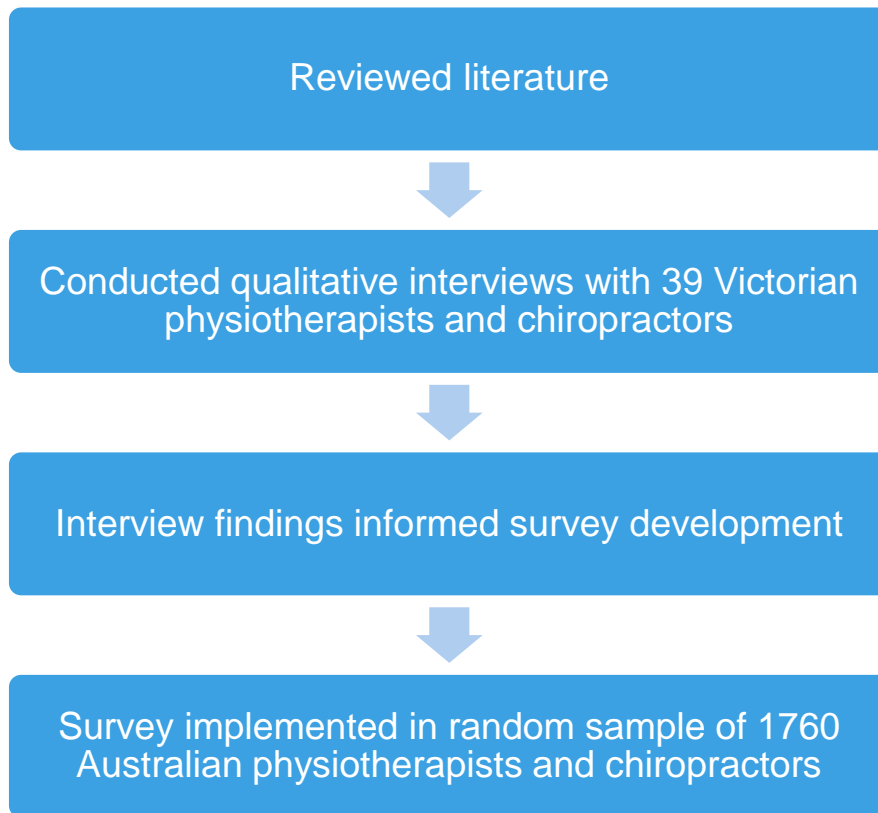


- Aim:
 - to improve patient outcomes by increasing the uptake of an evidence-based guideline for acute low-back pain by physiotherapists and chiropractors
- Objectives:
 - to identify the barriers and enablers to guideline use using a theoretical framework
 - to develop and pilot test a targeted, theory- and evidence-informed implementation strategy to support clinician uptake of the guideline
 - to test the effectiveness and cost-effectiveness of the strategy to change practice and improve patient outcomes

1. Who needs to do what differently?

- Physiotherapists and chiropractors need to
 - order less x-rays for people with acute low-back pain
 - provide advice to stay active when treating these patients

2. Using a theoretical framework, which barriers and enablers need to be addressed?

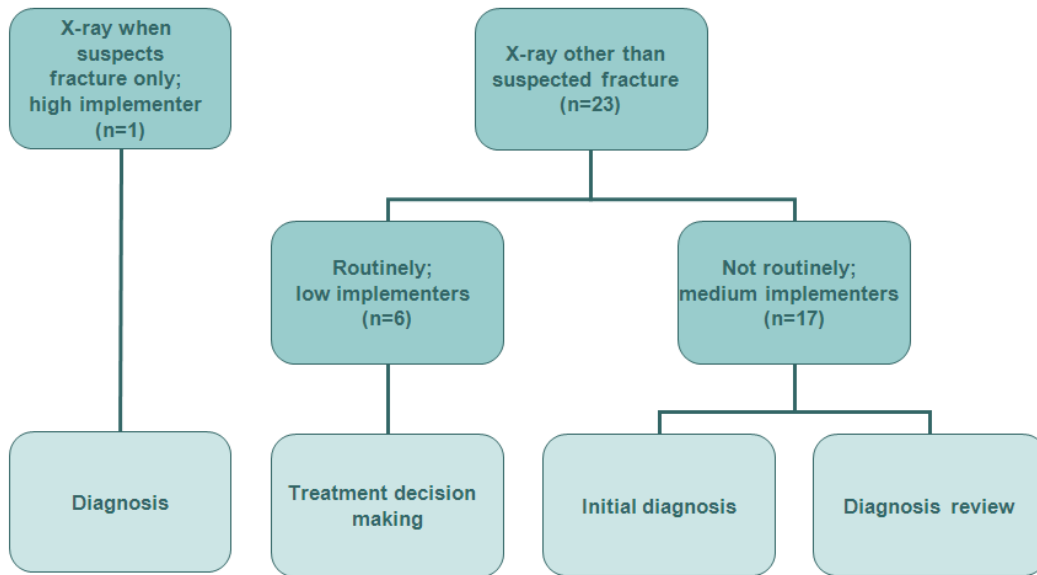


Theoretical Domains Framework

Michie et al QSHC 2005

Cane et al Imp Sci 2012


2a. Interviews: patterns of behaviour and possible determinants



Illustrative example: chiropractors x-ray behaviour and identified barriers to change

Domain	
Environmental context and resources	X-ray easily accessible, first-line diagnostic tool
Professional role and identity	Responsibility to diagnose and manage accurately; perceived negligent if don't x-ray; important part of their professional identity
Beliefs about consequences	Negative consequences: cause harm if spine manipulated without prior x-ray, lose patient to another provider Positive consequences: x-ray reassures anxious patient
Social influences	Perceived expectation/pressure for x-ray from patients
Emotion	Fear of missing underlying sinister pathology and litigation for misdiagnosis
Beliefs about capabilities	To negotiate with patients and resist pressure for x-ray
Knowledge	About diagnostic utility of x-rays and radiation exposure delivered

2b. Survey

 **MONASH University**

Office use only : ID : <ID>

Management of people with acute low-back pain

Thank you for agreeing to complete this survey.

The aim of the survey is to provide information about the attitudes, beliefs and intentions of health professionals about the management of patients with acute low-back pain.

This survey contains five hypothetical patient scenarios of people presenting with acute low-back pain. This means patients with low-back pain of less than three months duration. The survey asks questions about your clinical practice behaviour, your attitudes and beliefs, and general questions about you.

Please read each question carefully. We are interested in your opinions about acute low-back pain, and there are no correct or incorrect responses. Some of the questions might seem repetitive, but we have included several which are subtly different to survey shades of opinion, so please answer all of the questions as best you can.

The survey should take approximately 20 minutes to complete.


All information that you provide will be confidential. No information that could lead to the identification of any individuals will be disclosed in any reports or to any other party. Completed surveys will be kept in a locked filing cabinet (or on a secure drive if electronic) at the Monash Institute of Health Services Research for a period of five years and will then be destroyed.

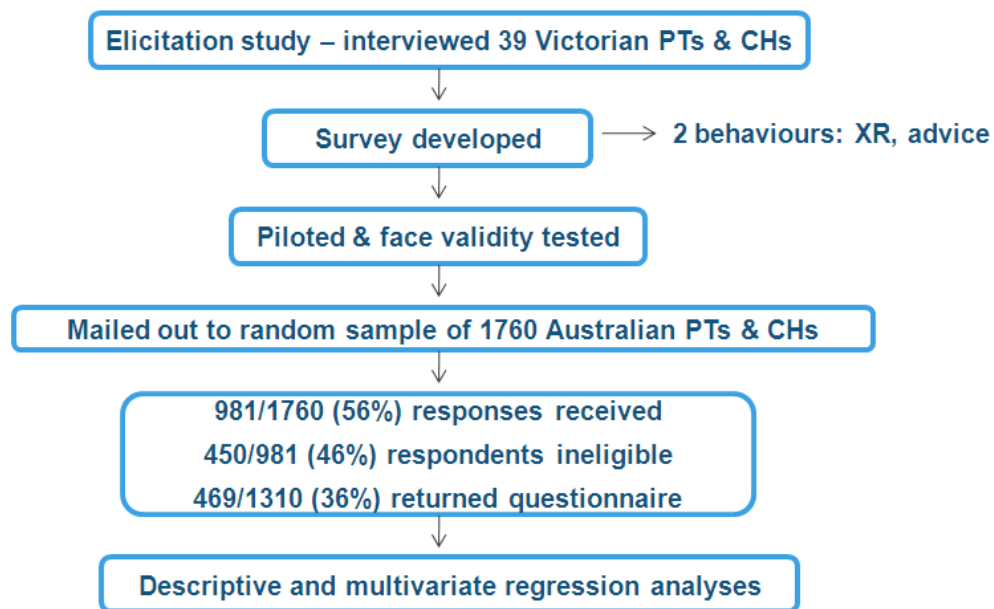
Please return the survey in the reply paid envelope provided or, if you prefer, complete it online at: <http://www.cochrane.org.au/projects/chiropractor-survey.php>

Thank you very much for your participation

Professor Sally Green, Professor Jenny Keating and Dr Bruce Walker
on behalf of the ALIGN research team
Institute of Health Services Research and School of Primary Health Care, Monash University,
and School of Chiropractic and Sports Science, Murdoch University

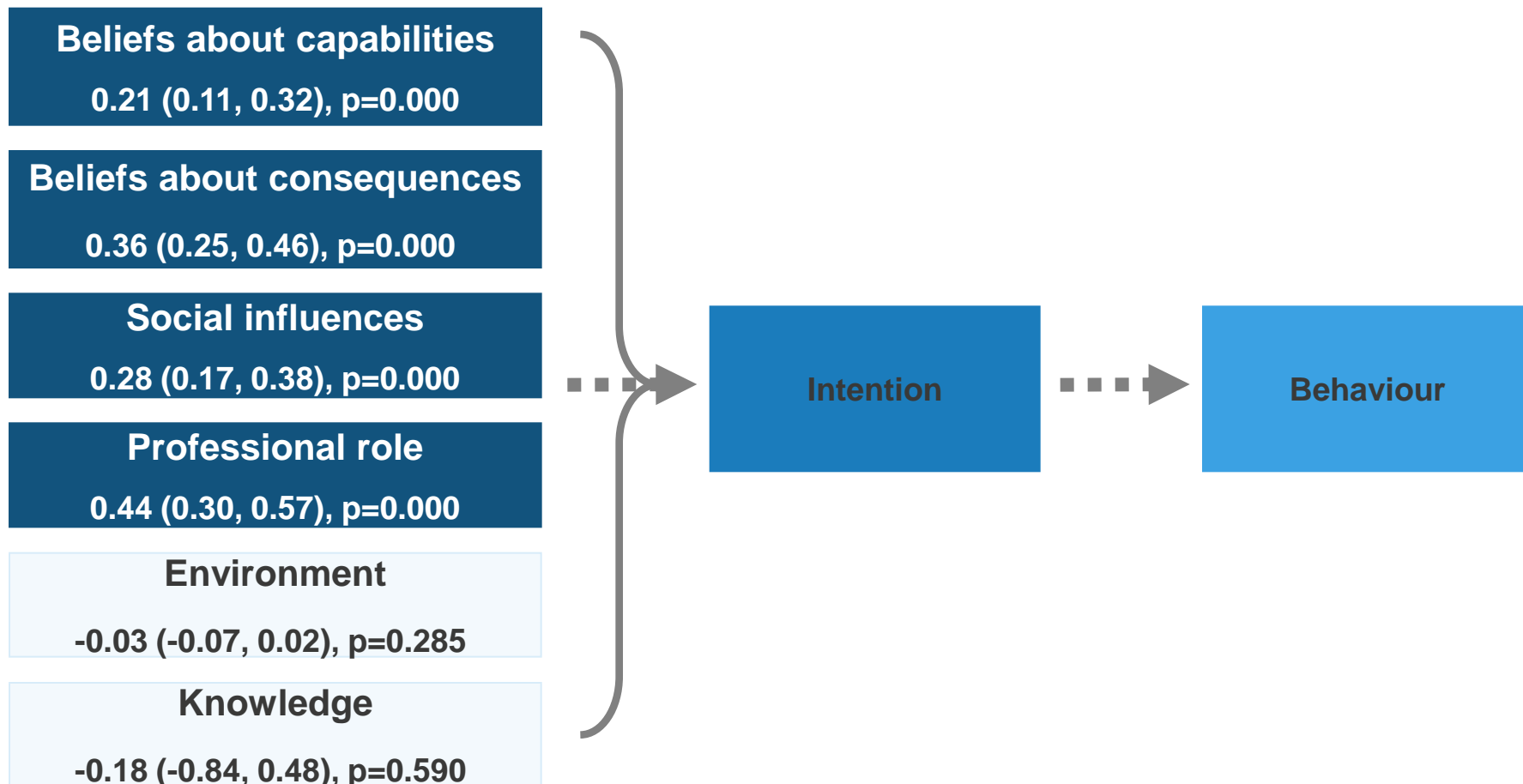
If you have any questions or would like more information please contact:
Dr Denise O'Connor (Project Manager), Monash Institute of Health Services Research
T: 1300 798 627
F: (03) 9594-7570
E: align.mhsr@med.monash.edu.au

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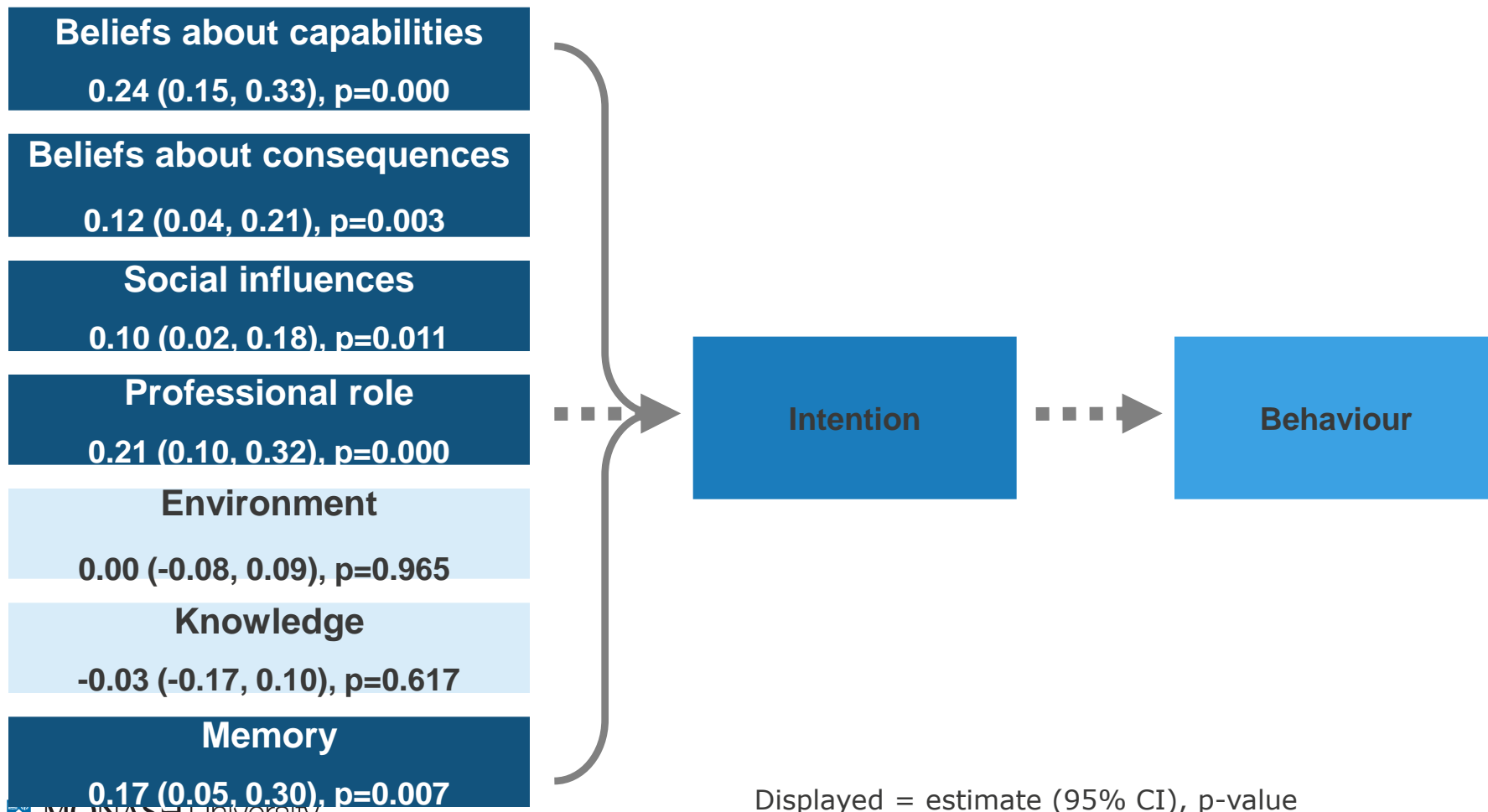
2b. Survey: multivariate regression

Domains predicting intention to manage patients without x-ray



2b. Survey: multivariate regression

Domains predicting intention to advise patients to stay active



3. Which intervention components could overcome the modifiable barriers and enhance enablers?

Behaviour targeted for change	Predictive domains	Discriminant beliefs (intenders vs. non-intenders)	Proposed intervention (techniques, context, content)
Use of plain x-ray for diagnosis and management of people with acute LBP	Beliefs about consequences	Managing patients without XR will result in missed important underlying pathology	<p>Technique</p> <ul style="list-style-type: none"> - persuasive communication <p>Context</p> <ul style="list-style-type: none"> - discipline specific group meeting <p>Content</p> <ul style="list-style-type: none"> - use belief as specific messages in podcast from well-respected clinician (use persuasive techniques to inform audience of low rate of missed pathology resulting from no XR) - facilitators on each table reinforce message during informal discussion... etc.....

3. ALIGN strategy

- Active ingredients
 - 8 BCTs targeting 6 theoretical domains regulating behaviour
 - Procedures for delivery
 - 10 elements
 - Mode of delivery
 - Interactive education
 - Setting
 - Physiotherapy and clinic
 - Intensity and duration
 - full day symposium, followed by DVD resource (4 wks post)
 - Personnel delivering intervention
 - clinical investigators, local actors
 - Hypothesised mechanism of action
 - BCTs targeting: beliefs and social influences, professional
1. Keynote speech by local opinion leader
 2. Podcasts by opinion leaders
 3. Small group discussions
 4. Skills demonstration sessions
 5. Small group practicals with simulated patients (trained actors)
 6. Audience straw polling
 7. Reflective activity
 8. Supporting written material
 9. Follow-up telephone contact with clinical investigator
 10. DVD (recording of didactic sessions)

Key messages

- Systematic, theory-informed approach useful in assessing the barriers and enablers to practice change and considering components for inclusion in a practice change strategy
- The developed strategy is hypothesised to be more effective than dissemination alone in supporting uptake of evidence-based guidelines for managing acute low-back pain by physiotherapists and chiropractors
- This hypothesis will be answered by the findings of the ALIGN cluster trial

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