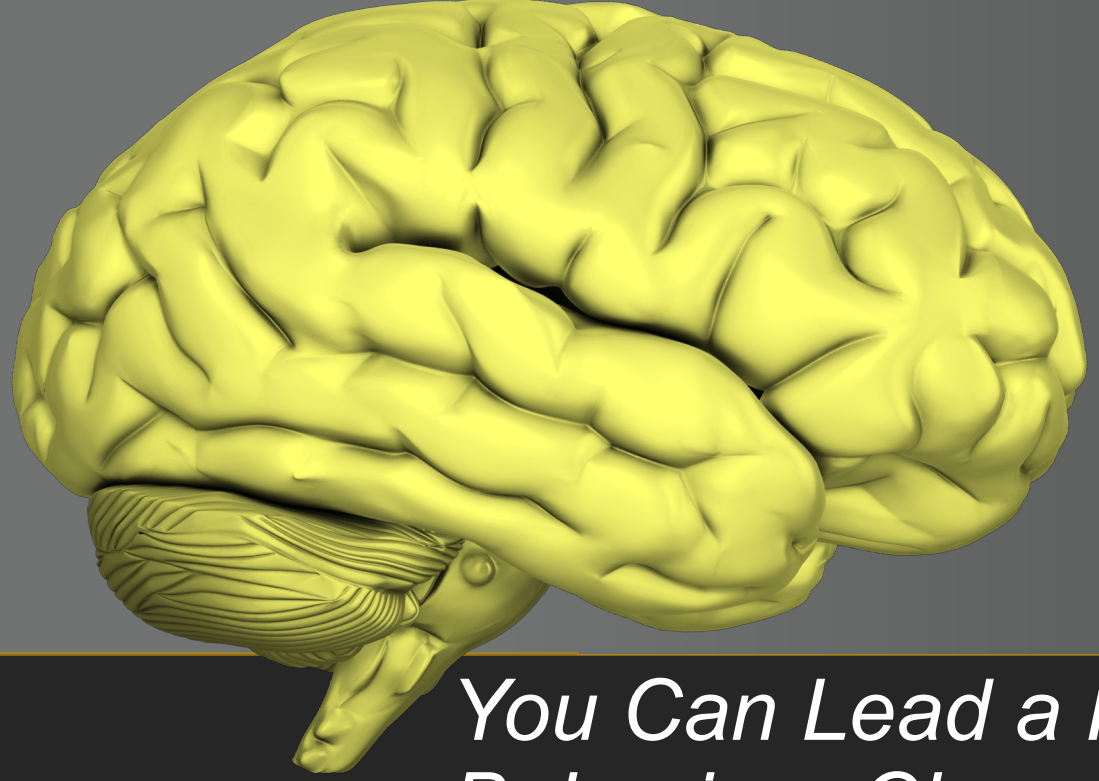


You Can Lead a Horse to Water….But: The Role of Behaviour Change Counselling in Chronic Disease Management

DALHOUSIE UNIVERSITY

Michael Vallis, PhD R Psych

Associate Professor, Family Medicine

Dalhousie University, Halifax, Canada

family.medicine.dal.ca

Inspiring Minds. Impacting Communities.

Objectives of this Session

Even in the context of the COVID-19 pandemic, behaviour is a key feature to the achievement of health outcomes in those living with Chronic Disease.

Yet sustained behaviour change is hard and, importantly, Healthcare Providers are trained to be experts, most comfortable with making recommendations and providing education (neither of which are highly effective in helping people overcome barriers to change).

This session will present a model of care that is based on relational and behavioural interventions that can shift the typical "teach and tell" dynamic in chronic care to "collaborate and empower".

This session is intended to highlight the role of the Psychologist in providing support to the healthcare team to integrate behaviour change interventions into chronic care teams in a manner that ensures fidelity and competency with regards to evidence based behaviour change strategies.

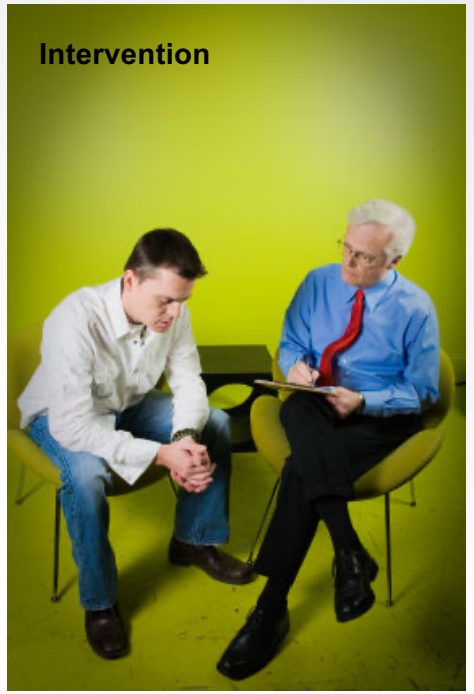
The goal of this session is to encourage early career Psychologists to expand their awareness of their scope of practice to facilitate population health improvement.

How Far is Our Reach?

Behavioural drift is to be expected

- Our services work well for most (not all) of those who participate
- Our services work well while we are able to provide ongoing follow-up
- But what about those we don't/can't reach or who are not ready to change?

NNT = 1.7 - 8.9
Hunsley et al., 2013



Striking the Balance

Public Health Education:

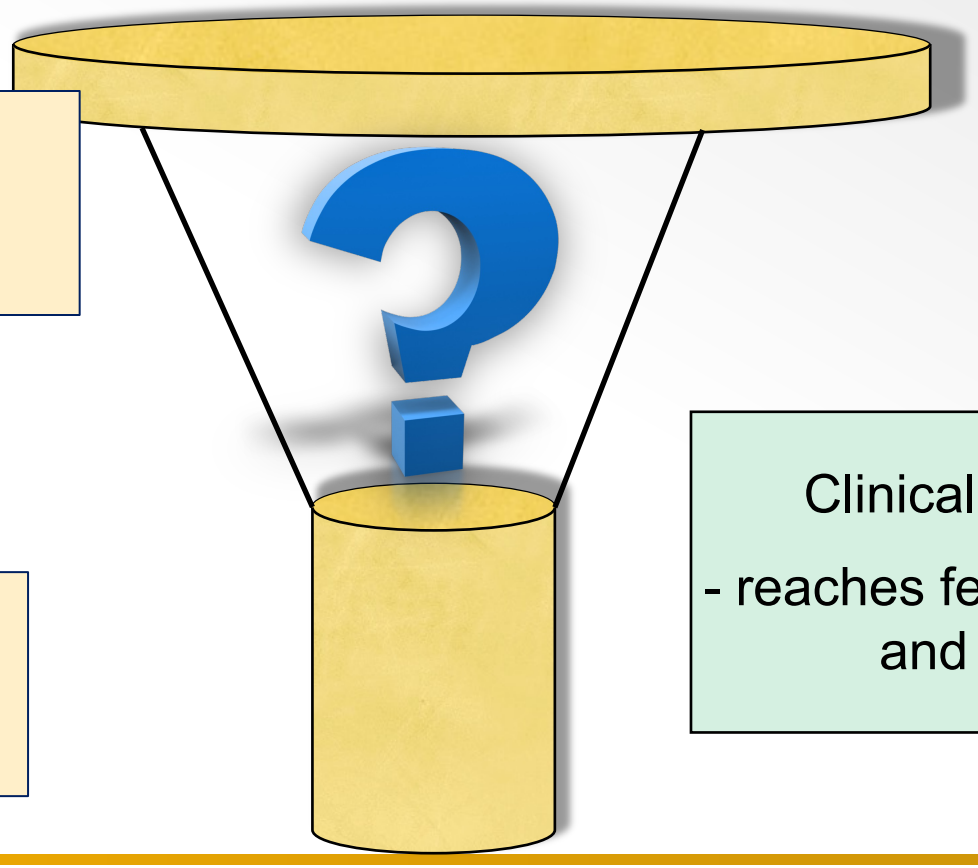
- reaches many but impersonal and generic

Smoking: Proactive recruitment

- 5-10% success rate

- 65-70% participation rate

Impact = 10% x 70% = 7.0%



Smoking: reactive recruitment

- 20-30% success rate

- 1% participation rate

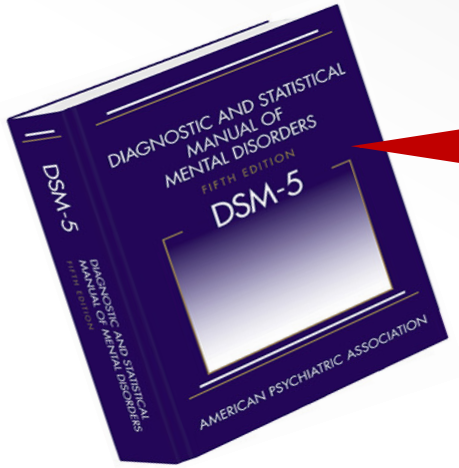
Impact = 30% x 1% = 0.3%

Clinical Intervention:

- reaches few but is personal and intensive

Let's Hear What You Think – Use Chat

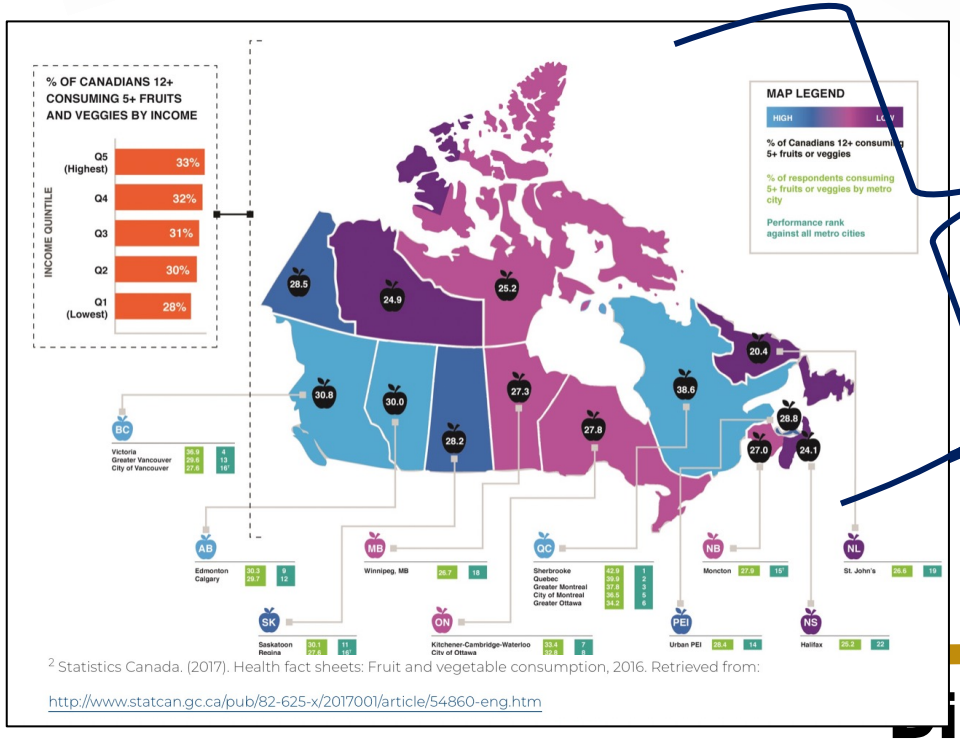
- Reflecting on Canadian PhD Clinical Psychology training programs, how much attention is given to:
  - Psychopathology (diagnostics)?
    - Low, Moderate, High
  - Protocol based evidence-based interventions?
    - Low, Moderate High



PSYCHOPATHOLOGY

Pathology of the Psyche

Subjective Distress
Functional Interference

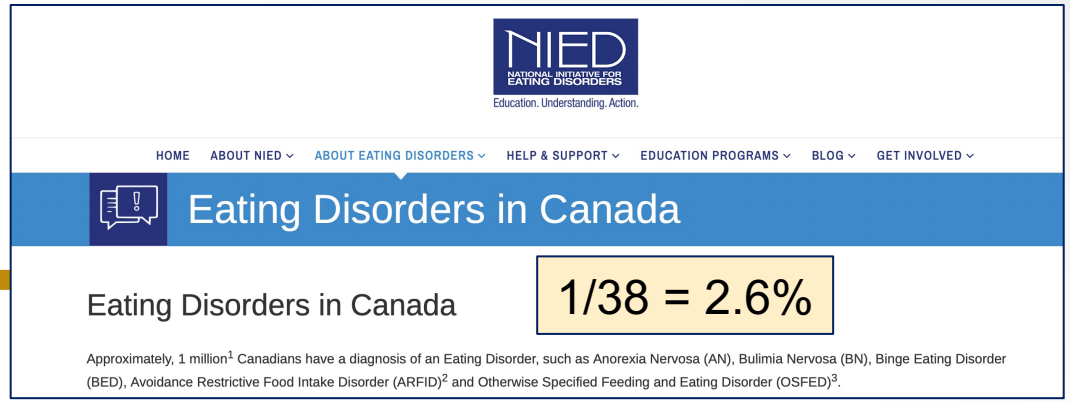


[2] Statistics Canada. (2017). Health fact sheets: Fruit and vegetable consumption, 2016. Retrieved from: http://www.statcan.gc.ca/pub/82-625-x/2017001/article/54860-eng.htm

70% disordered eating

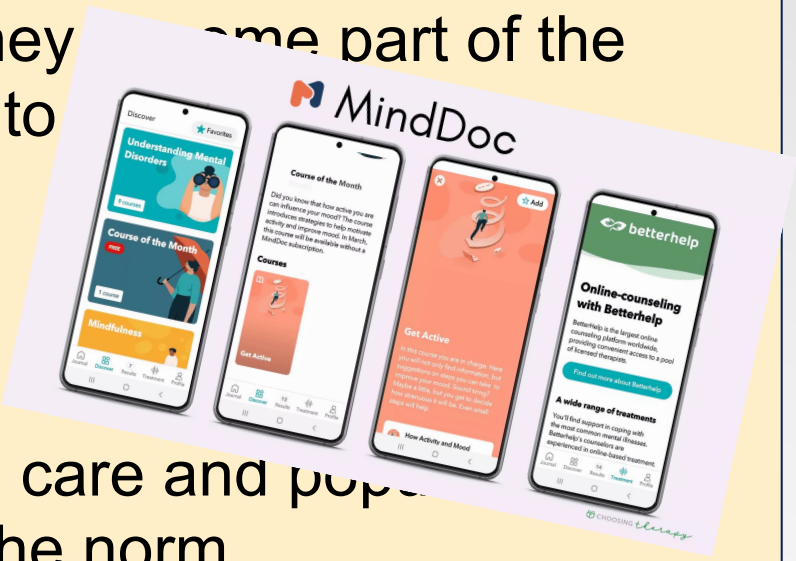
Psychiatric Diagnosis

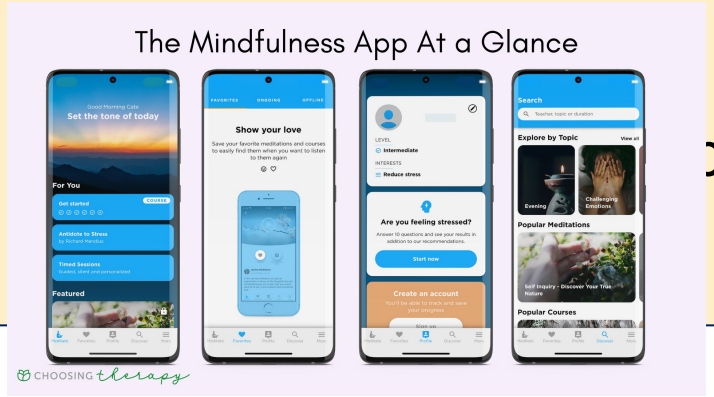
Distress



What Do We Know About Evidence-based Interventions?

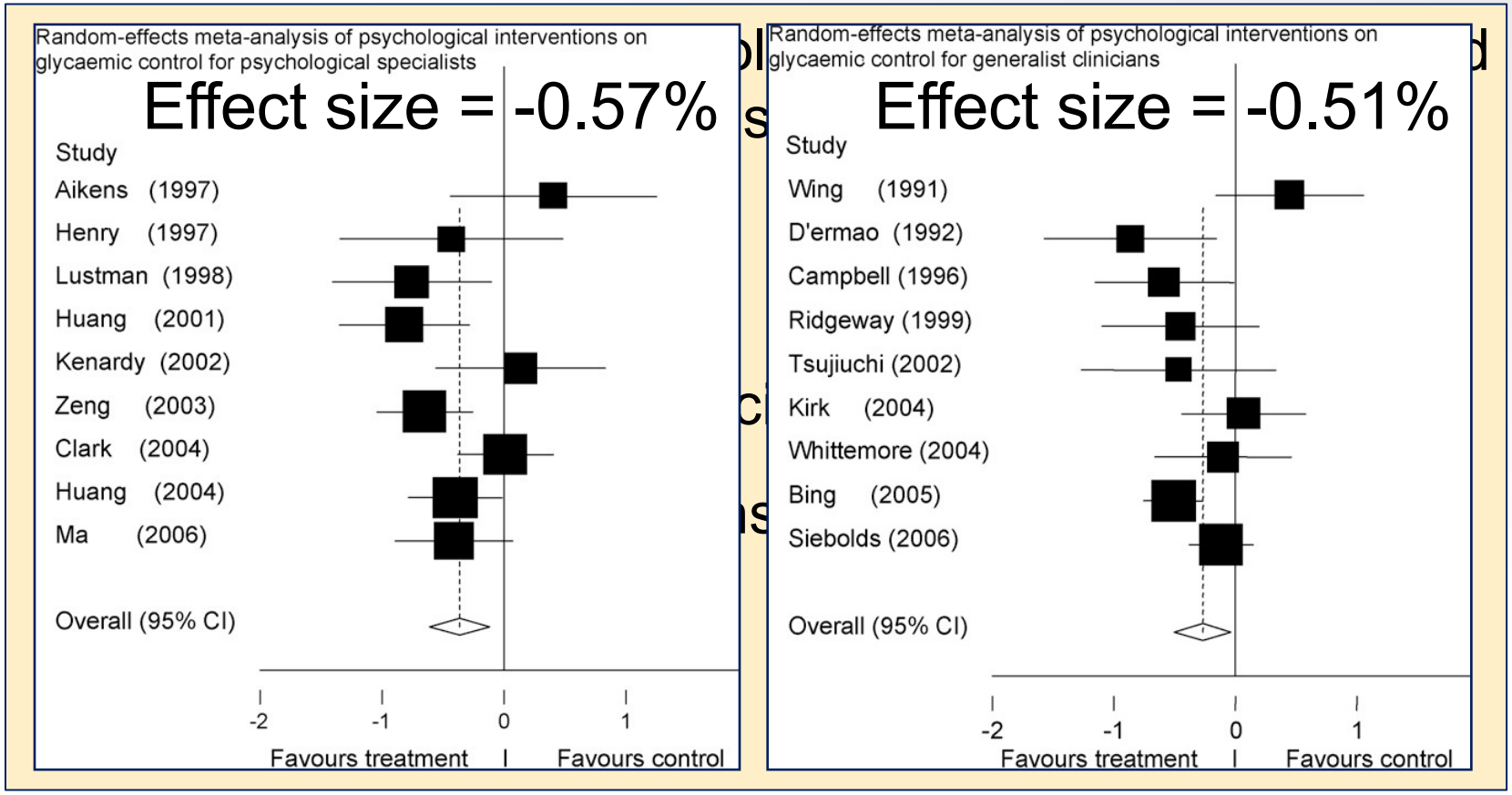
- Once protocols become v… they …me part of the …re - pu… …e to …
- …is be…
- …cardi…
- The healthcare system is transforming in that clinical care and pope… …the norm …etc





Psychological Intervention and Type 2 Diabetes Control

Alam, Sturt, Lall & Winkley, Patient Education and Counseling, 2009;75:25-36



A View From the Trenches

Prevalence of diabetes in Nova Scotia

17%

https://www.diabetes.ca/advocacy---policies/advocacy-reports/national-and-provincial-backgrounders/diabetes-in-nova-scotia?gclid=CjwKCAjwkaSaBhA4EiwALBgQaO_aQnjfVD7Wg0QjGLBFro1CNH4M0R6o7U91v8d3KBxuSwHMtIP9qhoC4mcQAvD_BwE

Access to Diabetes Psychologist:

Of 39 clinics, 1 Psychologist 2 days/wk

How Psychologists Can Contribute to Improved HealthCare in Canada

- Where the system is now
  - HCPs are the experts, they are in charge
  - Teach and Tell is what we are good at
- Where does this system need to be
  - Collaborate and empower to achieve maximum benefit from self-management
  - Psychologists can participate by supporting the comprehensive implementation of effective behaviour change and adjustment to illness skills, both for HCPs and individual citizens

ReDefining Our Role: Returning to Our Roots

- Clinical Psychology involves the study of human behaviour

Can expanding beyond Psychopathology-based services within hard to reach intensive clinics increase our value to society and allow us to use a wider range of our domain skills?

A powerful influence on behaviour change comes from the individual within their micro culture

- But without

change on

What is the success rate of New Years Resolutions?

(eTable 5 in ividuals
ever employ st 1 mod-
ule and 21.4 an of 1.3
modules). A module,
60.9% comp an of 3.7
modules co al health

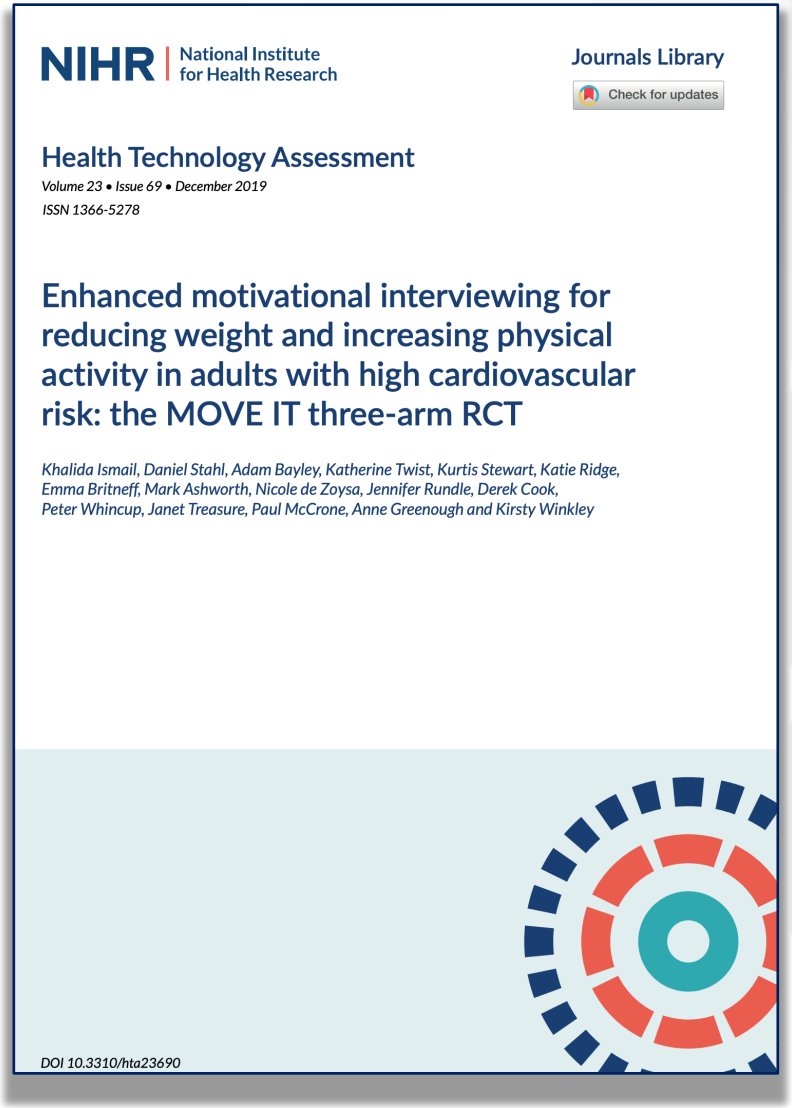
not exposed, but there were no significant differences in clinical measures of health, health care spending and utilization, and employment outcomes after 18 months. Although limited by incomplete data on some outcomes, these findings may temper expectations about the financial return on investment that wellness programs can deliver in the short term.

TRIAL REGISTRATION ClinicalTrials.gov Identifier: NCT03167658

JAMA. 2019;321(15):1491-1501. doi:10.1001/jama.2019.3307
Corrected on April 16, 2019.

University of Chicago Harris School of Public Policy, Chicago, Illinois (Baicker); National Bureau of Economic Research (NBER), Cambridge, Massachusetts (Baicker).

Corresponding Author: Zirui Song, MD, PhD, Department of Health Care Policy, Harvard Medical School, 180A Longwood Ave, Boston, MA 02115 (song@hcp.med.harvard.edu).



Conclusions

This study suggests that an intensive lifestyle intervention using BCTs based on MI and CBT is not effective in reducing weight and increasing PA in a population-based sample of people at high risk of CVD. The reason may be that the study did not reach those with modifiable CVD risk factors as this sample consisted of predominantly older males. This suggests that the QRISK2 engine on its own is not suitable for identifying those patients most likely to benefit from intensive lifestyle interventions. Further research should focus on interventions for those subgroups most at risk who are less likely to participate in lifestyle interventions (people of African Caribbean ethnicity or in low socioeconomic settings) or who have a higher proportion of modifiable CVD risk factors (evidence of being overweight or having high lipids levels).

When combining MITI scores across HLFs, we found that the MI aspects of the intervention were not delivered at the desired competency level. At the HLF level, none of the HLFs reached the minimum MITI-based proficiency level and only three met the competency criteria adapted for the study. By further stratifying by session type, however, we found that two HLFs delivered the MI elements in individual sessions at a level deemed competent for our study.

Most HLFs were 'partially proficient' in delivering BCTs. Only three BCTs ('prompt intention formation', 'prompt specific goal-setting' and 'agree on behavioural contract') were administered in > 70% of sessions. Furthermore, two BCTs ('self-talk' and 'relapse prevention') were delivered in approximately < 30% of sessions.

Questions to Ponder

- Should the 50 min hour stay sacred?
- Is a thorough psychological history, testing, and comprehensive conceptualization required on all patients before we begin our work?
- Is there a role for generic psychological intervention?
- What are the implications for record keeping, workload measurement?
- What does inter-disciplinary work mean for us?

Defining Our Opportunity

DIABETES RESEARCH AND CLINICAL PRACTICE 181 (2021) 109133

Contents available at ScienceDirect

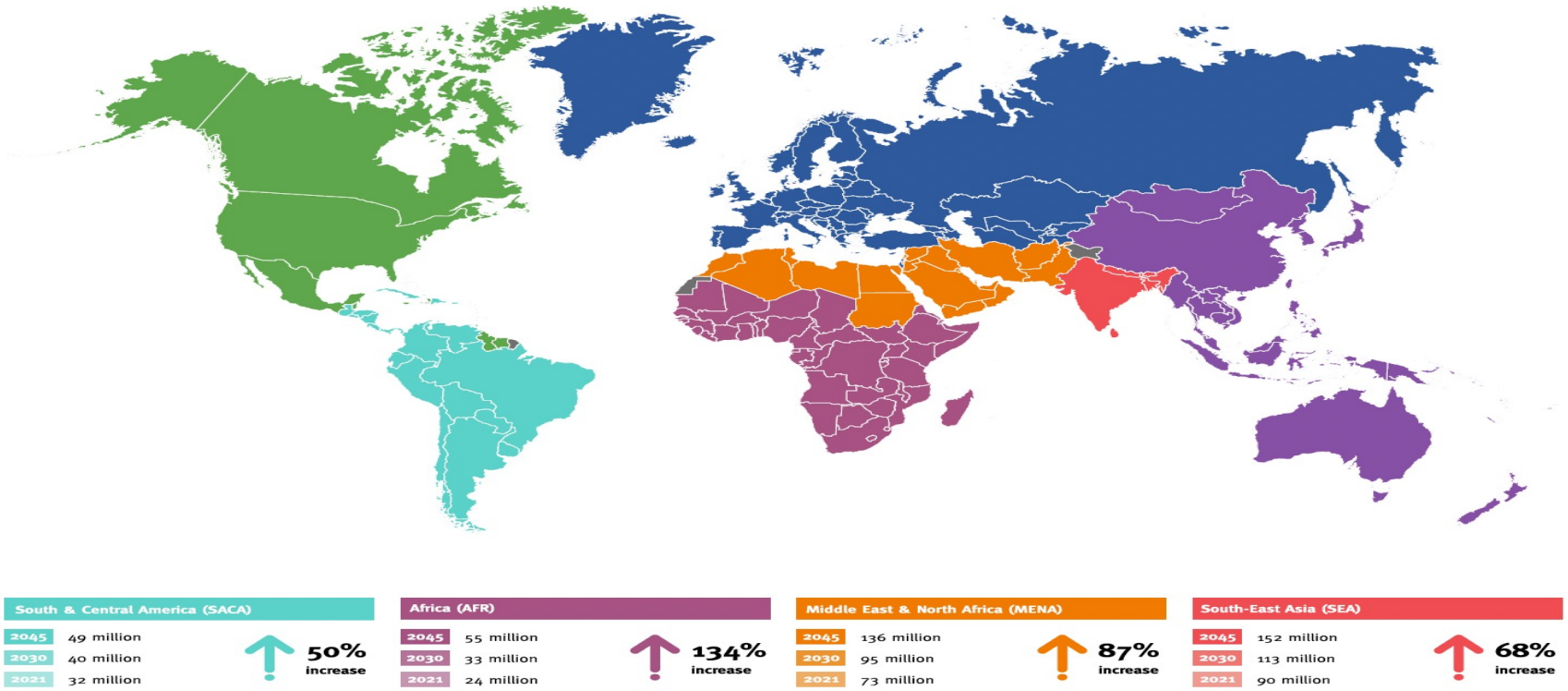
Diabetes Research and Clinical Practice

journal homepage: www.elsevier.com/locate/diabres

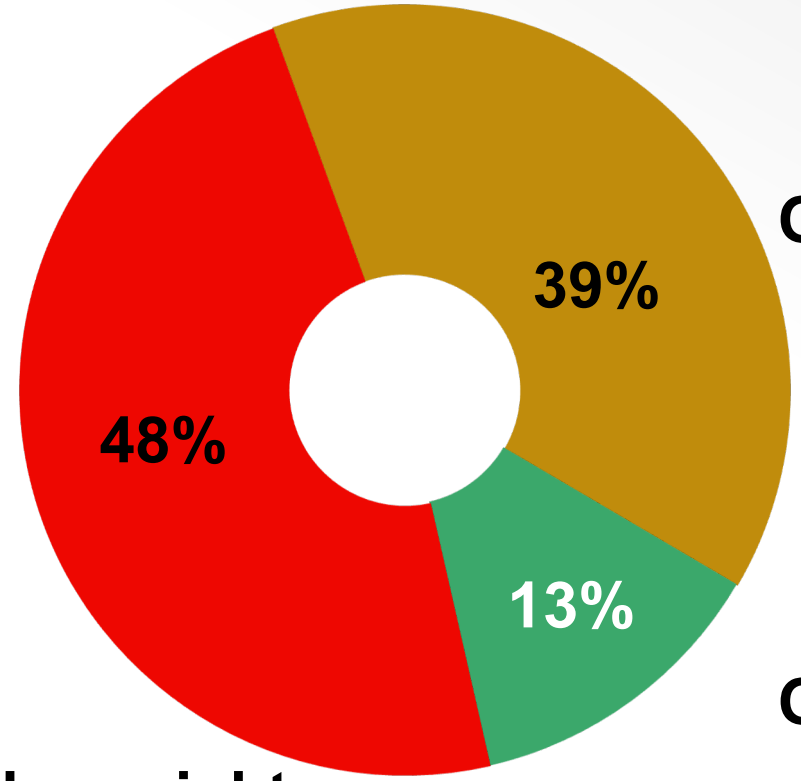
International Diabetes Federation

Diabetes is "a pandemic of unprecedented magnitude" now affecting one in 10 adults worldwide

Diabetes around the world | 2021



Overweight and obesity worldwide



Overweight — >1.9 billion overweight adults

Obesity — >650 million adults with obesity

Healthy weight

World Health Organization. Obesity and Overweight. Factsheet 311. 2020. Available at: http://www.who.int/ (accessed October 2020)

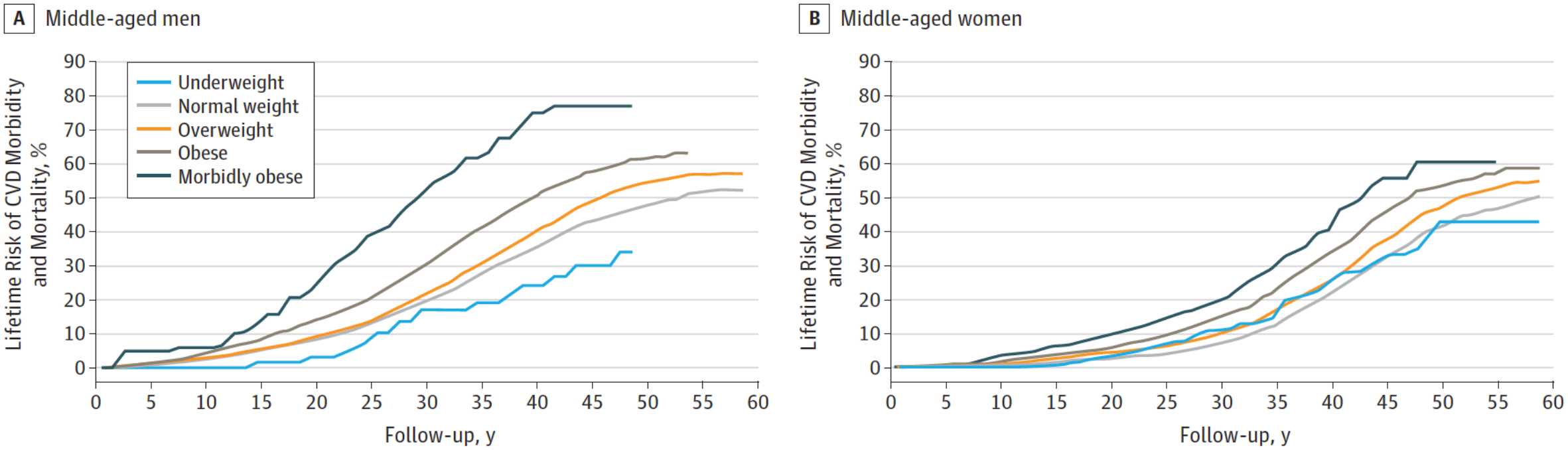
JAMA Cardiology | Original Investigation

Published online February 28, 2018

Association of Body Mass Index With Lifetime Risk of Cardiovascular Disease and Compression of Morbidity

Sadiya S. Khan, MD, MS; Hongyan Ning, MD, MS; John T. Wilkins, MD, MS; Norrina Allen, PhD; Mercedes Carnethon, PhD; Jarett D. Berry, MD; Ranya N. Sweis, MD, MS; Donald M. Lloyd-Jones, MD, ScM

Figure 1. Lifetime Risk of Cardiovascular Disease (CVD) Morbidity and Mortality Among Middle-aged Individuals



Research

JAMA | Original Investigation

The State of US Health, 1990-2016

Burden of Diseases, Injuries, and Risk Factors Among US States

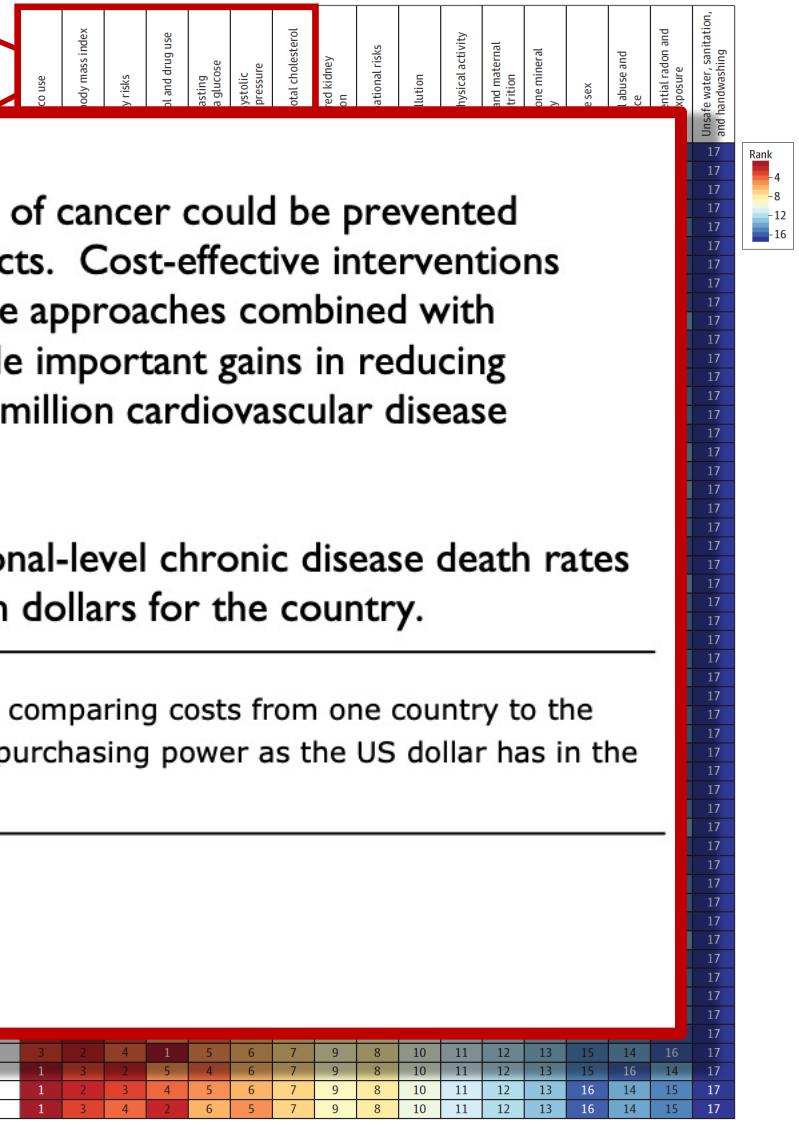
The US Burden of Disease Collaborators

Tobacco use

High body mass index

US Burden of Diseases, Injuries, and Disease Risk Factors, 1990-2016 Original Investigation Research

Figure 10. Ranking of Risk Factors in 2016 for the United States Overall, the 50 States, and the District of Columbia According to the Number of Disability-Adjusted Life-Years Related to Each Risk Factor



Washington	3	2	4	1	5	6	7	9	8	10	11	12	13	15	14	16	17
West Virginia	1	3	2	5	4	6	7	9	8	10	11	12	13	15	16	14	17
Wisconsin	1	2	3	4	5	6	7	9	8	10	11	12	13	16	14	15	17
Wyoming	1	3	4	2	6	5	7	9	8	10	11	12	13	16	14	15	17

Solutions

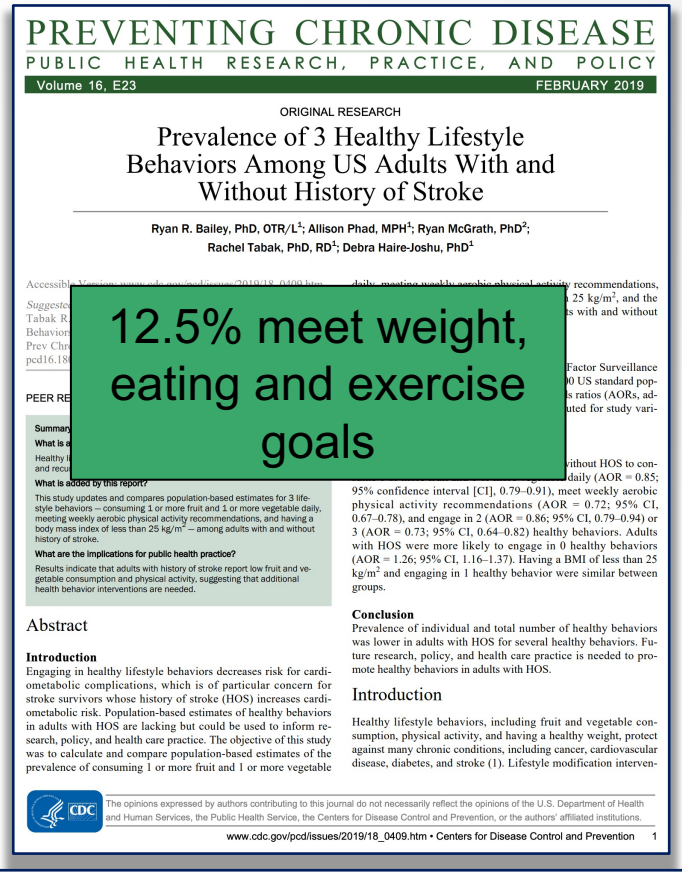
At least 80% of premature heart disease, stroke and type 2 diabetes, and 40% of cancer could be prevented through healthy diet, regular physical activity and avoidance of tobacco products. Cost-effective interventions exist: the most successful strategies have employed a range of population-wide approaches combined with interventions for individuals. Using these approaches, Canada has already made important gains in reducing chronic disease death rates: WHO estimates that from 1970 to 2000, over 1 million cardiovascular disease deaths were averted in Canada.

WHO further estimates that an additional 2 percent annual reduction in national-level chronic disease death rates in Canada over the next 10 years would result in an economic gain of 1 billion dollars for the country.

[I] An international dollar is a hypothetical currency that is used as a means of translating and comparing costs from one country to the other using a common reference point, the US dollar. An international dollar has the same purchasing power as the US dollar has in the United States.

World Health Organization

http://www.who.int/chp/chronic_disease_report/en/



PREVENTING CHRONIC DISEASE

PUBLIC HEALTH RESEARCH, PRACTICE, AND POLICY

Volume 16, E23 FEBRUARY 2019

ORIGINAL RESEARCH

Prevalence of 3 Healthy Lifestyle Behaviors Among US Adults With and Without History of Stroke

Ryan R. Bailey, PhD, OTR/L[1]; Allison Phad, MPH[1]; Ryan McGrath, PhD[2]; Rachel Tabak, PhD, RD[1]; Debra Haire-Joshu, PhD[1]

12.5% meet weight, eating and exercise goals

Abstract

Introduction

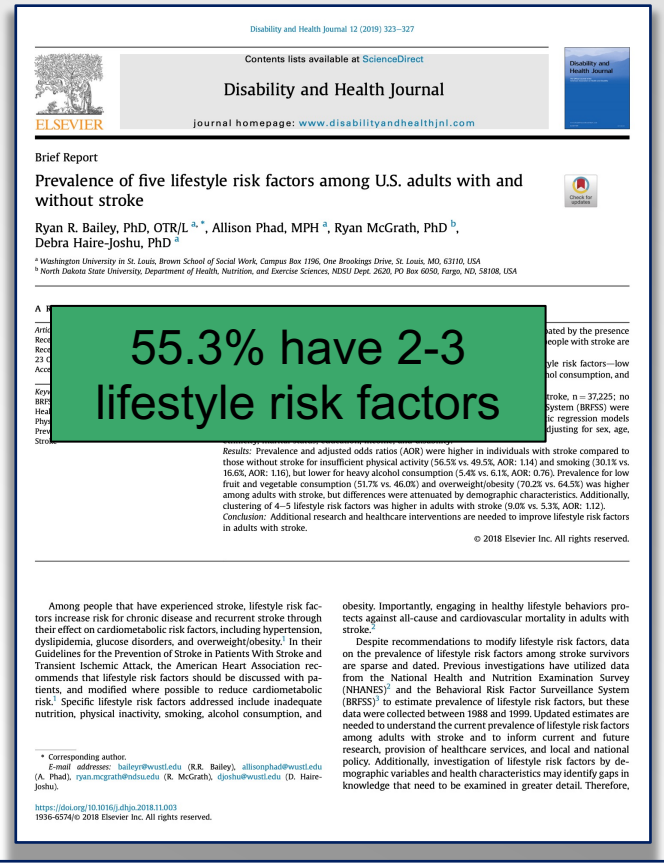
Engaging in healthy lifestyle behaviors decreases risk for cardiometabolic complications, which is of particular concern for stroke survivors whose history of stroke (HOS) increases cardiometabolic risk. Population-based estimates of healthy behaviors in adults with HOS are lacking but could be used to inform research, policy, and health care practice. The objective of this study was to calculate and compare population-based estimates of the prevalence of consuming 1 or more fruit and 1 or more vegetable daily, meeting weekly aerobic physical activity recommendations, and having a body mass index of less than 25 kg/m^2, and the prevalence with and without HOS to consume 1 or more fruit and 1 or more vegetable daily (AOR = 0.85; 95% confidence interval [CI], 0.79–0.91), meet weekly aerobic physical activity recommendations (AOR = 0.72; 95% CI, 0.67–0.78), and engage in 2 (AOR = 0.86; 95% CI, 0.79–0.94) or 3 (AOR = 0.73; 95% CI, 0.64–0.82) healthy behaviors. Adults with HOS were more likely to engage in 0 healthy behaviors (AOR = 1.26; 95% CI, 1.16–1.37). Having a BMI of less than 25 kg/m^2 and engaging in 1 healthy behavior were similar between groups.

Conclusion

Prevalence of individual and total number of healthy behaviors was lower in adults with HOS for several healthy behaviors. Future research, policy, and health care practice is needed to promote healthy behaviors in adults with HOS.

Introduction

Healthy lifestyle behaviors, including fruit and vegetable consumption, physical activity, and having a healthy weight, protect against many chronic conditions, including cancer, cardiovascular disease, diabetes, and stroke (1). Lifestyle modification interven-



Disability and Health Journal 12 (2019) 323–327

Contents lists available at ScienceDirect

Disability and Health Journal

journal homepage: www.disabilityandhealthjnl.com

Brief Report

Prevalence of five lifestyle risk factors among U.S. adults with and without stroke

Ryan R. Bailey, PhD, OTR/L [a, *], Allison Phad, MPH [a], Ryan McGrath, PhD [b], Debra Haire-Joshu, PhD [a]

[a] Washington University in St. Louis, Brown School of Social Work, Campus Box 1196, One Brookings Drive, St. Louis, MO, 63110, USA
[b] North Dakota State University, Department of Health, Nutrition, and Exercise Sciences, NDSU Dept. 2620, PO Box 6050, Fargo, ND, 58108, USA

55.3% have 2-3 lifestyle risk factors

Results: Prevalence and adjusted odds ratios (AOR) were higher in individuals with stroke compared to those without stroke for insufficient physical activity (56.5% vs. 49.5%, AOR: 1.14) and smoking (30.1% vs. 16.6%, AOR: 1.16), but lower for heavy alcohol consumption (5.4% vs. 6.1%, AOR: 0.76). Prevalence for low fruit and vegetable consumption (51.7% vs. 46.0%) and overweight/obesity (70.2% vs. 64.5%) was higher among adults with stroke, but differences were attenuated by demographic characteristics. Additionally, clustering of 4–5 lifestyle risk factors was higher in adults with stroke (9.0% vs. 5.3%, AOR: 1.12).

Conclusion: Additional research and healthcare interventions are needed to improve lifestyle risk factors in adults with stroke.

Among people that have experienced stroke, lifestyle risk factors increase risk for chronic disease and recurrent stroke through their effect on cardiometabolic risk factors, including hypertension, dyslipidemia, glucose disorders, and overweight/obesity.[1] In their Guidelines for the Prevention of Stroke in Patients With Stroke and Transient Ischemic Attack, the American Heart Association recommends that lifestyle risk factors should be discussed with patients, and modified where possible to reduce cardiometabolic risk.[1] Specific lifestyle risk factors addressed include inadequate nutrition, physical inactivity, smoking, alcohol consumption, and obesity. Importantly, engaging in healthy lifestyle behaviors protects against all-cause and cardiovascular mortality in adults with stroke.[2]

Despite recommendations to modify lifestyle risk factors, data on the prevalence of lifestyle risk factors among stroke survivors are sparse and dated. Previous investigations have utilized data from the National Health and Nutrition Examination Survey (NHANES)[2] and the Behavioral Risk Factor Surveillance System (BRFSS)[3] to estimate prevalence of lifestyle risk factors, but these data were collected between 1988 and 1999. Updated estimates are needed to understand the current prevalence of lifestyle risk factors among adults with stroke and to inform current and future research, provision of healthcare services, and local and national policy. Additionally, investigation of lifestyle risk factors by demographic variables and health characteristics may identify gaps in knowledge that need to be examined in greater detail. Therefore,

* Corresponding author.
E-mail addresses: baileyr@wustl.edu (R.R. Bailey), allisonphad@wustl.edu (A. Phad), ryan.mcgrath@ndsu.edu (R. McGrath), djoshu@wustl.edu (D. Haire-Joshu).

https://doi.org/10.1016/j.dhjo.2018.11.003
1936-6574/© 2018 Elsevier Inc. All rights reserved.

Table 3. Prevalence of Number of Healthy Behaviors Among US Adults, by History of Stroke Status, Behavioral Risk Factor Surveillance System, 2015

Number of Healthy Behaviors[a]	Number of Respondents[b]	Total	History of Stroke (n = 13,917)	No History of Stroke (n = 333,013)
			% (95% Confidence Interval)[c]	
0	63,895	19.0 (18.8–19.3	24.8 (22.2–27.5)	18.8 (18.6–19.1)
1	120,379	35.8 (35.5–36.2	36.4 (33.1–39.6)	35.8 (35.4–36.1)
2	115,397	32.6 (32.3–32.9	30.8 (27.3–34.3)	32.8 (32.4–33.1)
3	47,259	12.5 (12.3–12.8	8.1 (5.9–10.2)	12.7 (12.4–12.9)

[a] The number of healthy behaviors (ie, consumes ≥1 fruit and ≥1 vegetable daily, meets weekly aerobic physical activity recommendations, has a body mass index <25 kg/m^2) was computed for each respondent by summing the number of individual healthy behaviors. Only respondents who provided data for all 3 healthy behaviors were included in the analysis.
[b] Unweighted number of respondents.
[c] Estimates are weighted and age-adjusted to the 2000 US standard population.

Table 2
Age-adjusted prevalence of individual and total number of lifestyle risk factors among U.S. adults by stroke status (stroke: n = 37,225; no stroke: n = 851,607).

Lifestyle Risk Factor	Number of Participants[a]	Total% (95% CI)[b]	Stroke% (95% CI)[b]	No Stroke% (95% CI)[b]
Low Fruit and Vegetable Consumption	335,989	46.2 (45.9, 46.4)	51.7 (48.9, 54.5)	46.0 (45.7, 46.2)
Does Not Meet Weekly Aerobic PA Recommendations	375,744	49.8 (49.6, 50.1)	56.5 (53.9, 59.1)	49.5 (49.3, 49.8)
Current Smoker	124,526	16.9 (16.8, 17.1)	30.1 (27.5, 32.7)	16.6 (16.5, 16.8)
Heavy Drinking	46,415	6.1 (6.0, 6.2)	5.4 (4.3, 6.5)	6.1 (6.0, 6.2)
Overweight/Obesity	543,229	64.6 (64.4, 64.8)	70.2 (67.6, 72.8)	64.5 (64.3, 64.7)
Number of Lifestyle Risk Factors[c]				
0-1	287,258	39.3 (39.0, 39.5)	28.6 (25.9, 31.3)	39.6 (39.3, 39.9)
2-3	373,638	55.3 (55.1, 55.6)	62.5 (59.6, 65.4)	55.1 (54.9, 55.4)
4-5	32,424	5.4 (5.3, 5.5)	9.0 (7.8, 10.1)	5.3 (5.1, 5.4)

Abbreviations: CI, Confidence Interval; PA, Physical Activity.
[a] Unweighted number of participants. The number of participants who reported each individual and total number of lifestyle risk factors is displayed.
[b] Weighted estimates.
[c] Only participants who provided data for all 5 lifestyle risk factors were included in the analysis (total, n = 693,320; stroke, n = 28,296; no stroke, n = 665,024).

Table 3. Frequency

Prescriptions	New Indication
Central nervous syster	7953 (32.8)
Analgesics and antip	2804 (30.0)
Psychotherapeutic a	2594 (33.9)
Cardiovascular drugs	6151 (41.8)
Hypotensive agents	2246 (42.3)
Antilipemic	2204 (40.5)
Anti-Infectives	4726 (25.1)
Antibacterials	3835 (24.5)
Antivirals	258 (34.9)
Hormones and synthet	3543 (38.3)
Antidiabetic agents	972 (29.0)
Thyroid/antithyroid	614 (49.4)
Skin and mucous mem	2698 (29.4)
Anti-inflammatory a	546 (30.2)
Gastrointestinal drugs	1976 (37.7)
Antiulcer agents	1816 (37.9)
Ear, nose, and throat p	1567 (35.9)
Anti-inflammatory a	1281 (38.1)
Autonomic drugs	1035 (30.2)
Diuretics	974 (33.5)
Other pharmacologic	1891 (36.4)
Total	32 514 (34.3)

Received: 27 January 2021 | Accepted: 15 June 2021
DOI: 10.1111/dme.14622

RESEARCH: DIABETIC MEDICINE

DIABETIC Medicine

First-line pharmacotherapy for incident type 2 diabetes: Prescription patterns, adherence and associated costs

David J. T. Campbell[1,2,3] | **Dennis B. Campbell**[4] | **Yewande Ogundeji**[1] | **Flora Au**[1] | **Reed Beall**[2] | **Paul E. Ronksley**[2] | **Amity E. Quinn**[2] | **Braden J. Manns**[1,2] | **Brenda R. Hemmelgarn**[4] | **Marcello Tonelli**[1,2] | **Eldon Spackman**[2]

[1]Department of Medicine, Cumming School of Medicine, University of Calgary, Calgary, AB, Canada
[2]Department of Community Health Sciences, Cumming School of Medicine, University of Calgary, Calgary, AB, Canada
[3]Department of Cardiac Sciences, Cumming School of Medicine, University of Calgary, Calgary, AB, Canada
[4]Faculty of Medicine & Dentistry, University of Alberta, Edmonton, AB, Canada

Correspondence
David Campbell, Departments of Medicine, Community Health Sciences & Cardiac Sciences, University of Calgary, Cumming School of Medicine, 3280 Hospital Dr. NW, Calgary, AB, Canada T2N 1N4.
Email: dcampbel@ucalgary.ca

Funding Information
MSI Foundation grant to Dr. Reed Beall. The funder played no role in study design, data collection, data analysis, manuscript preparation and/or publication decisions.

Abstract

Aims: To use real-world prescription data from Alberta, Canada to: (a) describe the prescribing patterns for initial pharmacotherapy for those with newly diagnosed uncomplicated type 2 diabetes; (b) describe medication-taking behaviours (adherence and persistence) in the first year after initiating pharmacotherapy; and (c) explore healthcare system costs associated with prescribing patterns.

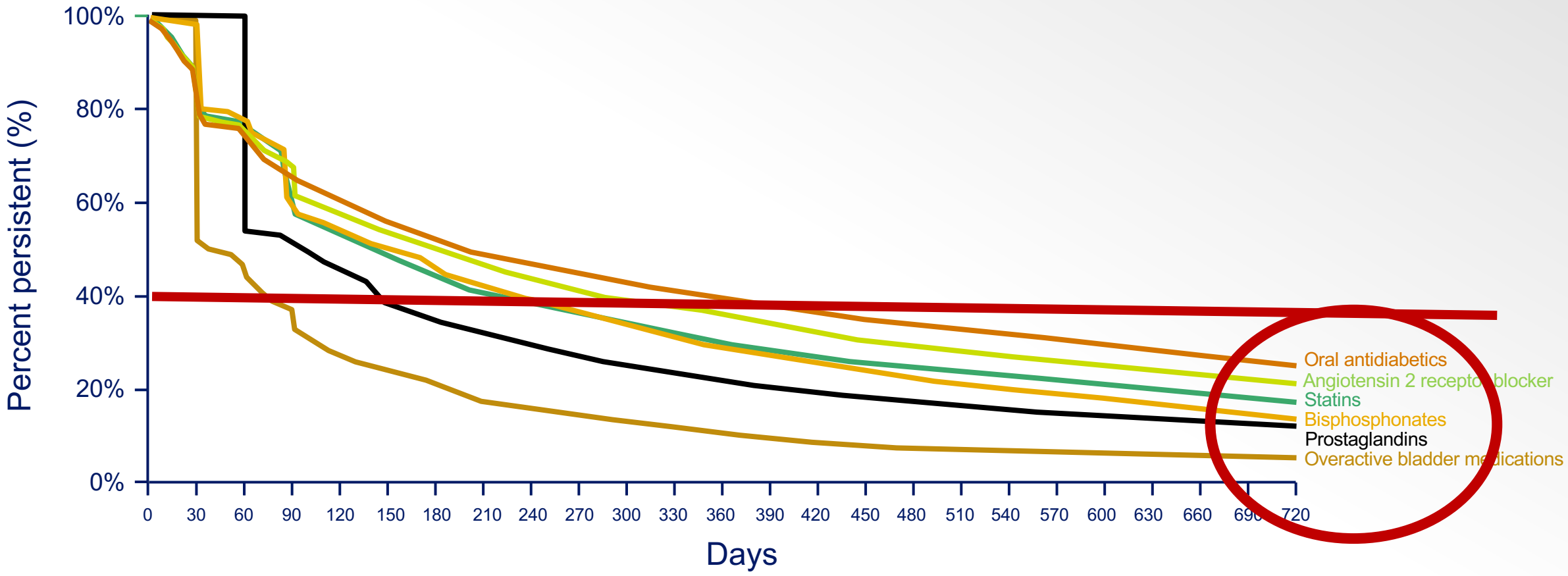
Methods: We employed a retrospective cohort design using linked administrative datasets from 2012 to 2017 to define a cohort of those with uncomplicated incident diabetes. We summarized the initial prescription patterns, adherence and costs (healthcare and pharmaceutical) over the first year after initiation of pharmacotherapy. Using multivariable regression, we determined the association of these outcomes with various sociodemographic characteristics.

Results: The majority of individuals for whom metformin was indicated as first-line therapy received a prescription for metformin monotherapy (89%). Older individuals, those with higher baseline A1C and those with no comorbidities, were most likely to be started on non-metformin agents. Adherence with the initially prescribed regimen was suboptimal overall, with nearly half (48%) being non-adherent over the first year. One-third of those who started metformin discontinued it in the first 3 months. Those started on non-metformin agents had roughly twice the healthcare costs, and five to seven times higher medication costs, compared to those started on metformin, in the first year after starting therapy.

Conclusions: With the addition of new classes of medications, healthcare providers who look after those with type 2 diabetes have more pharmaceutical options than ever. Most individuals continue to be prescribed metformin monotherapy. However, adherence is suboptimal, and drops off considerably within the first 3 months.

KEYWORDS
cohort studies, hypoglycaemic agents, metformin, patient compliance, prescriptions, type 2 diabetes

Treatment persistence: a significant issue in chronic disease, including diabetes



Yeaw *et al. J Manag Care Pharm* 2009;15:728–40; Roussel *et al. Diabetes Ther* 2016;7:537–49.

Yet It Is Not Hopeless!

ORIGINAL INVESTIGATION

HEALTH CARE REFORM

Healthy Living Is the Best Revenge

Findings From the European Prospective Investigation Into Cancer and Nutrition–Potsdam Study

Earl S. Ford, MD, MPH; Manuela M. Bergmann, PhD; Janine Kröger; Anja Schienkiewitz, PhD, MPH; Cornelia Weikert, MD, MPH; Heiner Boeing, PhD, MSPH

Background: Our objective was to describe the reduction in relative risk of developing major chronic diseases such as cardiovascular disease, diabetes, and cancer associated with 4 healthy lifestyle factors among German adults.

Methods: We used data from 23 153 German participants aged 35 to 65 years from the European Prospective Investigation Into Cancer and Nutrition–Potsdam study. End points included confirmed incident type 2 diabetes mellitus, myocardial infarction, stroke, and cancer. The 4 factors were never smoking, having a body mass index lower than 30 (calculated as weight in kilograms divided by height in meters squared), performing 3.5 h/wk or more of physical activity, and adhering to healthy dietary principles (high intake of fruits, vegetables, and whole-grain bread and low meat consumption). The 4 factors (healthy, 1 point; unhealthy, 0 points) were summed to form an index that ranged from 0 to 4.

Results: During a mean follow-up of 7.8 years, 2006 participants developed new-onset diabetes (3.7%), myocardial infarction (0.9%), stroke (0.8%), or cancer (3.8%). Fewer than 4% of participants had zero healthy factors, most had 1 to 3 healthy factors, and approximately 9% had 4 factors. After adjusting for age, sex, educational status, and occupational status, the hazard ratio for developing a chronic disease decreased progressively as the number of healthy factors increased. Participants with all 4 factors at baseline had a 78% (95% confidence interval [CI], 72% to 83%) lower risk of developing a chronic disease (diabetes, 93% [95% CI, 88% to 95%]; myocardial infarction, 81% [95% CI, 47% to 93%]; stroke, 50% [95% CI, −18% to 79%]; and cancer, 36% [95% CI, 5% to 57%]) than participants without a healthy factor.

Conclusion: Adhering to 4 simple healthy lifestyle factors can have a strong impact on the prevention of chronic diseases.

Arch Intern Med. 2009;169(15):1355-1362

MANY OF THE MAJOR chronic diseases, such as cardiovascular disease (CVD), cancer, and diabetes, which together comprise the overwhelming burden of mortality, are in large part preventable. An impressive body of research has implicated modifiable lifestyle factors such as smoking,[1] physical activity,[2] diet,[3-5] and body weight[6] in the causes of these diseases.

See Invited Commentary at end of article

Previous studies have already demonstrated the potential that healthy lifestyle factors can have on reducing the risk of major chronic diseases.[7-13] However, the adverse effects of smoking, physical inactivity, unhealthy diet, and excess body weight echo across multiple outcomes. Thus, a study of the potential reduction in chronic disease morbidity by these lifestyle factors would be instructive and informative for those making health policy decisions and allocating resources to prevention, in particular if specific combinations of those factors are considered. Therefore, our objective was to examine the extent to which 4 major lifestyle factors and their combinations are associated with reduced risk of developing 4 leading causes of morbidity and mortality, ie, diabetes, coronary heart disease (CHD), stroke, and cancer.[14] Recognizing that other lifestyle choices can affect the risk of future chronic disease, we limited our analyses to not smoking, being physically active, adhering to healthy dietary principles, and avoiding excess body weight because these 4 healthy behaviors constitute a core set included in previous studies examining the effect of healthy lifestyles on morbidity and mortality. We did not include moderate use of alcohol as a potentially beneficial behavior given the adverse health impact of excessive use.

Author Affiliations: Division of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, Atlanta, Georgia (Dr Ford); Department of Epidemiology, German Institute of Human Nutrition (Deutsches Institut für Ernährungsforschung), Potsdam-Rehbrücke, Germany (Drs Bergmann, Schienkiewitz, Weikert, and Boeing and Ms Kröger).

HEALTHY LIFESTYLE FACTORS

The study investigated 4 lifestyle factors (smoking status, body mass index [BMI; calculated as weight in kilograms divided by height in meters squared], physical activity, and diet).

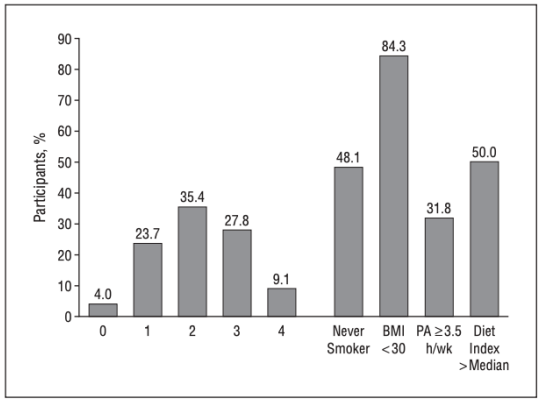


Figure 1. Distribution of healthy lifestyle factors among 23 153 participants aged 35 to 65 years (European Prospective Investigation Into Cancer and Nutrition–Potsdam study). BMI indicates body mass index (calculated as weight in kilograms divided by height in meters squared); PA, physical activity.

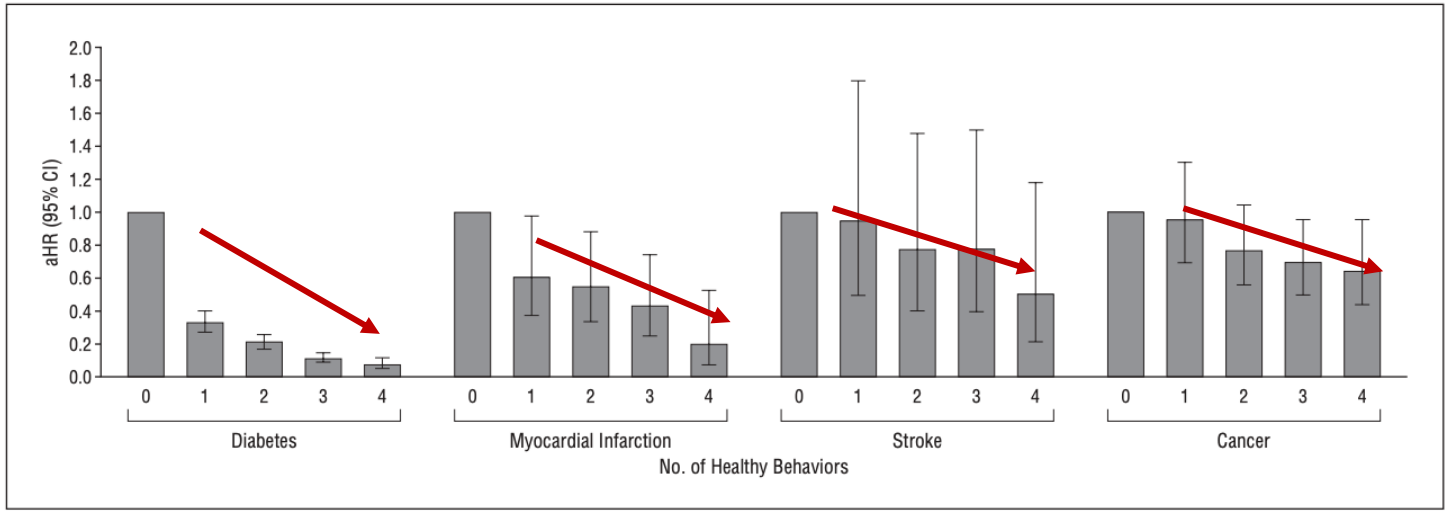


Figure 3. Adjusted hazard ratios (aHRs) and 95% confidence intervals (CIs) for incident diabetes, myocardial infarction, stroke, and cancer by number of healthy factors. Data for 23 153 participants aged 35 to 65 years from the European Prospective Investigation Into Cancer and Nutrition–Potsdam study were used. Results are stratified by age and adjusted for sex, educational status, and occupational status.

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Healthy lifestyle and preventable death: Findings from the Japan Collaborative Cohort (JACC) Study

Akiko Tamakoshi [a,*], Koji Tamakoshi [b], Yingsong Lin [a], Kiyoko Yagyu [a], Shogo Kikuchi [a] for the JACC Study Group

[a] Department of Public Health, Aichi Medical University School of Medicine, Aichi, Japan
[b] Department of Nursing, Nagoya University School of Health Sciences, Nagoya, Japan

ARTICLE INFO

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Keywords:
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ABSTRACT

Objective. To evaluate the effect of baseline combination of 6 lifestyle factors on all-cause mortality.

Methods. A total of 62,106 Japanese men and women aged 40–79 years were followed for 12.5 years on average. Hazard ratios and 95% confidence intervals (CIs) of all-cause mortality in relation to healthy lifestyle factors (not currently smoking, not heavily drinking, walking 1 h or more per day, sleeping 6.5 to 7.4 h per day, eating green-leafy vegetables almost daily and BMI between 18.5 and 24.9) were calculated from proportional-hazards regression models. We also estimated population-attributable fractions of death to address the impact of potential lifestyle modifications on mortality.

Results. Until 2003, 8497 deaths were observed. Age-adjusted HR of all-cause mortality for the group with 6 healthy lifestyle factors was 0.42 (95% CI: 0.32–0.56) among men and 0.49 (0.39–0.60) among women, respectively, compared with the group with 0–2 healthy lifestyle factors. Even at ages 60–79 years, a healthy lifestyle has a major impact on mortality. Had the subjects achieved even a 1-point increment in their lifestyle scores, death rates of 24.7% among men and 18.5% among women could have been reduced.

Conclusion. We found an inverse association between baseline combination of 6 healthy lifestyle factors and all-cause mortality as well as its impact on preventable fraction of death. Our results also demonstrated that healthy lifestyle behaviors are important even in old age.

Introduction

A large body of existing evidence suggests that behavioral risk factors are leading causes of mortality. Among modifiable lifestyle factors, smoking (Doll et al., 2004; Noale et al., 2005), excessive drinking (Dawson, 2000; Lin et al., 2005), obesity (Hozawa et al., 2008; Tsugane et al., 2002; WHO, 2006), and physical activity (Fujita et al., 2004; Hamer and Chida, 2008) are widely accepted behaviors that have been associated with an increased risk of chronic diseases including cancer and cardiovascular diseases. Because of the complex nature of sleep (Kripke et al., 2002; Tamakoshi et al., 2004) and dietary habits (Genkinger et al., 2004; Takachi et al., 2008), their relationship with mortality is not well-defined, with issues such as the objective assessment remaining to be resolved. Despite the established relationship between these individual lifestyle risk factors and mortality, it remains a difficult task to reduce the total number of deaths from these causes. From a public health perspective, a simple

Since some lifestyle factors are mutually related to one another (Haenle et al., 2006; Ma et al., 2000), it is important to investigate their combined effects on overall health. Some studies have attempted to clarify the combined effects of lifestyle variables on all-cause mortality (Breslow and Enstrom, 1980; Haveman-Nies et al., 2002; Khaw et al., 2008; Knoops et al., 2004; Spencer et al., 2005; Tsubono et al., 1993; Tsubono et al., 2004). However, the number of subjects in those studies was relatively small, and differences in impact between those in middle age and the elderly were not investigated except in one recent report (Khaw et al., 2008). In addition, assessment of diet and/or physical activity in some studies were complex (Haveman-Nies et al., 2002; Knoops et al., 2004) or required clinical testing (Khaw et al., 2008).

We have previously reported that individual lifestyle factors such as smoking (Ozasa, 2007), heavy drinking (Lin et al., 2005), obesity (Cui et al., 2005), too long or too short sleep (Tamakoshi et al., 2004), daily walking less than 1 h per day (Noda et al., 2005), and low intake

Lifestyle variables

The questionnaires probed smoking status, alcohol consumption, walking duration, sleep duration, consumption of green-leafy vegetables, height, weight, and other health-related variables.

Table 2
Hazard ratios and 95% CI of all-cause mortality according to total lifestyle score (Japan Collaborative Cohort Study 1988–2003)

	Men									Women								
	N	Person-years	Cases	HR	95% CI		HR2	95% CI		PAF_{all}(%) PAF_{+1}(%)	*N*	Person-years	Cases	HR	95% CI		HR2	95% CI		PAF_{all}(%) PAF_{+1}(%)
0–2	10,072	123,894	1985	1.00			1.00				2804	34,129	401	1.00			1.00			
3	8878	109,520	1699	0.81	0.76	0.87	0.80	0.75	0.86		9087	114,175	1005	0.79	0.71	0.89	0.82	0.73	0.92	
4	6021	74,423	1164	0.72	0.67	0.78	0.72	0.67	0.77		12,869	163,831	1005	0.67	0.60	0.75	0.70	0.63	0.79	
5	2232	27,912	388	0.59	0.53	0.66	0.58	0.52	0.65	49.4	8014	103,509	561	0.54	0.48	0.62	0.58	0.50	0.66	29.8
6	379	4821	49	0.42	0.32	0.56	0.43	0.32	0.58	24.7	1750	22,795	106	0.49	0.39	0.60	0.53	0.43	0.66	18.5
Trend *p*				<0.0001			<0.0001							<0.0001			<0.0001			

Self-Management

Circulation

ORIGINAL RESEARCH ARTICLE

Impact of Healthy Lifestyle Factors on Life Expectancies in the US Population

Yanping Li, MD, PhD*
An Pan, PhD*
Dong D. Wang, MD, ScD
Xiaoran Liu, PhD
Klodian Dhana, MD, PhD
Oscar H. Franco, MD, PhD
Stephen Kaptoge, PhD
Emanuele Di Angelantonio, MD, PhD
Meir Stampfer, MD, DrPH
Walter C. Willett, MD, DrPH
Frank B. Hu, MD, PhD

BACKGROUND: Americans have a shorter life expectancy compared with residents of almost all other high-income countries. We aim to estimate the impact of lifestyle factors on premature mortality and life expectancy in the US population.

METHODS: Using data from the Nurses' Health Study (1980–2014; n=78 865) and the Health Professionals Follow-up Study (1986–2014, n=44 354), we defined 5 low-risk lifestyle factors as never smoking, body mass index of 18.5 to 24.9 kg/m^2, ≥30 min/d of moderate to vigorous physical activity, moderate alcohol intake, and a high diet quality score (upper 40%), and estimated hazard ratios for the association of total lifestyle score (0–5 scale) with mortality. We used data from the NHANES (National Health and Nutrition Examination Surveys; 2013–2014) to estimate the distribution of the lifestyle score and the US Centers for Disease Control and Prevention WONDER database to derive the age-specific death rates of Americans. We applied the life table method to estimate life expectancy by levels of the lifestyle score.

RESULTS: During up to 34 years of follow-up, we documented 42 167 deaths. The multivariable-adjusted hazard ratios for mortality in adults with 5 compared with zero low-risk factors were 0.26 (95% confidence interval [CI], 0.22–0.31) for all-cause mortality, 0.35 (95% CI, 0.27–0.45) for cancer mortality, and 0.18 (95% CI, 0.12–0.26) for cardiovascular disease mortality. The population-attributable risk of nonadherence to 5 low-risk factors was 60.7% (95% CI, 53.6–66.7) for all-cause mortality, 51.7% (95% CI, 37.1–62.9) for cancer mortality, and 71.7% (95% CI, 58.1–81.0) for cardiovascular disease mortality. We estimated that the life expectancy at age 50 years was 29.0 years (95% CI, 28.3–29.8) for women and 25.5 years (95% CI, 24.7–26.2) for men who adopted zero low-risk lifestyle factors. In contrast, for those who adopted all 5 low-risk factors, we projected a life expectancy at age 50 years of 43.1 years (95% CI, 41.3–44.9) for women and 37.6 years (95% CI, 35.8–39.4) for men. The projected life expectancy at age 50 years was on average 14.0 years (95% CI, 11.8–16.2) longer among female Americans with 5 low-risk factors compared with those with zero low-risk factors; for men, the difference was 12.2 years (95% CI, 10.1–14.2).

CONCLUSIONS: Adopting a healthy lifestyle could substantially reduce premature mortality and prolong life expectancy in US adults.

*Drs Li and Pan contributed equally.

Key Words: healthy lifestyle ■ life expectancy ■ mortality, premature

Sources of Funding, see page XXX

http://circ.ahajournals.org

Circulation. 2018;137:00–00. DOI: 10.1161/CIRCULATIONAHA.117.032047

Low-Risk Lifestyle Score

We included 5 lifestyle-related factors: diet, smoking, physical activity, alcohol consumption, and BMI. Because this study was focused on modifiable lifestyle factors, we did not include clinical risk factors such as hypertension, hypercholesterolemia, or medication use in the score.

	Person-Years	Deaths Resulting From Any Cause		Cancer Deaths		CVD Deaths	
		Cases	HR (95% CI)	Cases	HR (95% CI)	Cases	HR (95% CI)
Body mass index, kg/m^2							
18.5–22.9	624 140	5337	1.06 (1.02–1.09)	1868	0.96 (0.91–1.02)	1077	1.02 (0.94–1.10)
23–24.9	677 848	7289	1.0 (Referent)	2588	1.0 (Referent)	1716	1.0 (Referent)
25–29.9	1 381 081	17 903	1.05 (1.02–1.08)	5935	1.01 (0.96–1.06)	4738	1.16 (1.10–1.23)
30–34.9	518 621	7427	1.25 (1.21–1.29)	2371	1.12 (1.05–1.18)	2006	1.66 (1.56–1.78)
≥35	250 013	4211	1.67 (1.61–1.74)	1191	1.24 (1.16–1.33)	1152	2.58 (2.39–2.79)
No. of 5 low-risk factors†							
0	458 169	9286	1.0 (Referent)	2785	1.0 (Referent)	2430	1.0 (Referent)
1	1 101 853	16 329	0.79 (0.77–0.81)	5227	0.83 (0.79–0.87)	4143	0.75 (0.71–0.79)
2	1 053 250	10 908	0.61 (0.59–0.62)	3821	0.68 (0.65–0.71)	2719	0.54 (0.51–0.57)
3	596 784	4408	0.47 (0.45–0.49)	1607	0.53 (0.50–0.57)	1101	0.40 (0.38–0.43)
4	208 683	1113	0.35 (0.33–0.37)	458	0.44 (0.40–0.49)	270	0.28 (0.25–0.32)
5	32 964	123	0.26 (0.22–0.31)	55	0.35 (0.27–0.45)	26	0.18 (0.12–0.26)

RESEARCH

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Healthy lifestyle and life expectancy free of cancer, cardiovascular disease, and type 2 diabetes: prospective cohort study

Yanping Li,[1] Josje Schoufour,[2,3] Dong D Wang,[1] Klodian Dhana,[1,4] An Pan,[5] Xiaoran Liu,[1] Mingyang Song,[1,6,7,8] Gang Liu,[1,9] Hyun Joon Shin,[10] Qi Sun,[1,11] Laila Al-Shaar,[1] Molin Wang,[6]

The Nurses' Health Study (1980-2014; n=73 196)

the Health Professionals Follow-Up Study (1986-2014; n=38 366).

OBJECTIVE
To examine how a healthy lifestyle is related to life expectancy that is free from major chronic diseases.

MAIN EXPOSURES
Five low risk lifestyle factors: never smoking, body mass index 18.5-24.9, moderate to vigorous physical activity (≥30 minutes/day), moderate alcohol intake (women: 5-15 g/day; men 5-30 g/day), and a higher diet quality score (upper 40%).

MAIN OUTCOME
Life expectancy free of diabetes, cardiovascular diseases, and cancer.

RESULTS
The life expectancy free of diabetes, cardiovascular

Adherence to a healthy lifestyle at mid-life is associated with a longer life expectancy free of major chronic diseases.

Correspondence to: FB Hu
fhu@hsph.harvard.edu
(ORCID 0000-0002-0412-2748)

Five low risk lifestyle factors: never smoking, body mass index 18.5-24.9, moderate to vigorous physical activity (≥30 minutes/day), moderate alcohol intake (women: 5-15 g/day; men 5-30 g/day), and a higher diet quality score (upper 40%).

often live with disabilities and chronic diseases.[2] People with chronic diseases including cancer, cardiovascular disease, and diabetes have a shorter life expectancy than do their peers without these chronic conditions.[3-5] Estimates of the loss in life years due to these chronic conditions range from 7.5 to 20 years, depending on the methods used and the characteristics of the study population.[3-5]

Modifiable lifestyle factors including smoking, physical activity, alcohol intake, body weight, and diet

WHAT IS ALREADY KNOWN ON THIS TOPIC

Modifiable lifestyle factors including smoking, physical activity, alcohol use, body weight, and diet quality affect both total life expectancy and incidence of chronic diseases

Few studies have comprehensively examined how a combination of multiple lifestyle factors may relate to life expectancy free from the major diseases such as diabetes, cardiovascular disease, and cancer

WHAT THIS STUDY ADDS

A healthier lifestyle was associated with an increased total life expectancy and life expectancy free of cancer, cardiovascular disease, and type 2 diabetes

healthy lifestyles on the overall life expectancy.[2] In this study, we examine the effect of healthy lifestyle factors on life expectancy free of cancer, cardiovascular disease, and type 2 diabetes, using data from up to 34 years of follow-up in the Nurses' Health Study (NHS) and 28 years of follow-up in the Health Professions Follow-up Study (HPFS).

Methods

Study population

This study was embedded in the NHS and the HPFS. The NHS began in 1976, when 121 700 female nurses aged

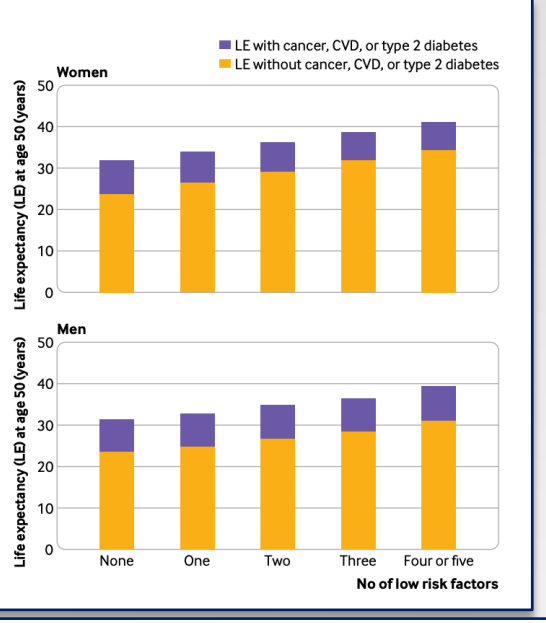

Table 2 | Life expectancy (in years) at age 50 years in absence of chronic diseases according to number of low risk lifestyle factors in Nurses' Health Study (women) and Health Professionals Follow-up Study (men) separately

	No of low risk lifestyle factors*				
	Zero	One	Two	Three	Four or five
Women					
Free of cancer, CVD, or type 2 diabetes:					
Life expectancy	23.7 (22.6 to 24.7)	26.4 (25.2 to 27.4)	29.1 (28.0 to 30.0)	31.8 (30.8 to 32.8)	34.4 (33.1 to 35.5)
Difference	Reference	2.6 (2.3 to 2.9)	5.3 (5.0 to 5.6)	8.1 (7.7 to 8.5)	10.6 (10.0 to 11.3)
Free of cancer:					
Life expectancy	27.6 (26.3 to 28.7)	29.7 (28.5 to 30.9)	31.8 (30.6 to 32.8)	33.8 (32.7 to 34.8)	35.9 (34.6 to 37.1)
Difference	Reference	2.2 (1.9 to 2.4)	4.2 (4.0 to 4.5)	6.2 (5.9 to 6.6)	8.3 (7.8 to 8.9)
Free of CVD:					
Life expectancy	30.2 (29.9 to 30.6)	32.6 (32.2 to 33.0)	35.0 (34.5 to 35.4)	37.6 (37.0 to 38.1)	40.2 (39.5 to 40.9)
Difference	Reference	2.4 (2.1 to 2.7)	4.7 (4.4 to 5.1)	7.3 (6.9 to 7.7)	10.0 (9.3 to 10.6)
Free of type 2 diabetes:					
Life expectancy	28.2 (27.0 to 29.3)	31.1 (30.1 to 32.0)	34.3 (33.6 to 35.0)	37.6 (37.0 to 38.3)	40.5 (39.7 to 41.3)
Difference	Reference	2.9 (2.6 to 3.2)	6.1 (5.6 to 6.6)	9.4 (8.7 to 10.2)	12.3 (11.4 to 13.4)
Men					
Free of any of cancer, CVD, or type 2 diabetes					
Life expectancy	23.5 (22.3 to 24.7)	24.8 (23.5 to 26.0)	26.7 (25.3 to 27.9)	28.4 (26.9 to 29.7)	31.1 (29.5 to 32.5)
Difference	Reference	1.2 (0.8 to 1.6)	3.2 (2.7 to 3.6)	4.8 (4.3 to 5.4)	7.6 (6.8 to 8.4)
Free of cancer:					
Life expectancy	27.3 (25.8 to 28.5)	28.3 (26.8 to 29.6)	29.7 (28.2 to 31.1)	31.0 (29.4 to 32.4)	33.3 (31.6 to 34.8)
Difference	Reference	1.0 (0.7 to 1.3)	2.5 (2.1 to 2.8)	3.7 (3.3 to 4.2)	6.0 (5.4 to 6.7)
Free of CVD:					
Life expectancy	29.0 (28.5 to 29.6)	30.6 (29.9 to 31.1)	32.8 (32.1 to 33.4)	34.5 (33.8 to 35.2)	37.7 (36.8 to 38.6)
Difference	Reference	1.5 (1.1 to 1.9)	3.7 (3.3 to 4.2)	5.5 (5.0 to 6.0)	8.6 (7.9 to 9.4)
Free of type 2 diabetes:					
Life expectancy	28.0 (27.3 to 28.7)	29.8 (29.0 to 30.6)	32.6 (31.7 to 33.4)	34.9 (34.0 to 35.8)	38.4 (37.3 to 39.4)
Difference	Reference	1.7 (1.3 to 2.1)	4.5 (4.1 to 5.0)	6.9 (6.3 to 7.4)	10.3 (9.6 to 11.1)

CVD=cardiovascular diseases.
*Included cigarette smoking (never smoking), physical activity (≥3.5 h/week moderate to vigorous intensity activity), high diet quality (upper 40% of Alternate Healthy Eating Index), moderate alcohol intake of 5-15 g/day (women) or 5-30 g/day (men), and normal weight (body mass index 18.5-24.9). Multivariate adjusted hazard ratios (sex specific) for mortality and incident diseases associated with lifestyles factors adjusted for age, ethnicity, current multivitamin use, current aspirin use, family history of diabetes, myocardial infarction, or cancer, and menopausal status and hormone use (women only).

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ELSEVIER

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CLINICAL RESEARCH STUDY

AJM Theme Issue: Diabetes/Metabolism

Turning Back the Clock: Adopting a Healthy Lifestyle in Middle Age

Dana E. King, MD, MS, Arch G. Mainous, III, PhD, Mark E. Geesey, MS

Department of Family Medicine, Medical University of South Carolina, Charleston, SC.

ABSTRACT

PURPOSE: To determine the frequency of adopting a healthy lifestyle (5 or more fruits and vegetables daily, regular exercise, BMI 18.5-29.9 kg/m^2, no current smoking) in a middle-aged cohort, and determine the subsequent rates of cardiovascular disease (CVD) and mortality among those who adopt a healthy lifestyle.

METHODS: We conducted a cohort study in a diverse sample of adults age 45-64 in the Atherosclerosis Risk in Communities survey. Outcomes are all-cause mortality and fatal or non-fatal cardiovascular disease.

RESULTS: Of 15,708 participants, 1344 (8.5%) had 4 healthy lifestyle habits at the first visit, and 970 (8.4%) of the remainder had newly adopted a healthy lifestyle 6 years later. Men, African Americans, individuals with lower socioeconomic status, or a history of hypertension or diabetes were less likely to newly adopt a healthy lifestyle (all $P < .05$). During the following 4 years, total mortality and cardiovascular disease events were lower for new adopters (2.5% vs 4.2%, χ^2 $P < .01$, and 11.7% vs 16.5%, χ^2 $P < .01$ respectively) compared to individuals who did not adopt a healthy lifestyle. After adjustment, new adopters had lower all-cause mortality (OR 0.60, 95% Confidence Interval [CI], 0.39-0.92) and fewer cardiovascular disease events (OR 0.65, 95% CI, 0.39-0.92) in the next 4 years.

CONCLUSIONS: People who newly adopt a healthy lifestyle in middle-age experience a prompt benefit of lower rates of cardiovascular disease and mortality. Strategies to encourage adopting healthy lifestyles should be implemented, especially among people with hypertension, diabetes, or low socioeconomic status.

KEYWORDS: Aging; Cardiovascular; Diet; Exercise; Healthy habits; Healthy lifestyle

Lifestyle choices are associated with subsequent cardiovascular disease and mortality from all causes. While research has supported healthy lifestyle habits individually,[1,2] fewer studies[3,4,5] have investigated the benefit of a more complete healthy lifestyle that combines a prudent diet, regular exercise, maintaining a healthy weight (body mass index [BMI] 18.5-30 kg/m^2), and not smoking. The Healthy Ageing: a Longitudinal study in Europe (HALE) investigation examined a combination of healthy habits in 1507 men and 832 women aged 70-90 years who were followed for 10-year mortality from coronary heart disease, cardiovascular diseases, cancer, and all causes.[4] In adjusted analyses, adhering to a Mediterranean diet, moderate alcohol use, physical activity, and nonsmoking were associated with a 65% lower risk of all-cause mortality and a similar reduction in cardiovascular disease. The Health Professionals Follow-Up Study[5] recently studied the impact of a healthy lifestyle (5 health factors) on subsequent coronary heart disease and documented a 62% reduction in coronary events among men who maintained the healthy lifestyle for 16 years. Similar results were obtained in an analysis of the Women's Health Study.[6] Whether the benefits observed in these studies are the result of life-long good health habits or can be achieved by people who adopt a combination of healthy lifestyle habits later in life needs to be confirmed.

Despite the well known benefits of having a lifestyle that includes exercise, eating a diet high in fruits and vegetables, maintaining a healthy weight, and not smoking, only a small proportion of adults follow this healthy lifestyle pattern.[3,5,7]

Requests for reprints should be addressed to Dana E. King, MD, MS, Department of Family Medicine, Medical University of South Carolina, 295 Calhoun Street, Charleston, SC 29425.

E-mail address: kingde@musc.edu

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Healthy Lifestyle Factors

An individual's participation in an overall healthy lifestyle was evaluated from information collected during Visits 1 and 3. A healthy lifestyle was characterized by having all 4 of the following lifestyle characteristics: eating at least 5 fruits and vegetables daily; exercising (at least walking) a minimum of 2.5 hours per week; BMI maintained between 18.5 and 30 kg/m^2; and not smoking.

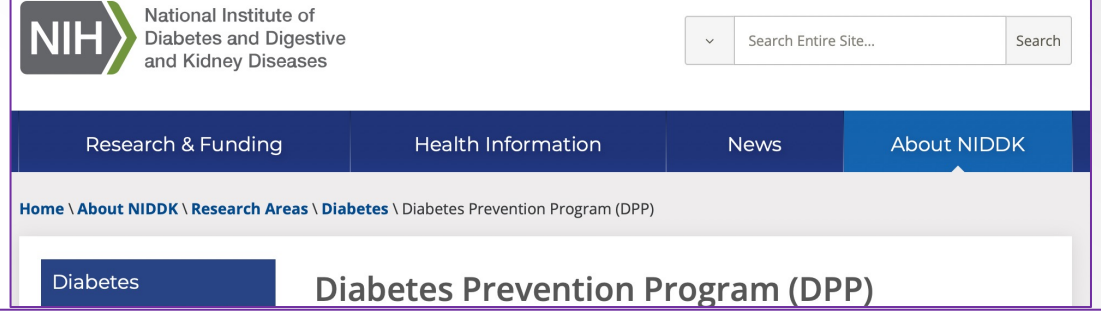
Table 4 Switchers to Healthy Lifestyle and Persistently Healthy Compared to Persistently Unhealthy Individuals

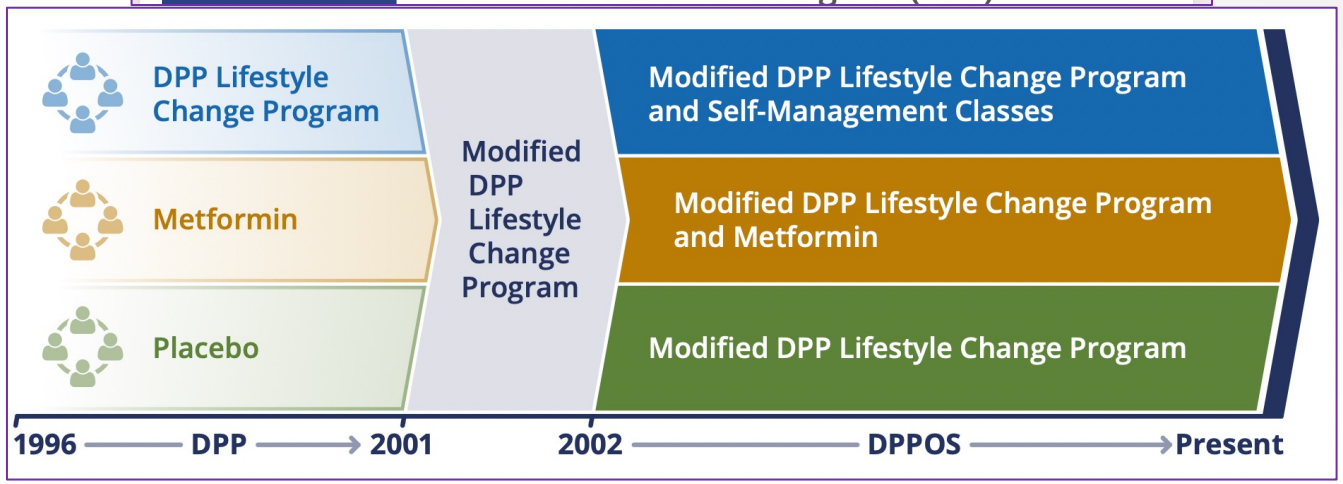
	Cardiovascular Disease Event, OR (95% CI)	Death, OR (95% CI)
Switched from Unhealthy to Healthy Lifestyle	0.65* (0.52-0.81)	0.60* (0.39-0.92)
Persistently Unhealthy (<4 Healthy Factors at Both Visits)	1.00 (reference)	1.00 (reference)

CI = confidence interval; OR = odds ratio.

Relative likelihood of experiencing a cardiovascular disease event (fatal or non-fatal) or death during the 4-year follow up period.

*Controlled for age group, gender, race, education, family income, and histories of hypertension, diabetes, elevated cholesterol, and previous coronary heart disease.





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DOI: 10.1111/cob.12426

Check for updates

ORIGINAL RESEARCH ARTICLE

Clinical OBESITY | WILEY

Utilization of intensive behavioural treatment for obesity in patients with diabetes

Jennifer Kraschnewski[1] | Hsin-Chieh Yeh[2] | Erica Francis[1] | Lan Kong[1] | Erik Lehman[1] | Stephanie Rovito[3] | Jennifer Poger[1] | Cindy Bryce[4]

[1]Penn State College of Medicine, Hershey, Pennsylvania

[2]Johns Hopkins School of Medicine, Baltimore, MD

[3]Pennsylvania Department of Health, Harrisburg, PA

[4]University of Pittsburgh, Pittsburgh, PA

Correspondence
Erica Francis, Penn State College of Medicine, 90 Hope Drive, Suite 1103, Mail Code A145, Hershey, PA 17033, USA.
Email: efrancis@pennstatehealth.psu.edu

Funding information
Patient-Centered Outcomes Research Institute (PCORI), Grant/Award Number: NEN-1509-32304

Summary

Obesity is a leading public health concern. The Centers for Medicare and Medicaid Services implemented a healthcare procedure code for intensive behavioural therapy (IBT) in 2012 to facilitate payment for addressing obesity in primary care settings, followed by universal coverage by insurers for all adults. Our objective was to understand utilization of IBT from 2009 to 2017 in patients with a diabetes diagnosis. Leveraging electronic health record data from the PaTH Clinical Data Research Network (CDRN), a partnership of six health systems, utilization of IBT was summarized at a yearly basis. The trend of IBT prevalence was examined for patients with diabetes by gender, race, age (>=65 vs <65) and rurality. A total of 205, 913 patients were included. While utilization of IBT is low (0.24% in 2017), use of IBT increased among patients with commercial insurance and Medicaid (codes S9449 and S9470) in 2011, and among patients with Medicare (code G0447) in 2012. IBT users tended to be less than 65 years of age, female, non-White (Black or Hispanic), and reside in urban areas. Overall, use of IBT in patients with diabetes remains low. Future work is necessary to understand the impact of IBT and, if effective, how to increase use within primary care.

KEYWORDS
diabetes, obesity, weight counselling

Psychological Medicine

cambridge.org/psm

The evidence for cognitive behavioural therapy in any condition, population or context: a meta-review of systematic reviews and panoramic meta-analysis

Beth Fordham[1], Thavapriya Sugavanam[2], Katherine Edwards[3], Paul Stallard[4], Robert Howard[5], Roshan das Nair[6], Bethan Copsey[7], Hopin Lee[1], Jeremy Howick[8], Karla Hemming[9] and Sarah E. Lamb[10]

[1]Nuffield Department of Orthopaedic, Rheumatology and Musculoskeletal Science (NDORMS) University of Oxford, Oxford, UK; [2]Nuffield Department of Population Health, University of Oxford, Oxford, UK; [3]Reviews and Implementation Group, University of Liverpool, Liverpool, UK; [4]Department for Health, University of Bath, Bath, UK; [5]Institute of Mental Health, University College London, London, UK; [6]Faculty of Medicine & Health Sciences, University of Nottingham, Nottingham, UK; [7]School of Medicine, University of Leeds, Leeds, UK; [8]Department of Philosophy, University of Oxford, Oxford, UK; [9]Public Health, Epidemiology and Biostatistics, University of Birmingham, Birmingham, UK and [10]College of Medicine and Health, University of Exeter, Exeter, UK

Review Article

Cite this article: Fordham B *et al* (2021). The evidence for cognitive behavioural therapy in any condition, population or context: a meta-review of systematic reviews and panoramic meta-analysis. *Psychological Medicine* 1–9. https://doi.org/10.1017/S0033291720005292

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Key words:
Cognitive Behavioural Therapy; meta-review; overview; panoramic meta-analysis; systematic reviews

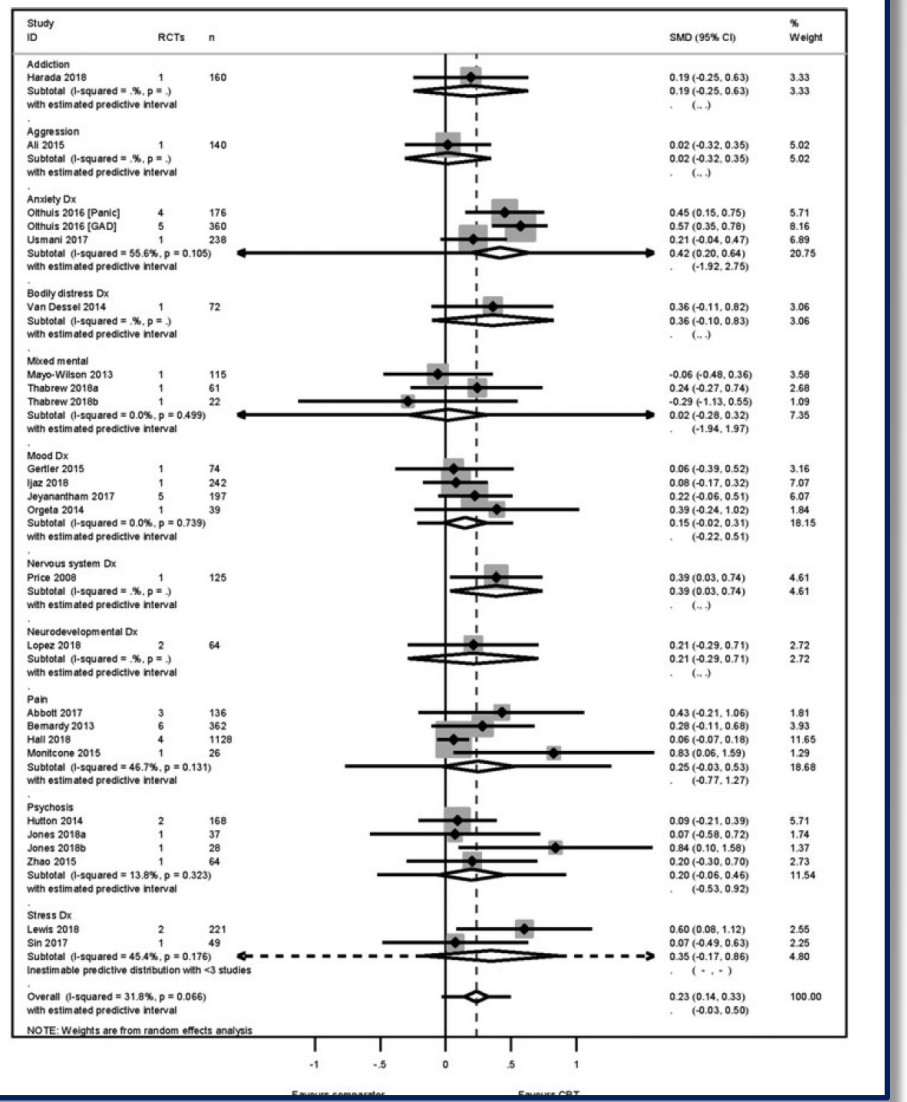
Author for correspondence:
Beth Fordham,
E-mail: Beth.fordham@ndorms.ox.ac.uk

Abstract

The majority of psychological treatment research is dedicated to investigating the effectiveness of cognitive behavioural therapy (CBT) across different conditions, population and contexts. We aimed to summarise the current systematic review evidence and evaluate the consistency of CBT's effect across different conditions. We included reviews of CBT randomised controlled trials in any: population, condition, format, context, with any type of comparator and published in English. We searched DARE, Cochrane, MEDLINE, EMBASE, PsycINFO, CINAHL, CDAS, and OpenGrey between 1992 and January 2019. Reviews were quality assessed, their data extracted and summarised. The effects upon health-related quality of life (HRQoL) were pooled, within-condition groups. If the across-condition heterogeneity was $I^2 < 75\%$, we pooled effects using a random-effect panoramic meta-analysis. We summarised 494 reviews (221 128 participants), representing 14/20 physical and 13/20 mental conditions (World Health Organisation's International Classification of Diseases). Most reviews were lower-quality (351/494), investigated face-to-face CBT (397/494), and in adults (378/494). Few reviews included trials conducted in Asia, South America or Africa (45/494). CBT produced a modest benefit across-conditions on HRQoL (standardised mean difference 0.23; 95% confidence intervals 0.14–0.33, $I^2 = 32\%$). The effect's associated prediction interval −0.05 to 0.50 suggested CBT will remain effective in conditions for which we do not currently have available evidence. While there remain some gaps in the completeness of the evidence base, we need to recognise the consistent evidence for the general benefit which CBT offers.

Introduction

Cognitive behavioural therapy (CBT) has more evidence supporting it than any other psychological therapy (David, Cristea, & Hofmann, 2018). It aims to improve the quality of life by changing patients' thoughts or thinking patterns considered to maintain problematic symptoms. Randomised controlled trials (RCTs) and systematic reviews of CBT have been conducted across physical and mental conditions in different populations and contexts. An overview of CBT systematic reviews, conducted in 2012, reported it was effective across most conditions (Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012). However, only 11 of the reviews were based on RCT evidence and no attempt was made to examine the consistency of the effect estimates across different conditions. Since 2012, hundreds of reviews have been published and guidelines have improved the reporting quality of both trials and reviews (Higgins et al., 2019; Moher, Liberati, Tetzlaff, & Altman, 2009; Shea et al., 2017). New methods have been introduced, including panoramic meta-analyses, which synthesise evidence by examining the consistency of effects and when appropriate pooling effect estimates across multiple systematic reviews (Hemming et al., 2013). The aims of this meta-review were to (i) map all reviews of CBT RCTs and (ii) examine whether CBT produces a general effect upon health-related quality of life (HRQoL).



Success Is Possible But We Are Not Engaged

American Journal of
Preventive Medicine

RESEARCH ARTICLE

Trends in Lifestyle Counseling for Adults With and Without Diabetes in the U.S., 2005–2015

Megha K. Shah, MD, MSc,[1,2] Miranda A. Moore, PhD,[1] K.M. Venkat Narayan, MD, MSc, MBA,[2,3] Mohammed K. Ali, MD, MSc, MBA[1,2,3]

Introduction: Strong evidence shows that lifestyle change and weight loss stimulated by counseling improve glycemic control and lower comorbidities for patients with diabetes, but it is unclear whether diet or physical activity counseling for patients with diabetes in ambulatory settings has actually been responsive to this evidence.

Methods: Data from the 2005–2015 National Ambulatory Medical Care Surveys were used to assess trends in provider-reported diet or exercise counseling during ambulatory care visits. The data were pooled and multivariate logistic regression models were built, adjusting for patient-, provider-, and practice-level characteristics to examine whether the provision of counseling varied by these characteristics. Data were analyzed from September 2018 to December 2018.

Results: There were 42,234 adults with diabetes and 272,094 adults without diabetes. The proportions of patients with provider-reported Type 2 diabetes who received any diet or exercise counseling were no different over time, 30% in 2005 (95% CI=25%, 35%) and 25% in 2015 (95% CI=18%, 31%). Lower proportions of those without diabetes received any counseling, 17% in 2005 (95% CI=14%, 19%) and 15% in 2015 (95% CI=11%, 18%). Adjusted models showed that Hispanic patients had a higher likelihood of receiving diet or exercise counseling, compared with whites (OR=1.38, 95% CI=1.09, 1.75). Those aged 30–49 years were more likely to receive diet or exercise counseling than those aged >75 years (OR=1.51, 95% CI=1.27, 1.80). Compared with rural areas and other providers, visits in a metropolitan area (OR=1.27, 95% CI=1.09, 1.47) or with an advanced practice provider (OR=1.66, 95% CI=1.00, 2.75) had a higher likelihood of any diet or exercise counseling delivery.

Conclusions: Less than 30% of Americans with diabetes receive diet or exercise counseling in ambulatory visits, and this proportion has not changed significantly in a decade. Future interventions should focus on addressing this gap in counseling.

INTRODUCTION

Diabetes is costly and burdensome, affecting more than 30 million Americans, costing $327 billion in annual direct medical costs and lost productivity.[1] Complications from diabetes are preventable through improved glycemic and cardiovascular risk factor control.[2,3] To sustainably achieve control of multiple risk factors requires efforts on the part of (1) clinicians—to attentively monitor, initiate, and increase lifestyle guidance and medications as needed for patients and (2) patients—to adopt and maintain recommended behavior change. As such, efforts to improve self-management and reduce risk for patients with diabetes are a major focus of translational research.

Empirical evidence from the last 15 years suggests that lifestyle changes, such as eating a healthy diet and

From the [1]Department of Family and Preventive Medicine, School of Medicine, Emory University, Atlanta, Georgia; [2]Emory Global Diabetes Research Center, Emory University, Atlanta, Georgia; and [3]Hubert Department of Global Health, Rollins School of Public Health, Emory University, Atlanta, Georgia

Address correspondence to: Megha K. Shah, MD, MSc, 4500 North Shallowford Rd., Dunwoody GA 30338. E-mail: mkshah@emory.edu.

0749-3797/$36.00
https://doi.org/10.1016/j.amepre.2019.07.005

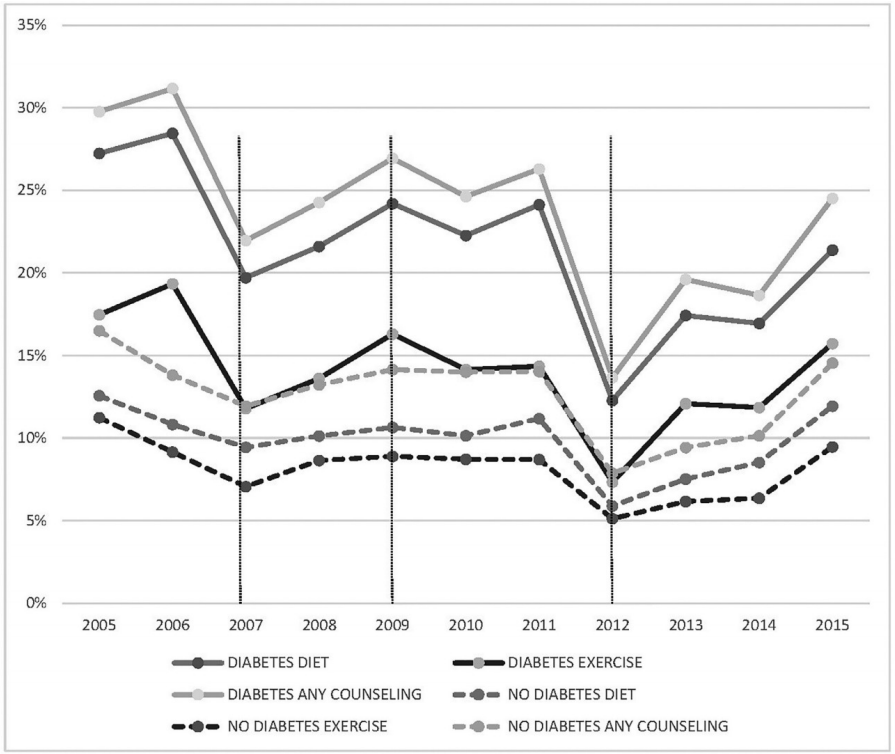


Figure 1. National trends in diet and exercise counseling during visits by adults, 2005–2015.
Note: Vertical lines represent major studies of lifestyle interventions and guideline changes. 2007: 1-year Look AHEAD trial results; 2009: 10-year Diabetes Prevention Program results; 2012: American Diabetes Association and U.S. Preventive Services Task Force recommendations for lifestyle counseling.[4,15,22]
AHEAD, Action for Health in Diabetes

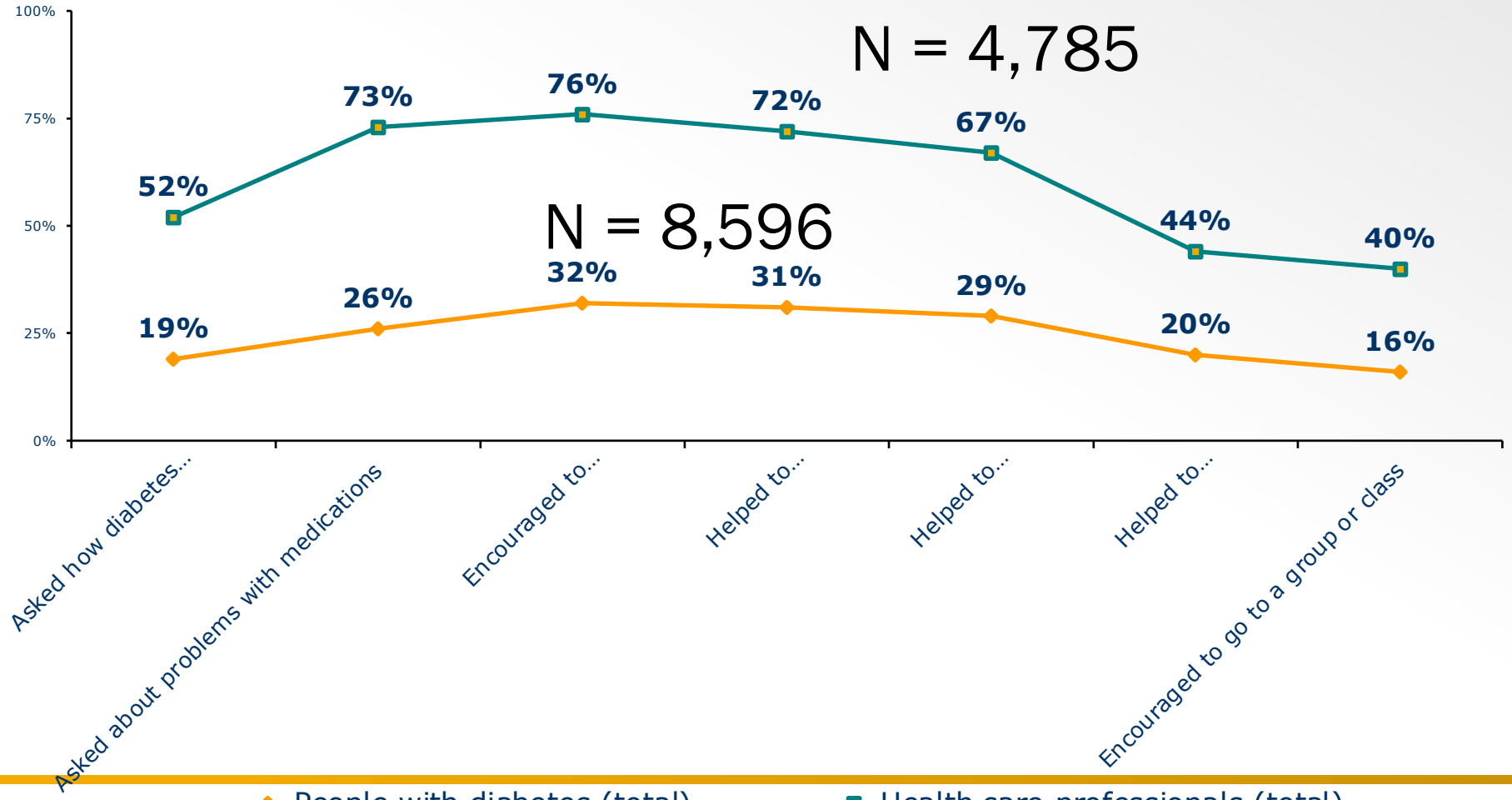
Table 3. Odds of Receiving Counseling by Diabetes Risk Factors in Adults Without Diabetes, 2005–2015

Risk factor	Population without diabetes[a] *n*=272,094	Diet counseling AOR[b] (95% CI)	Exercise counseling AOR[b] (95% CI)	Any counseling AOR[b] (95% CI)
None	63.5 ± 0.5	1.00 (ref)	1.00 (ref)	1.00 (ref)
Hyperlipidemia only	5.5 ± 0.1	2.90 (2.66, 3.16)	2.17 (1.96, 2.41)	2.55 (2.35, 2.77)
Hypertension only	15.1 ± 0.2	1.60 (1.49, 1.72)	1.34 (1.24, 1.45)	1.46 (1.37, 1.56)
Obesity only	3.1 ± 0.1	5.32 (4.88, 5.80)	4.37 (3.98, 4.78)	4.56 (4.20, 4.94)
2 or more factors	12.8 ± 0.3	3.89 (3.64, 4.17)	2.94 (2.73, 3.16)	3.27 (3.08, 3.48)

Note: [a]First column is % ± SD.
[b]Covariates include race/ethnicity, insurance status, age, sex, visit type, physician specialty, health provider type, health provider region, HMO status, provider practice ownership, and survey year.

DAWN2

% of people with diabetes and health care professionals reporting their health care team/they engage in each behavior ***most of the time*** or ***always***



The Effect of Physician Solicitation Approaches on Ability to Identify Patient Concerns

Lawrence Dyche, MSW,[1] *Deborah Swiderski, MD*[2]
Departments of [1]Family Medicine and Community Health and [2]Internal Medicine, Montefiore Medical Center/Albert Einstein College of Medicine, Bronx, NY, USA.

Times to Interruption

Times between the physician solicitation and interruption ranged between 3 seconds and 145 seconds. The mean TTI was 16.5 seconds.

RESULTS: In 26% of the visits, patients were allowed to complete their agenda without interruption; in 37% the physicians interrupted; and in 37% no inquiry about agenda was made in the first 5 minutes. Neither physician experience nor their assessment of time pressure or medical difficulty was associated with these rates. Exit interviews showed no significant difference in Index of Understanding between those involving completion of agenda (84.6%) and those involving patient interruption (82.4%) (P=.83). But when the physician did not solicit an agenda, the concordance was 59.2%, significantly lower than either the completion (P=.014) or the interruption group (P=.013).

CONCLUSION: Interruption as defined by Beckman-Frankel does not curtail ability to identify patient concerns, but failure to ask for the patient's agenda associates with a 24% reduction in physician understanding.

KEY WORDS: solicitation; communication; problem list concordance.
DOI: 10.1111/j.1525-1497.2005.40266.x
J GEN INTERN MED 2005; 20:267–270.

The communication between patient and physician, as with all human interaction, yields but stubbornly to scientific analysis. Despite sophisticated methodologies for teasing apart the critical elements of discourse in a medical encounter, clear links to health outcomes prove elusive.[1–4] In this study, we examined physician approaches to the beginning of the medical interview and the effect these have on the accuracy of data gathering.

The medical interview is often divided into phases for purposes of study and teaching. The survey phase is that in which the physician usually obtains the patient concerns or patient agenda. In a well-known study of the survey phase, Beckman and Frankel[5] found that physicians prevented patients from

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There are no conflicts of interest to report for any of the authors.

Address correspondence and requests for reprints to Mr. Dyche: Department of Family Medicine and Community Health, Montefiore Medical Center/Albert Einstein College of Medicine, 3544 Jerome Avenue, Bronx, NY 10461 (e-mail: ldyche@montefiore.org).

Yet the templates developed for taking a survey of patient concerns sometimes recommend physician activity that would constitute interruption by the Beckman-Frankel definition.[14,15] Further, Beckman and Frankel themselves acknowledge that physician interruption might sometimes help patients formulate their concerns (p. 695).[5] Marvel et al. found in their study that physicians with the most training in interviewing tended to interrupt with focused questions and then resume solicitation (p. 286).[6]

To date, there have been no studies to determine whether physician interruption compromises physician understanding of patient concerns or patient satisfaction, or to explore why some physicians interrupt so quickly. We hypothesized that physicians who solicit an agenda from their patients and who allow them to complete a statement of their concerns would have a better understanding of their patient's problems than those who do not, and that patients would have a higher rate of satisfaction if they are allowed to complete their opening statement. We also hypothesized that physician experience would associate positively with solicitation and completion rates and that physician concern about time pressure and medical difficulty would associate negatively.

METHODS

During the period from June 2001 to March 2002, the authors audiotaped a convenience sample of 101 patient-physician encounters by placing a recorder in the physician's office. The sample included resident and attending internal medicine physicians and their English-speaking patients. The study was conducted in an inner-city neighborhood health center affiliated with a large teaching hospital. The project was approved by the Institutional Review Board of Montefiore Medical Center. The research was described to participants as a study of patient-physician communication. Consent for participation was obtained from both physicians and patients by one of the authors or a research assistant. Physician subjects were recruited to represent all levels of experience, and an effort to obtain sample encounters from a large number of physicians

JGIM CrossMark

ORIGINAL RESEARCH

Eliciting the Patient's Agenda- Secondary Analysis of Recorded Clinical Encounters

Naykky Singh Ospina, MD, MSc[1,2], *Kari A. Phillips, MD*[3], *Rene Rodriguez-Gutierrez, MD, MSc*[2,4,5], *Ana Castaneda-Guarderas, MD*[6], *Michael R. Gionfriddo, Pharm D, phD*[7], *Megan E. Branda, MS*[8,9], *and Victor M. Montori, MD MSc*[2]

[1]Division of Endocrinology, Department of Medicine, University of Florida, Gainesville, FL, USA; [2]Knowledge and Evaluation Research Unit, Division of Endocrinology, Diabetes, Metabolism and Nutrition, Department of Medicine, Rochester, MN, USA; [3]Mayo Clinic School of Medicine, Rochester, MN, USA; [4]Division of Endocrinology, Department of Internal Medicine, University Hospital "Dr. Jose E. Gonzalez", Universidad Autónoma de Nuevo Leon, Monterrey, Mexico; [5]Laboratorio Nacional para el Estudio y Aplicación de la Medicina Basada en Evidencia, Análisis Crítico de la Información Científica y Farmacoeconomía, Universidad Autónoma de Nuevo León, Monterrey, Mexico; [6]Department of Emergency Medicine, Aventura Hospital and Medical Center, Miami, FL, USA; [7]Center for Pharmacy Innovation and Outcomes, Geisinger, Forty Fort, PA, USA; [8]Robert D. and Patricia E. Kern Center for the Science of Health Care Delivery, Mayo Clinic, Rochester, MN, USA; [9]Department of Health Sciences Research, Division of Health Care Policy and Research, Mayo Clinic, Rochester, MN, USA.

BACKGROUND: Eliciting patient concerns and listening carefully to them contributes to patient-centered care.

CONCLUSIONS: Clinicians seldom elicit the patient's agenda; when they do, they interrupt patients sooner

the clinician interrupted the patient after a median of 11 seconds (interquartile range 7–22; range 3 to 234 s).

recorded during trials testing the efficacy of shared decision-making tools.

MAIN MEASURES: Two reviewers, working independently, characterized the elicitation of the patient agenda and the time to interruption or to complete statement; we analyzed the distribution of agenda elicitation according to setting and use of shared decision-making tools.

KEY RESULTS: Clinicians elicited the patient's agenda in 40 of 112 (36%) encounters. Agendas were elicited more often in primary care (30/61 encounters, 49%) than in specialty care (10/51 encounters, 20%); p=.058. Shared decision-making tools did not affect the likelihood of eliciting the patient's agenda (34 vs. 37% in encounters with and without these tools; p=.09). In 27 of the 40 (67%) encounters in which clinicians elicited patient concerns, the clinician interrupted the patient after a median of 11 seconds (interquartile range 7–22; range 3 to 234 s). Uninterrupted patients took a median of 6 s (interquartile range 3–19; range 2 to 108 s) to state their concern.

communication.

J Gen Intern Med 34(1):36–40
DOI: 10.1007/s11606-018-4540-5

Naykky Singh Ospina and Kari A. Phillips contributed equally to this work.

Presentation: The results of this study were presented as an oral presentation in May, 2017 at the Louis Institute Conference, Research Day, Boston, USA.

Electronic supplementary material *The online version of this article (https://doi.org/10.1007/s11606-018-4540-5) contains supplementary material, which is available to authorized users.*

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Accepted June 1, 2018
Published online July 2, 2018

INTRODUCTION

The medical interview is a pillar of medicine. It allows patients and clinicians to build a relationship.[1] Ideally, this process is inherently therapeutic, allowing the clinician to convey compassion, and be responsive to the needs of each patient.[2,3] Eliciting and understanding the patient's agenda enhances and facilitates patient-clinician communication.[2,3] Agenda setting is a conversational strategy that allows clinicians and patients to negotiate and collaborate to clarify the concerns and expectations of both parties. This results in a constructive alliance that leads to focused, efficient, and patient-centered care.[4,5] A review of the literature, evaluating communication and relationship skills, identified six studies in general clinical practice, in which setting the patient's agenda enhanced communication efficiency.[5] However, despite these potential benefits, the use of this communication skill in general clinical practice appears to be limited. In a landmark clinical communication study published in 1984, *Beckman* et al. found that in 69% of the visits to a primary care internal medicine practice, the physician interrupted the patient, with a mean time to interruption of 18 s.[6] Fifteen years later, *Marvel* et al. found that physicians solicited the patient's concern in 75% of

How Does This Happen?

- Diagnosis/ assessment
- Treatment/ intervention
- Outcomes

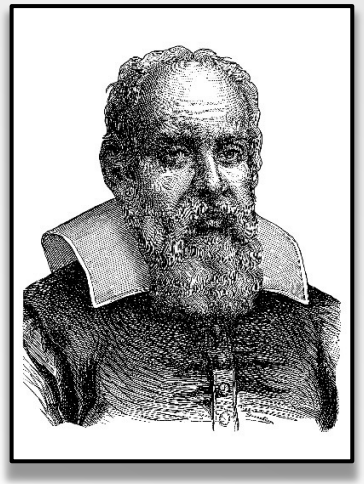
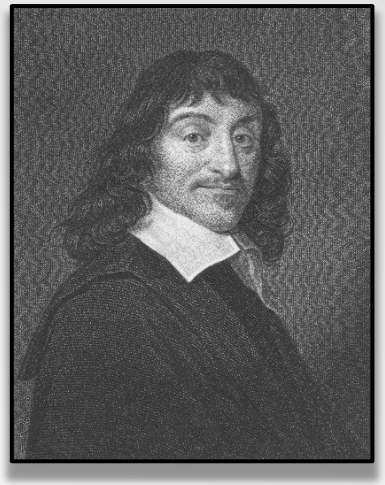
Outcomes are dependent on how good you are

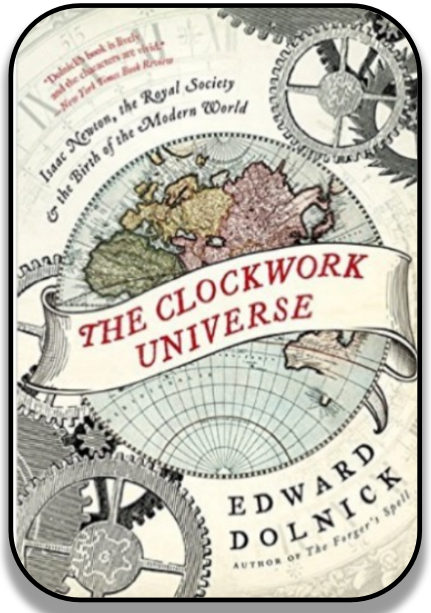
Recommendations and Education

The handoff (handshake)

The scientific method





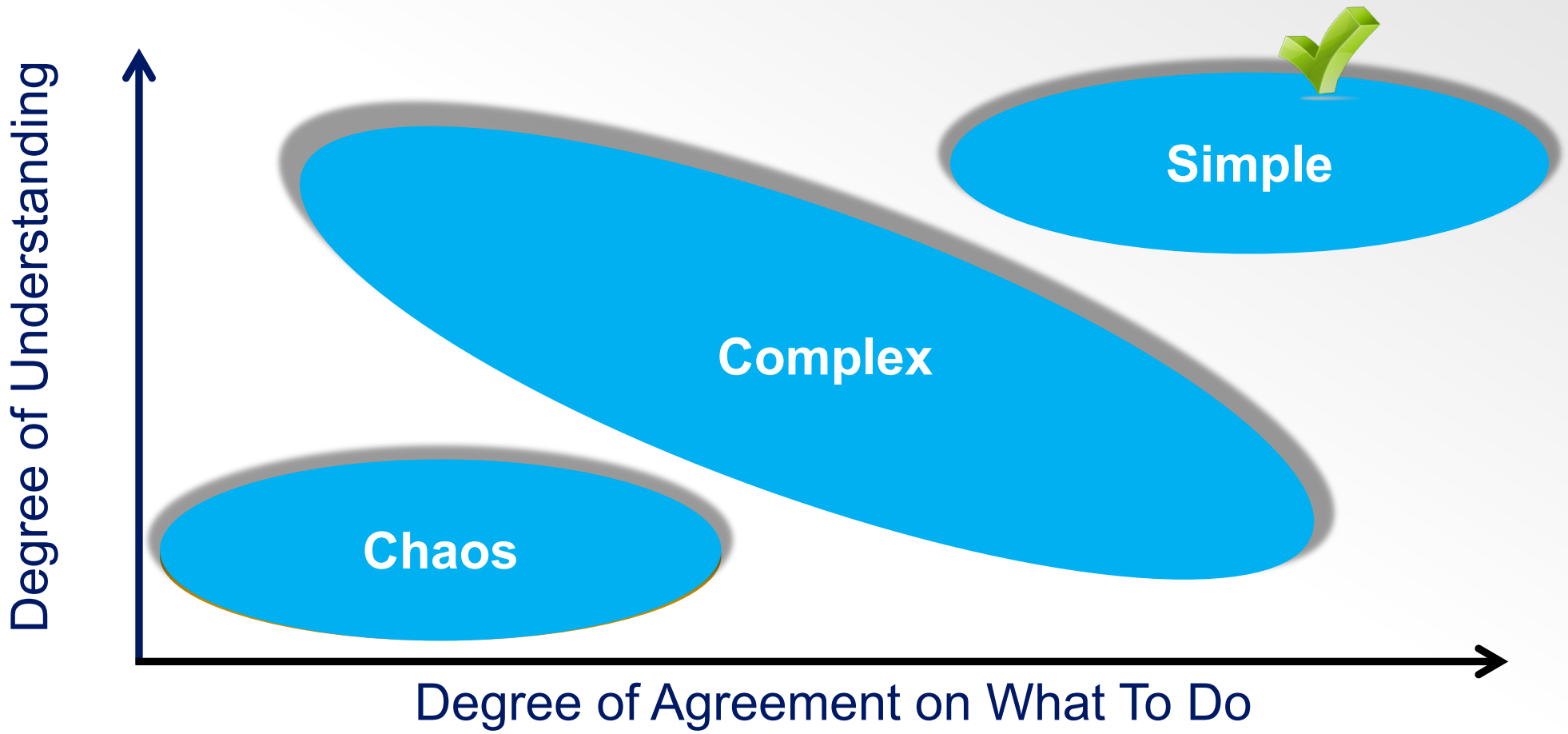
As clinical medicine developed, this led to the clinician taking the role of the expert.

The expert clinician with the uninformed help-seeker

The Dynamic of the Provider-Patient Relationship: TEACH and TELL

Kessler & Glasgow. Am J Prev Med. 2011;40:637-644

Complexity



Plsek & Greenhalgh. *BMJ* 2003;323:625–8.

How does this happen?

Duty

Safety

One of the most common emotions a HCP feels in working with patients is?

Frustration!

What is the cause of this frustration?

"Patients don't follow through on the recommendations they agree to!"

We experience this because we JUDGE behaviour (should/shouldn't; good/bad)

Goal is to avoid judging behaviour but to UNDERSTAND behaviour

If you understand behaviour you can work with it

JAMA Network Open

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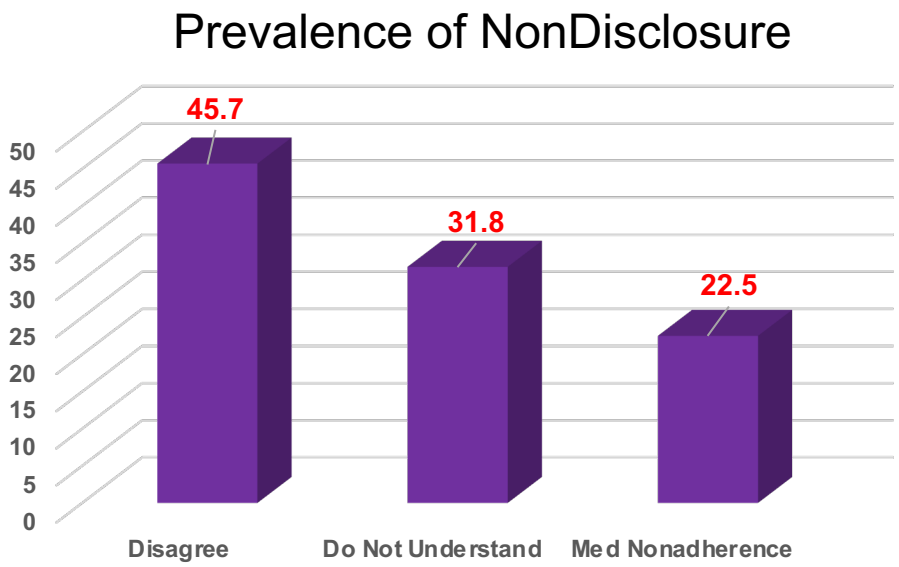
JAMA Network Open. 2018;1(7):e185293. doi:10.1001/jamanetworkopen.2018.5293

Original Investigation | Medical Education

Prevalence of and Factors Associated With Patient Nondisclosure of Medically Relevant Information to Clinicians

Andrea Gurmankin Levy, PhD, MBe; Aaron M. Scherer, PhD; Brian J. Zikmund-Fisher, PhD; Knoll Larkin, MPH; Geoffrey D. Barnes, MD, MSc; Angela Fagerlin, PhD



Now what do you say?

Bottom Line

Unless the patient is ready to change, the patient-provider relationship is essential

What Do We Need To Do Differently

From Medical management…

- Diagnosis/ assessment
- Treatment/ intervention
- Outcomes

Outcomes are dependent on how good you are

…To Clinical management

- Description
- Prediction
- Choice

DIABETICMedicine

DOI: 10.1111/dme.12242

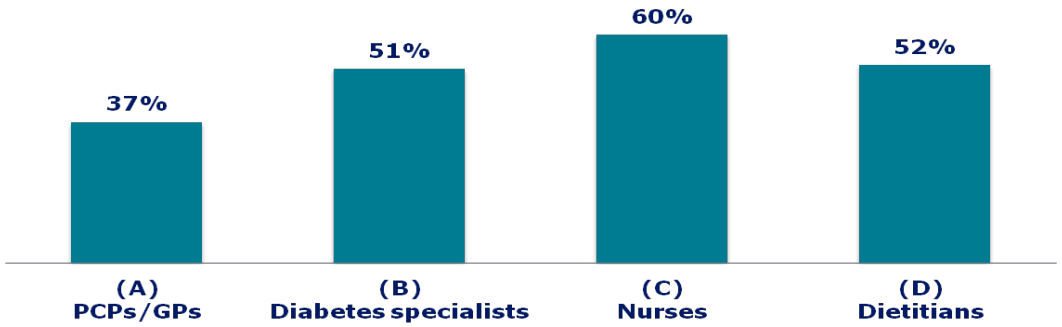
Research: Educational and Psychological Issues

Diabetes Attitudes, Wishes and Needs second study (DAWN2™): Cross-national comparisons on barriers and resources for optimal care—healthcare professional perspective

Diabet. Med. 30, 789–798 (2013)

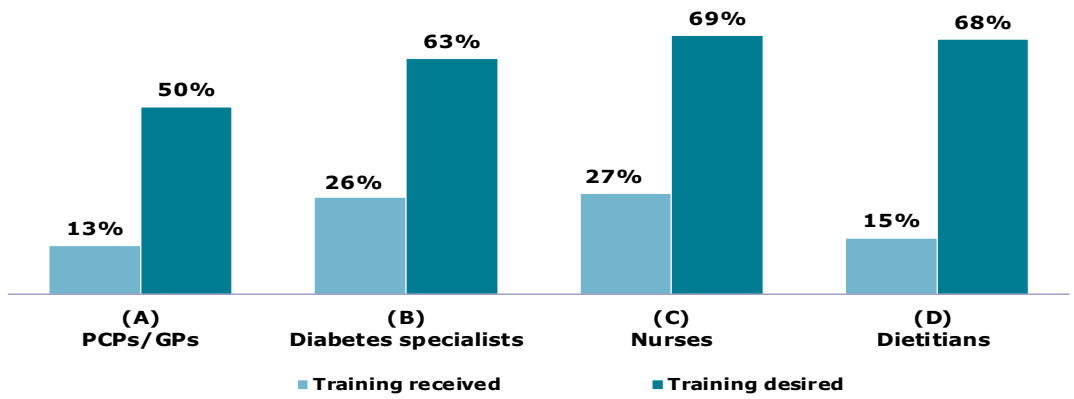
R. I. G. Holt[1], A. Nicolucci[2], K. Kovacs Burns[3], M. Escalante[4], A. Forbes[5], N. Hermanns[6], S. Kalra[7], M. Massi-Benedetti[8], A. Mayorov[9], E. Menendez-Torre[10], N. Munro[11], S. E. Skovlund[12], I. Tarkun[13], J. Wens[14] and M. Peyrot[15] on behalf of the DAWN2 Study Group*

My success in caring for people with diabetes depends largely on my ability to understand and manage the emotional issues my patients face



Ratings of 5 or 6 on a 6-point agreement scale

Would you like to receive more training in addressing Psychological Issues in Diabetes?



Can J Diabetes 42 (2018) 389–394

Contents lists available at ScienceDirect

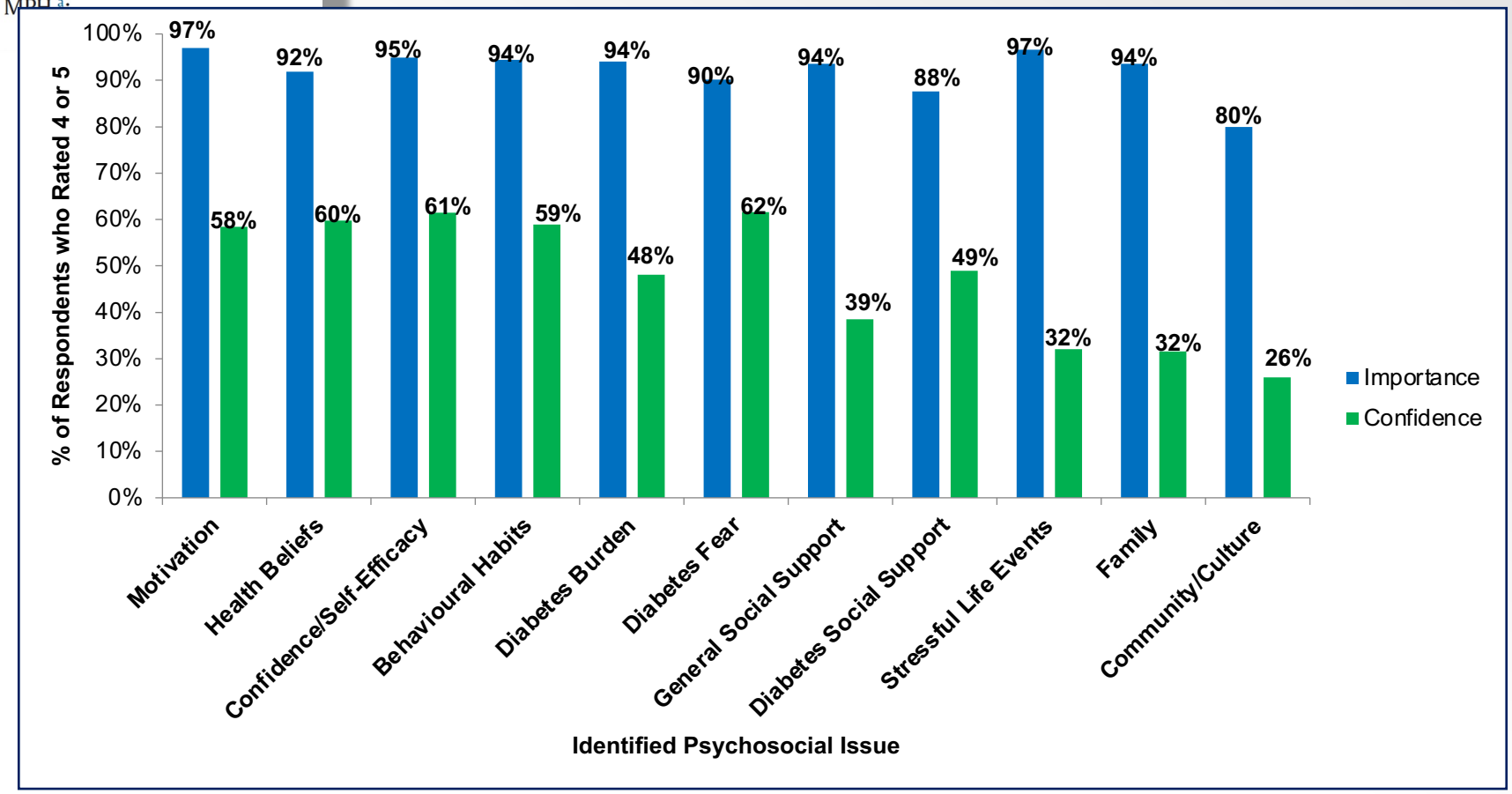
Canadian Journal of Diabetes

journal homepage: www.canadianjournalofdiabetes.com

Original Research

A Canadian Cross-Sectional Survey on Psychosocial Supports for Adults Living With Type 1 or 2 Diabetes: Health-Care Providers' Awareness, Capacity and Motivation

Jennica Nichols MPH [a]; Michael Vallis PhD, R Psych [b]; Stephanie Boutette MPH [a]; Carolyn Gall Casey BSc [a]; Catherine H. Yu MD, FRCPC, MHSc [c,*]

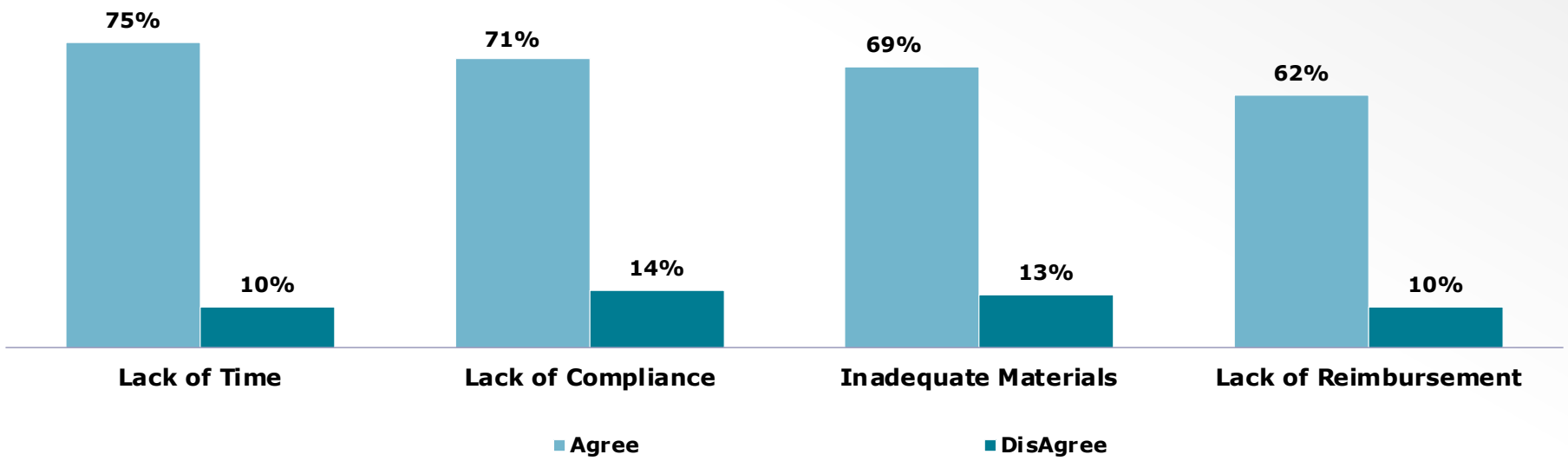


PREVENTIVE MEDICINE **24,** 546–552 (1995)

Barriers to Providing Nutrition Counseling by Physicians: A Survey of Primary Care Practitioners[1]

ROBERT F. KUSHNER, M.D.[2]

Clinical Nutrition Research Unit, University of Chicago, Chicago, Illinois 60637



Manuel (Manny) Hernandez

Blog About

Without a health care provider: 525,480 minutes

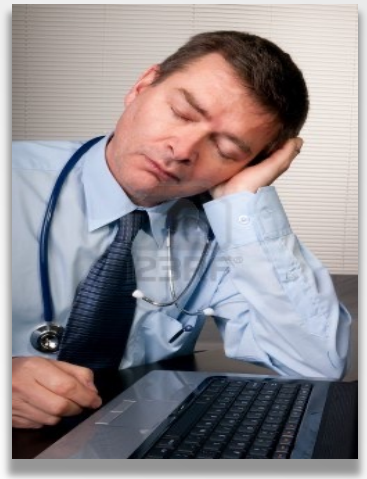
With a health care provider: 120 minutes

cy departments)
09-10
tes, United States
rom 17.9 minutes
minutes for
80,000,000 (10.9
utpatient and
, hospital
07%!
on their own.

http://askmanny.diabetesblogs.com/2015/10/
https://www.cdc.gov/nchs/fastats/diabetes.htm
https://www.cdc.gov/diabetes/data/statistics-report/index.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fdiabetes%2Fdata%2Fstatistics%2Fstatistics-report.html
https://www.ajmc.com/view/the-duration-of-office-visits-in-the-united-states-1993-to-2010

"*Sounds like it will take too much time.*"

- "*If I start asking open questions, I will open Pandora's box and the consult will never end.*"
- So, how long IS an average patient response to an open question in clinical practice?
- Let's examine the data…

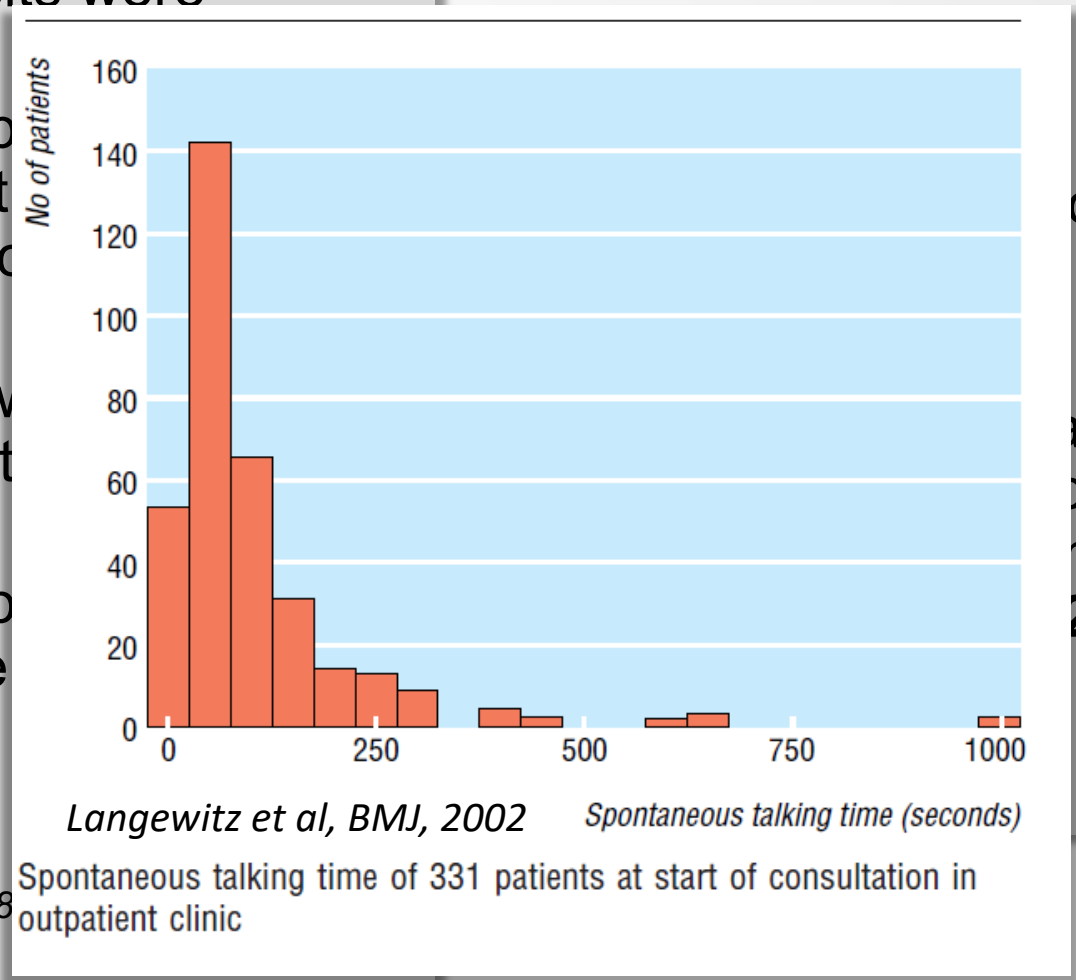


Data on physician ‘re-direction’

- 74 specialist office visits were recorded[1]
- In 61% of cases, the p
interrupted the patient
statement and re-direc
seconds
- Only 23% of patients v
opportunity to complet
statement of concern
- 1999 JAMA study[2] rep
results : patients were
after an average time
seconds

[1]*Beckman & Frankel, Ann Int Med, 198*
[2]*Marvel et al, JAMA, 1999*

Average patient response time (patients complete statements of concern)



Spontaneous talking time of 331 patients at start of consultation in outpatient clinic

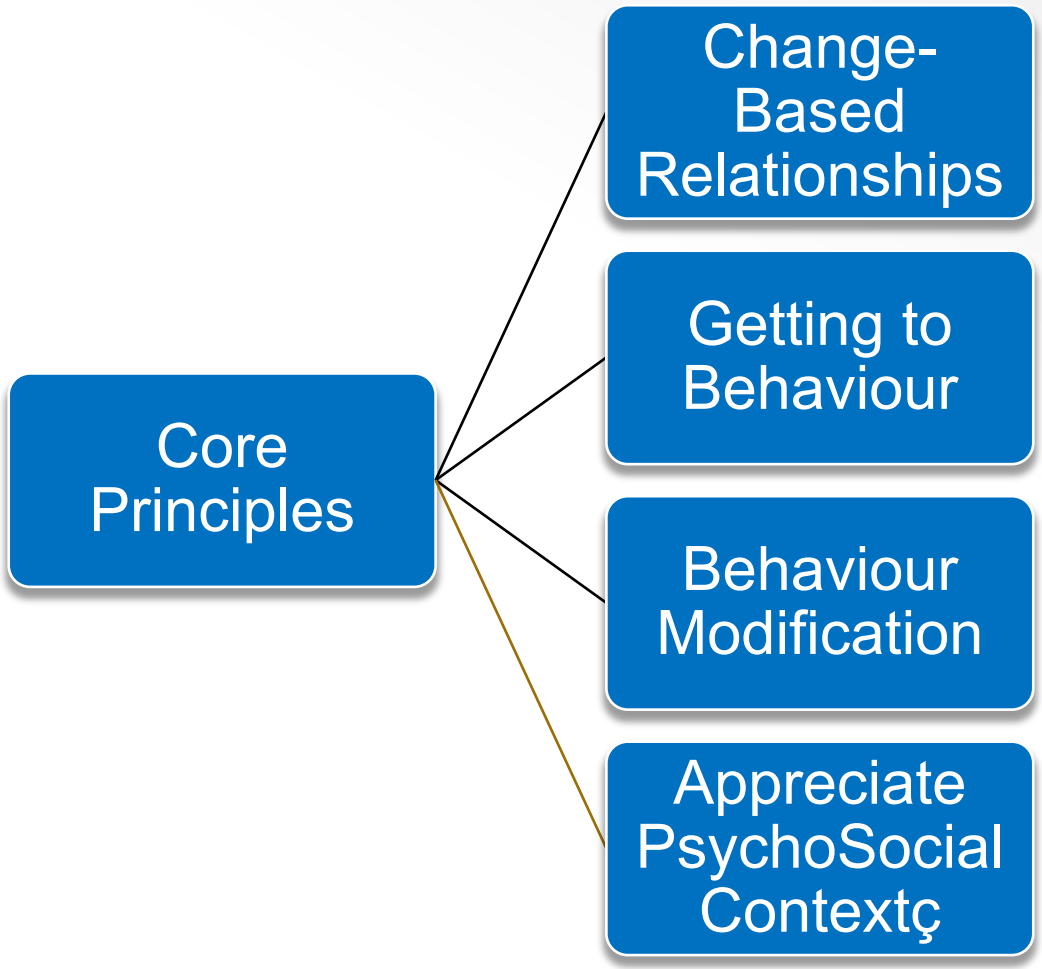
office visits were

ated one or more
o were given the
mplete them used an
2 seconds!

Time Tagging

- **It's not finding the time you think you need……it's using the time that you have**
- Bring time into the conversation and negotiate the agenda
  - "OK, Ms. X I see we have about 5 more minutes before we schedule our next visit. Can you take 1-2 minutes to ……?
    - "Don't worry if we don't finish, we can pick up where we end off next time

Core Principles of Behaviour Change



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journal homepage: www.canadianjournalofdiabetes.com

Perspectives in Practice

Are Behavioural Interventions Doomed to Fail? Challenges to Self-Management Support in Chronic Diseases

Michael Vallis PhD, R Psych *

Capital Health, Dalhousie University, Halifax, Nova Scotia, Canada

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complexity theory
patient-centered communication
self-management support

ABSTRACT

Self-management and self-management support are concepts very familiar to those of us in diabetes care. These concepts require openness to understanding the behaviours of persons with diabetes broadly, not only behaviours restricted to the biomedical perspective. Understanding the importance of health behaviour change and working within the Expanded Chronic Care Model define the context within which self-management support should occur. The purpose of this perspective is to identify a potential limitation in existing self-management support initiatives. This potential limitation reflects provider issues, not patient issues; that is, true self-management support might require changes by healthcare providers. Specifically, although behavioural interventions within the context of academic research studies are evidence based, behaviour change interventions implemented in general practice settings might prove less effective unless healthcare providers are able to shift from a practice based on the biomedical model to a practice based on the self-management support model.

The purpose of this article is to facilitate effective self-management support by encouraging providers to switch from a model of care based on the expert clinician encountering the uninformed help seeker (the biomedical model) to one guided by collaboration grounded in the principles of description, prediction and choice. Key to understanding the value of making this shift are patient-centered communication principles and the tenets of complexity theory.

Mots clés :
théorie sur le changement comportemental
modèle biomédical
théorie de la complexité
communication axée sur le patient
soutien à la prise en charge autonome

RÉSUMÉ

La prise en charge autonome et le soutien à la prise en charge autonome sont des concepts très familiers à ceux d'entre nous qui offrent des soins aux diabétiques. Ces concepts exigent que nous soyons ouverts à la compréhension des comportements des personnes diabétiques, et non seulement que nous adoptions des comportements qui se limitent à la perspective biomédicale. La compréhension de l'importance du changement de comportement en matière de santé et des travaux réalisés au sein du Expanded Chronic Care Model définissent le contexte dans lequel le soutien à la prise en charge autonome devrait avoir lieu. L'objectif de cette perspective est d'établir la limite potentielle des initiatives existantes de soutien à la prise en charge autonome. Cette limite potentielle reflète les enjeux des prestataires, et non les enjeux des patients. En d'autres mots, le soutien à la prise en charge autonome pourrait exiger des prestataires de soins de santé de véritables changements. Particulièrement, bien que les interventions comportementales dans le contexte de la recherche universitaire soient fondées sur des données probantes, les interventions sur le changement de comportement qui ont été mises en place dans des milieux de pratique générale pourraient se révéler moins efficaces à moins que les prestataires de soins de santé soient en mesure de passer d'une pratique fondée sur le modèle biomédical à une pratique fondée sur le modèle de soutien à la prise en charge autonome.

Le but du présent article est de faciliter un soutien efficace à la prise en charge autonome en encourageant les prestataires à passer d'un modèle de soins fondé sur le clinicien expert qui rencontre le requérant non informé (le modèle biomédical) à un modèle guidé par une collaboration reposant sur les

* Address for correspondence: Michael Vallis, PhD, R Psych, Behaviour Change Institute, Suite 0265 Mumford Professional Centre, 6960 Mumford Road, Halifax, Nova Scotia B3L 4P1, Canada.
E-mail address: tvallis@dal.ca

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Original Research

Behaviour Change Counselling—How Do I Know If I Am Doing It Well? The Development of the Behaviour Change Counselling Scale (BCCS)

Michael Vallis PhD *

Dalhousie University, Halifax, Nova Scotia, Canada

ARTICLE INFO

Article history:
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Keywords:
behaviour change counselling
behaviour modification
emotion management
motivation
reliability
scale development
self-management support

ABSTRACT

Objective: The purpose of this article is to operationalize behaviour change counselling skills (motivation enhancement, behaviour modification, emotion management) that facilitate self-management support activities and evaluate the psychometric properties of an expert rater scale, the Behaviour Change Counselling Scale (BCCS).

Methods: Twenty-one healthcare providers with varying levels of behaviour change counselling training interviewed a simulated patient. Videotapes were independently rated by 3 experts on 2 occasions over 6 months. Data on item/subscale characteristics, interrater and test–retest reliability, preliminary data on construct reliability, were reported.

Results: All items of the BCCS performed well with the exception of 3 that were dropped due to infrequent endorsement. Most subscales showed strong psychometric properties. Interrater and test–retest reliability coefficients were uniformly high. Competency scores improved significantly from pre- to posttraining.

Conclusions: Behaviour change counselling skills to guide lifestyle interventions can be operationalized and assessed in a reliable and valid manner.

Practice Implications: The BCCS can be used to guide clinical training in lifestyle counselling by operationalizing the component skills and providing feedback on skill achieved. Further research is needed to establish cut scores for competency and scale construct and criterion validity.

Mots clés :
counselling en changement de comportement
modification de comportement
prise en charge des émotions
motivation
fiabilité
conception d'échelles
soutien à la prise en charge autonome

RÉSUMÉ

Objectif : Le but de cet article est mettre à profit les compétences de counselling en changement de comportement (renforcement de la motivation, modification de comportement, prise en charge des émotions) qui facilitent les activités de soutien à la prise en charge autonome et d'évaluer les propriétés psychométriques d'une échelle d'évaluation experte, la Behaviour Change Counselling Scale (BCCS).

Méthodes : Vingt-et-un (21) prestataires de soins de santé de différents niveaux de counselling en changement de comportement ont interviewé un patient simulé. Des bandes vidéos ont été indépendamment cotées par 3 experts à 2 occasions durant 6 mois. Les données sur les caractéristiques d'un item et des sous-échelles, la fiabilité interévaluateurs et la fiabilité de test-retest, et les données préliminaires sur la validité conceptuelle ont été bien réalisés à l'exception de 3 qui avaient été abandonnés en raison de leur rare appui. La plupart des sous-échelles ont montré d'excellentes propriétés psychométriques. Les scores de compétence se sont significativement améliorés par rapport à la période avant la formation et à la période après la formation.

Conclusions : Les compétences de counselling en changement de comportement pour orienter les interventions sur le mode de vie peuvent être mises à profit, et évaluées de façon fiable et valide.

Pratique et conséquences : La BCCS peut être utilisée pour orienter la formation clinique en counselling sur le mode de vie en mettant à profit les compétences constituantes et en fournissant une rétroaction sur les compétences atteintes. D'autres recherches sont nécessaires pour établir des scores minimaux pour les compétences, les conceptions d'échelle et la validité critérielle.

* Address for correspondence: Michael Vallis, Diabetes Management Centre, 7071 Bayers Rd, Suite 165, Halifax, Nova Scotia, Canada B3L 2C2.
E-mail address: tvallis@dal.ca.

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Original Research

Equipping providers with principles, knowledge and skills to successfully integrate behaviour change counselling into practice: a primary healthcare framework

M. Vallis*, D. Lee-Baggley, T. Sampalli, A. Ryer, S. Ryan-Carson, K. Kumanan, L. Edwards

Primary Care, Nova Scotia Health Authority & Dalhousie University, Halifax, Canada

ARTICLE INFO

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Keywords:
Behaviour change
Counselling
Competency
Communication skills
Chronic disease

ABSTRACT

Objectives: There is an urgent need for healthcare providers and healthcare systems to support productive interactions with patients that promote sustained health behaviour change in order to improve patient and population health outcomes. Behaviour change theories and interventions have been developed and evaluated in experimental contexts; however, most healthcare providers have little training, and therefore low confidence in, behaviour change counselling. Particularly important is how to integrate theory and method to support healthcare providers to engage in behaviour change counselling competently. In this article, we describe a general training model developed from theory, evidence, experience and stakeholder engagement. This model will set the stage for future evaluation research on training needed to achieve competency, sustainability of competency, as well as effectiveness/cost-effectiveness of training in supporting behaviour change.

Design and Methods: A framework to support competency based training in behaviour change counselling is described in this article. This framework is designed to be integrative, sustainable, scalable and capable of being evaluated in follow-up studies.

Results and Discussion: Effective training in behaviour change counselling is critical to meet the current and future healthcare needs of patients living with, or at risk of, chronic diseases. Increasing competency in establishing change-based relationships, assessing and promoting readiness to change, implementing behaviour modification and addressing psychosocial issues will be value added to the healthcare system.

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* Corresponding author. Behaviour Change Institute, Primary Care, 6960 Mumford Rd, Halifax, Nova Scotia B3H 4P1, Canada. Tel.: +1 902 789 9545.
E-mail address: tvallis@dal.ca (M. Vallis).
https://doi.org/10.1016/j.puhe.2017.10.022
0033-3506/

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Original Research

Integrating behaviour change counselling into chronic disease management: a square peg in a round hole? A system-level exploration in primary health care

M. Vallis [a,b,*], D. Lee-Baggley [a,b], T. Sampalli [a], D. Shepard [a], L. McIssaac [a], A. Ryer [a], S. Ryan-Carson [a], S. Manley [a]

[a] Nova Scotia Health Authority, Canada
[b] Family Medicine, Dalhousie University, Canada

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Behaviour change counselling
Competency
Readiness to change
Primary health care
Chronic disease management

ABSTRACT

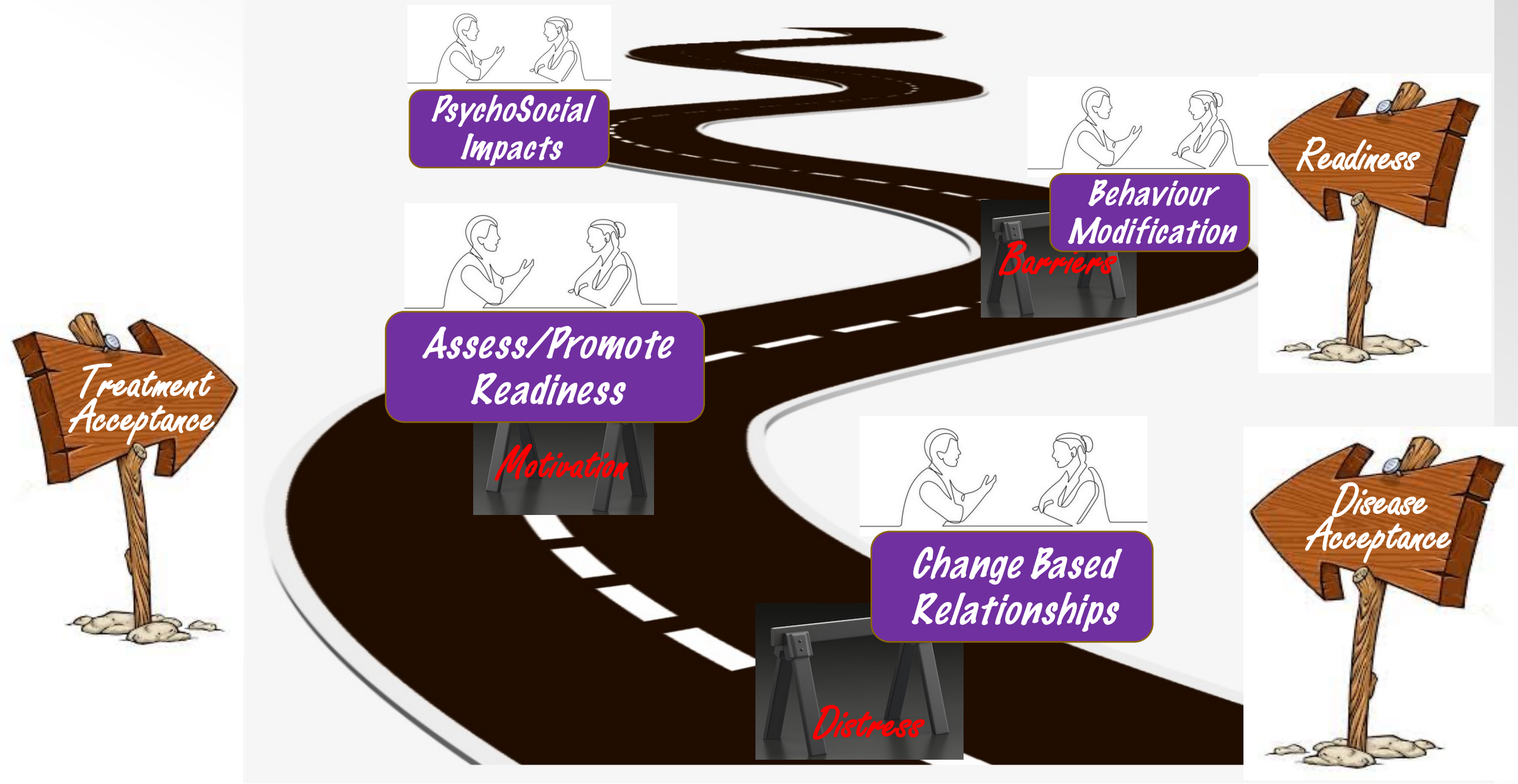
Objectives: The objective of this study is to evaluate the uptake of competency-based behaviour change counselling training within a primary healthcare setting. Specific questions concerning provider readiness for training, perceived importance of training in the context of service demands and perceptions of competence after training were addressed.

Study design: A process-focused study which adopted a complex systems approach to implementation. Each step was evaluated before the next step was developed. The design was guided by the RE-AIM (reach, effectiveness, adoption, implementation, maintenance) framework.

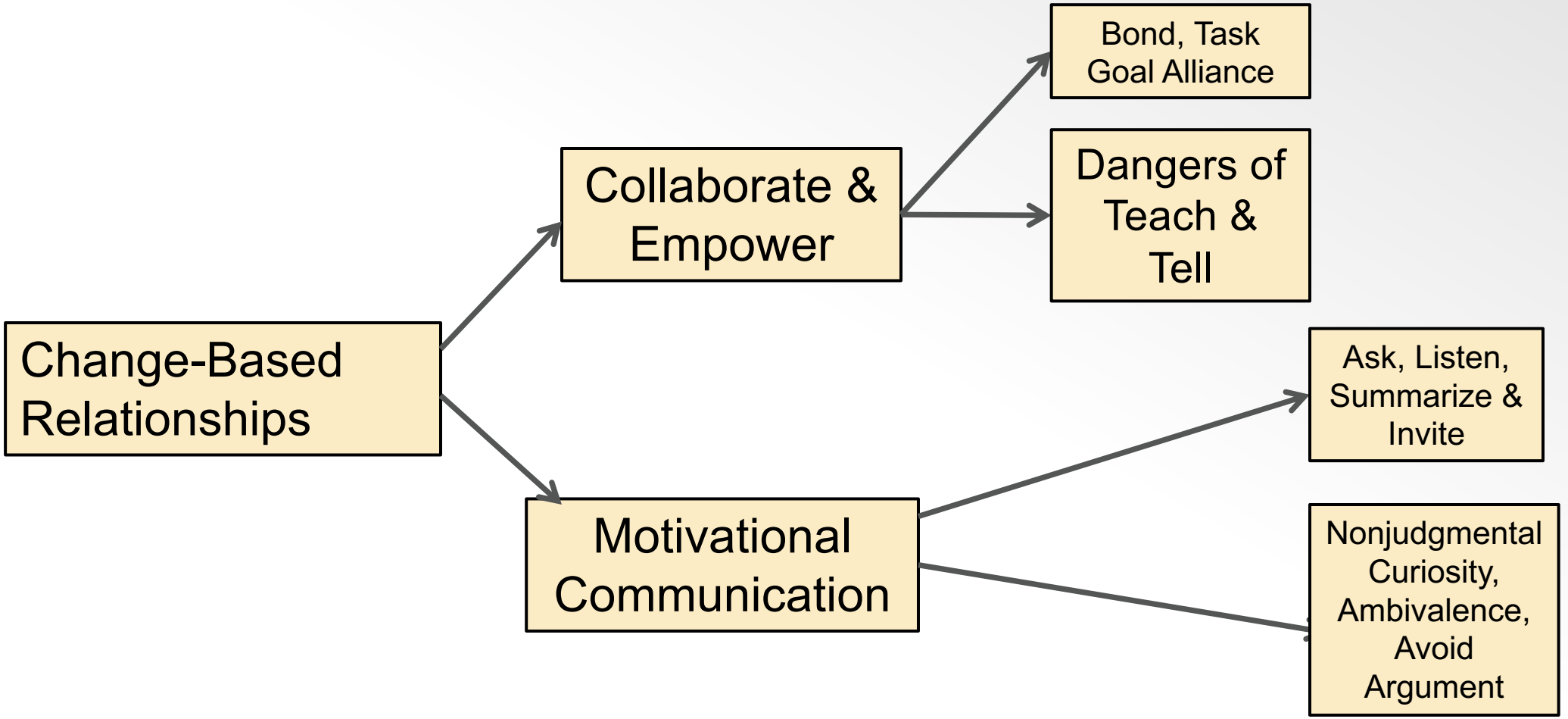
Methods: Four specific primary care services were identified and behaviour change counselling training tailored to each service was provided, based on a model of training built around competencies in establishing change-based relationships, assessing and promoting readiness to change, using evidence-based behaviour modification skills when ready and addressing psychosocial determinants of behaviour within scope of practice. Before training, a manager's readiness to facilitate training and identification of peer leaders to support ongoing practice of skills were completed.

Results: Two programs received 12 h. All programs negotiated 8 h of formal training, one program received 10 h and one program received 12 h. All programs engaged in peer support activities. Despite willingness to support training, 90% of managers were ambivalent about training activities, relative to one half of healthcare providers (HCPs). Few HCPs and no managers self-identified as ready without ambivalence. Furthermore, HCPs were reluctant to be evaluated by an expert and preferred self-evaluation methods. In contrast, HCPs uniformly endorsed the relevance, value and professional commitment to all component skills of the behaviour change counselling model. At the end of the training, over 75% of staff reported receiving formal training (reach). Almost 80% of staff reported using change-based relationship skills daily, with less frequent use of skills associated with addressing psychosocial issues. The degree

* Corresponding author. c/o 133 Milsom St., Halifax, NS B3N 3M3, Canada.
E-mail address: tvallis@dal.ca (M. Vallis).
https://doi.org/10.1016/j.puhe.2019.06.009
0033-3506/


PsychoSocial Impacts
Behaviour Modification
Barriers
Readiness
Assess/Promote Readiness
Motivation
Treatment Acceptance
Change Based Relationships
Distress
Disease Acceptance

Behaviour Change Competencies

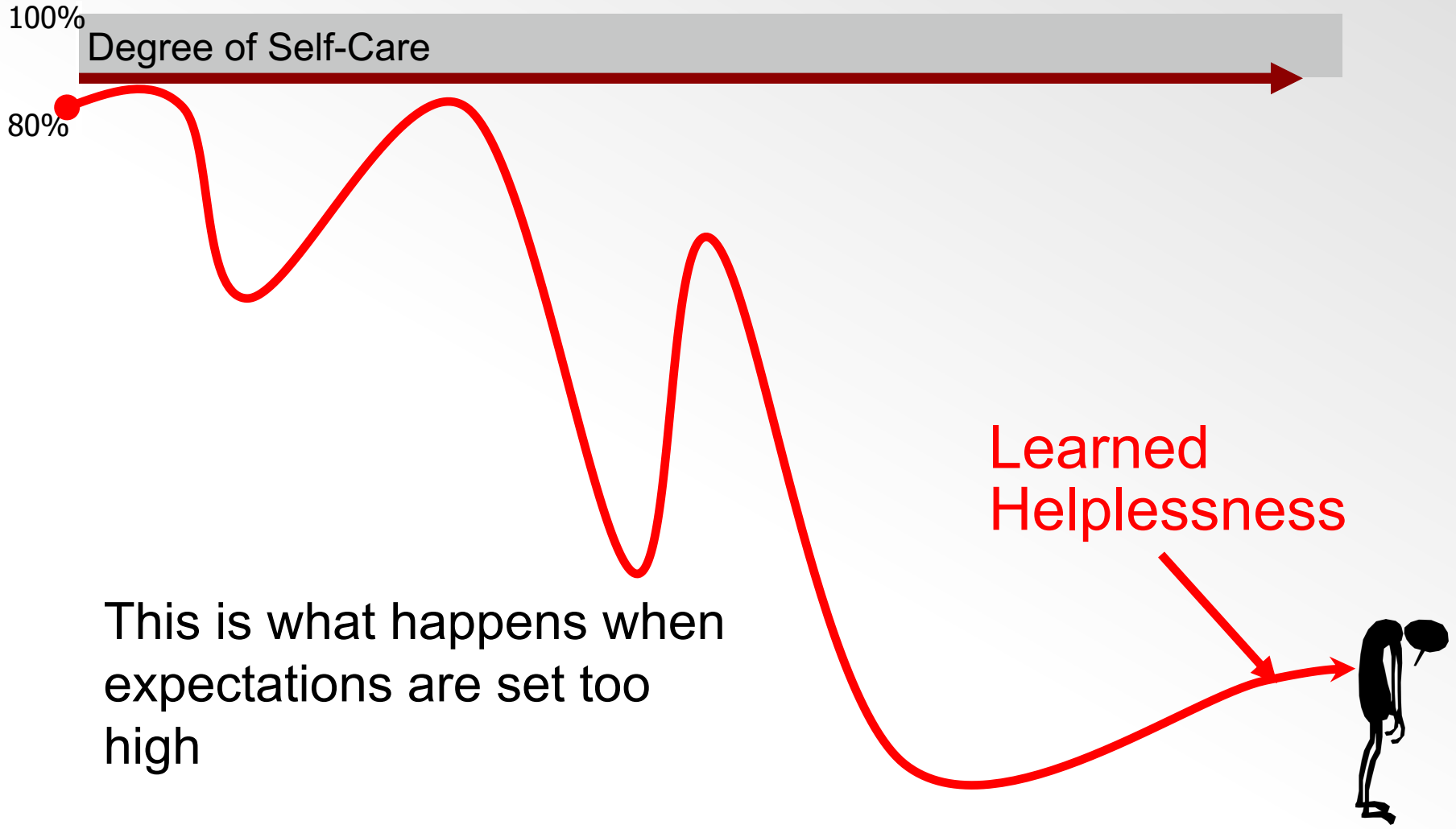


When the Person is not Ready to Act There are Dangers to Teach and Tell 

Healthy Behaviour is Abnormal Behaviour

The Dangers of Teach and Tell

1. The patient will try to follow our advice (do it for us)


100%
Degree of Self-Care
80%
Learned Helplessness
This is what happens when expectations are set too high
Time

The Dangers of Teach and Tell

1. The patient will try to follow our advice (to it for us)

2. The patient will resist our advice

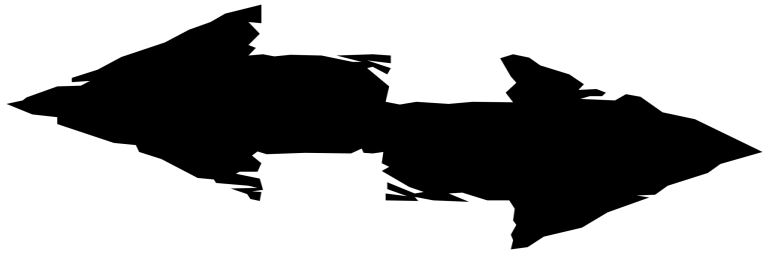
How old is a child when they first declare:
YOU ARE NOT THE BOSS OF ME!

What are amongst a child's first words:
NO!
ME DO!

The more you tell someone what to do, the more they
……..

Psychological Reactance

- The tendency to act the opposite to what one is asked to do
- Reactance is related to the issue of control and self-determination
- If a person feels that control is being taken away from them, or free will is limited it is NORMAL to resist

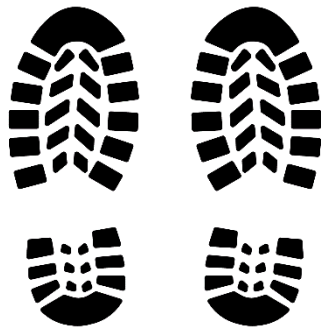


When the Person is not Ready to Act There are Dangers to Teach and Tell

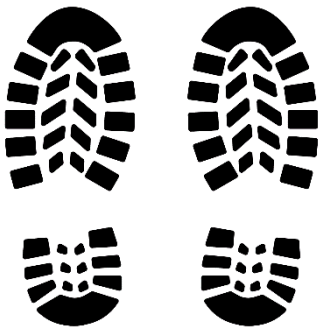
Healthy Behaviour is Abnormal Behaviour

The Human Condition

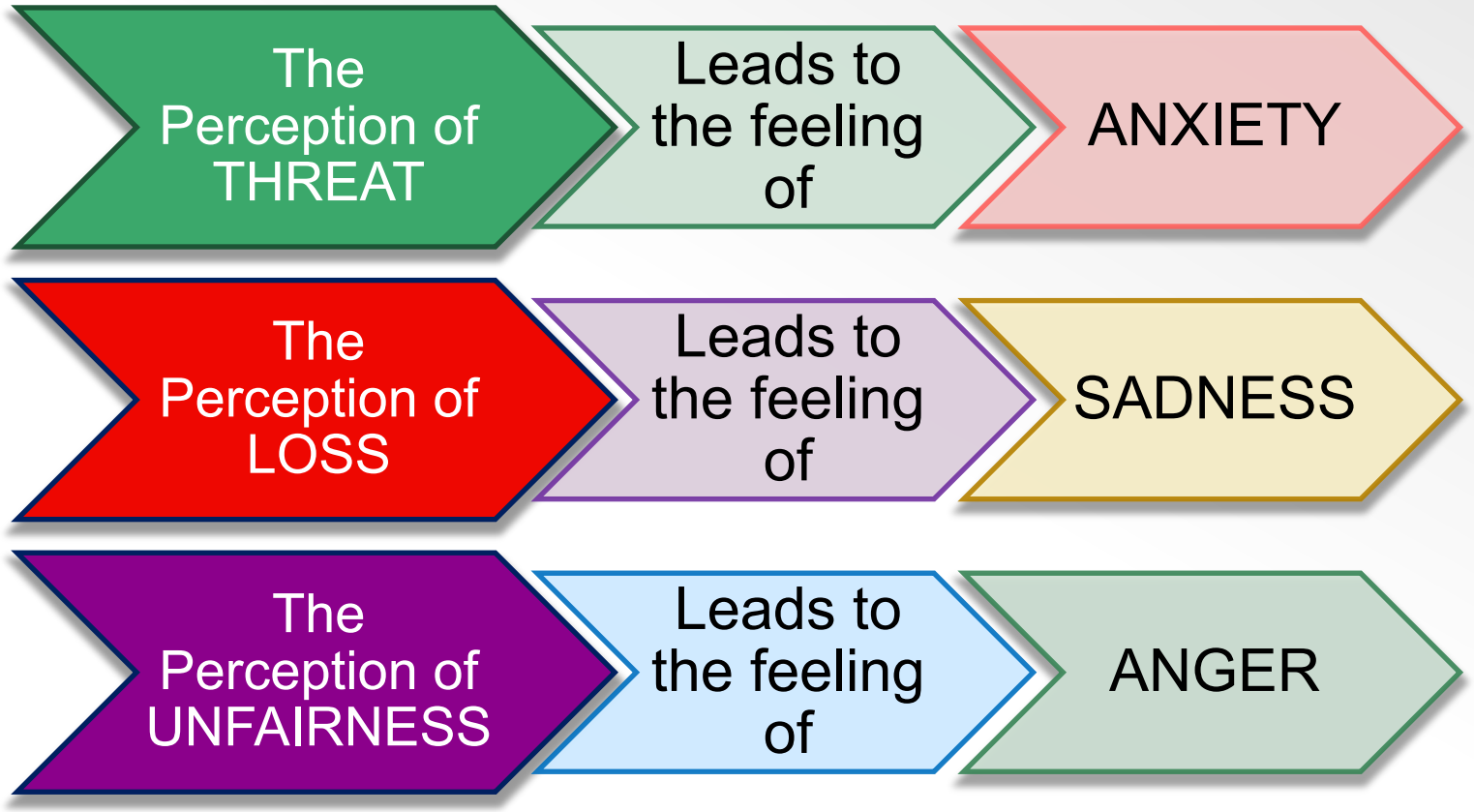
Self-Management:
What I Know I Should Do



Self-Management:
What I Feel Like Doing



What Am I Feeling and Why?



Change is Hard [1–9]

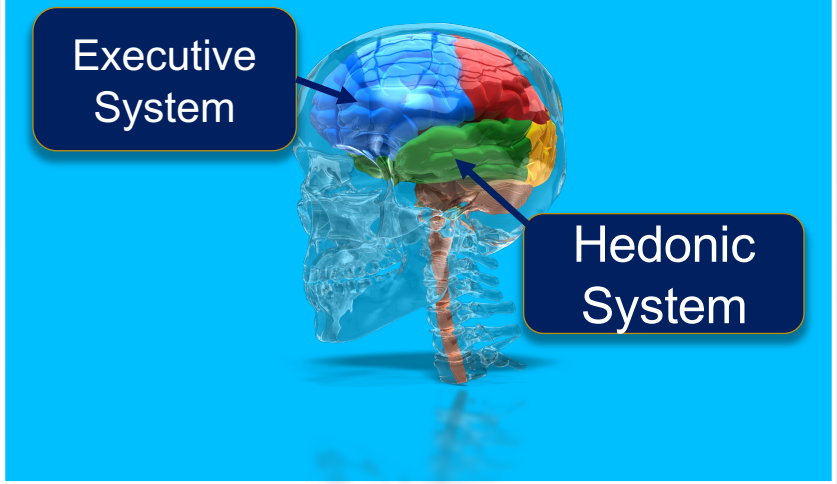
Healthy behaviour is abnormal behaviour

- Behaviour is guided by pleasure, convenience and immediate consequences

People don't follow recommendations

- They follow their own beliefs
- Focusing on recommendations when a patient is not ready is risky

Emotions dominate logic



Avoidance is the most common coping response

Psychological reactance

The more strongly one person tells another person what to do, the stronger the **resistance** to that behaviour (psychological reactance)[1]

If I try and fail, try and fail, try and fail, eventually I will **stop trying (learned helplessness)**[2]

The patient–provider relationship can modulate the emotional brain (from emotion to logic)

1. Steindl C, et al. Z Psychol 2015;223:205–214; 2. Abramson LY, et al. J Ab Psych 1978;87:49–74; 3. Prochaska JO, Prochaska JM. J Psychother Integr 1999;9:83–102;
4. Berthoud HR. Curr Opin Neurobiol 2011;21:888–896; 5. Hall KL, Rossi JS. Prev Med 2008;46:266–274; 6. Zajonc RB. Am Psychol 1980;35:151–175;
7. Horne R, et al. Psychol Health 1999;14:1–24; 8. Ratanawongsa N, et al. JAMA Intern Med 2013;173:210–218. 9. Martin RC, et al. Mov Disord. 2008;23(13):1867-1874.

Executive System:
What I Know I Should Do

Hedonic System:
What I Feel Like Doing

We are hard-wired to:

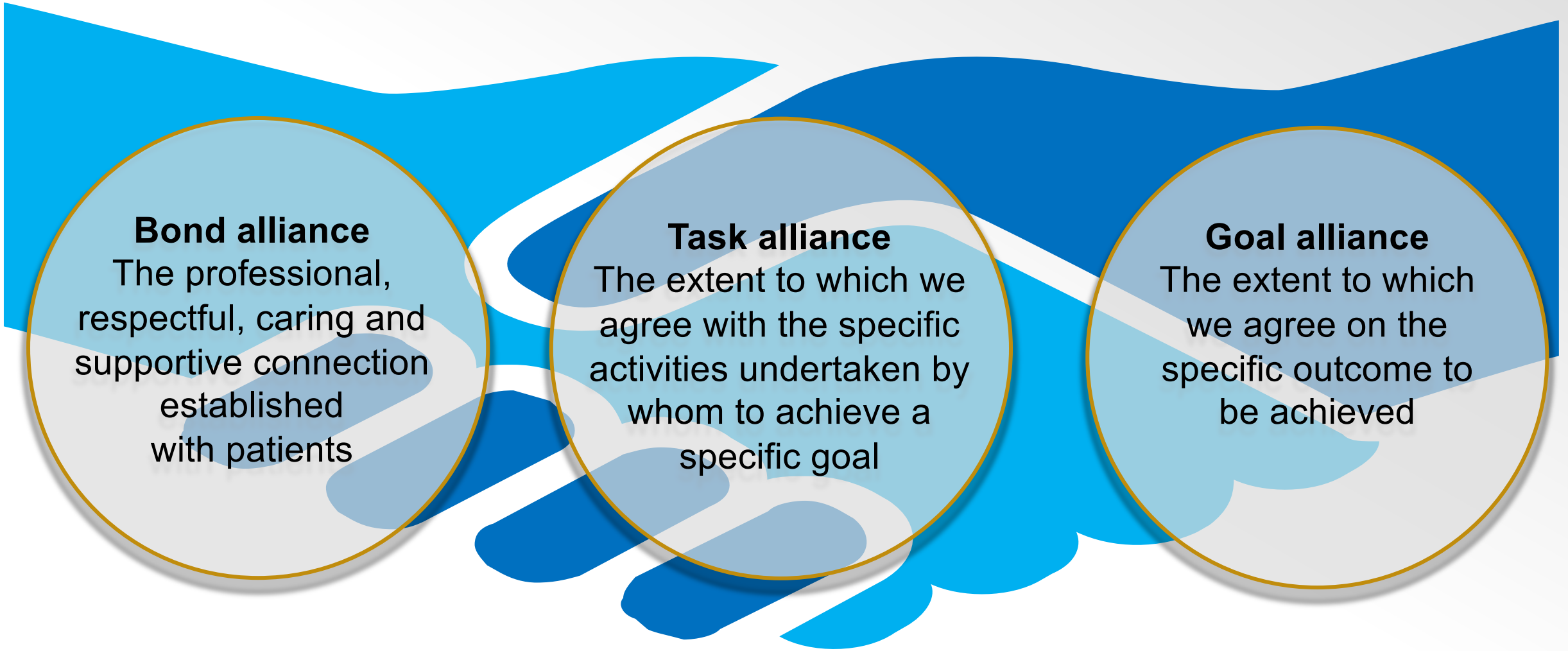
- Pursue pleasure
- Minimize effort
- Make the choice with the most immediate positive consequences

Change-Based Relationships

How do we move towards a change-based relationship?

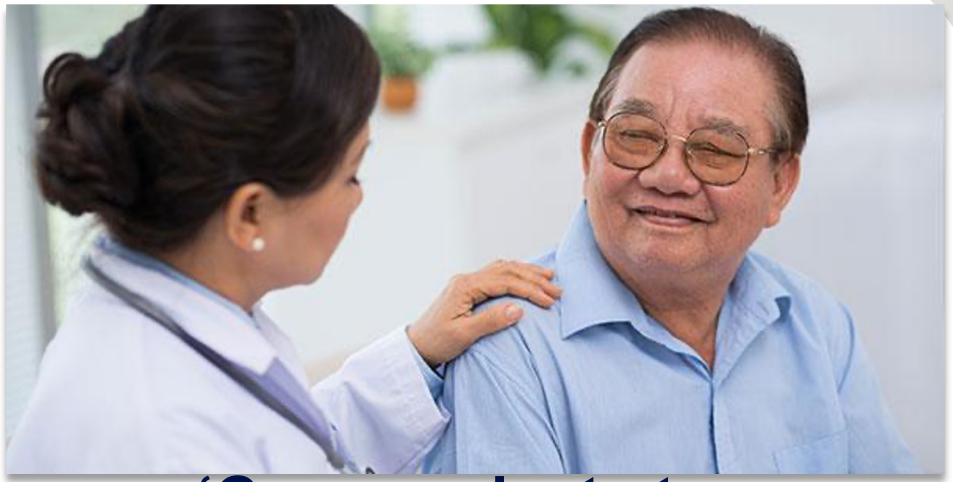
- **By collaborating with and empowering the patients that we work with.**
- **Through developing skills in motivational communication (ask, listen, summarize and invite).**
- **By demonstrating nonjudgmental curiosity, expressing empathy, avoiding argument and sitting with ambivalence.**

Collaborating with and empowering our patients



Motivational Communication

- Ask
- Listen
- Summarise
- **Invite**



‘Communicate to negotiate’

Vallis M et al. Public Health 2018;154:70-8

Simple steps to support change

Incorporate the basics of motivational communication

Acknowledge, empathise and normalise the response

Ask permission to work together to better understand and consider strategies

Ask the person what their thoughts are on possible solutions

Ask permission to provide your ideas on solutions

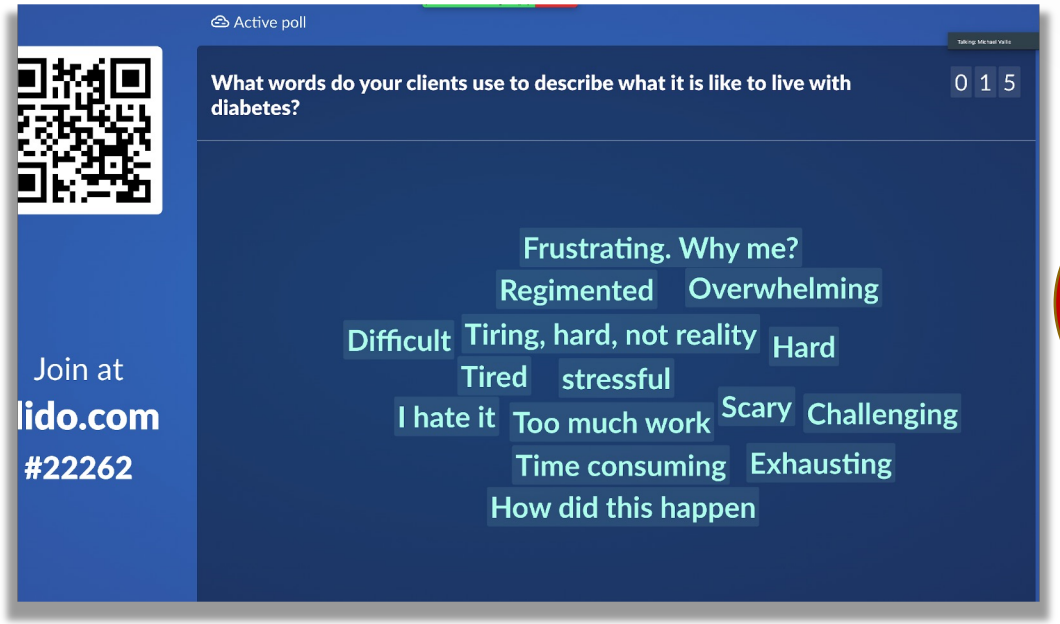
The Spirit of Motivational Communication

While you ask, listen, summarize and invite, a change based relationship is facilitated by:

- Nonjudgmental Curiosity
- Avoiding Argument
- Sitting with Ambivalence

Disease Acceptance

What is it like to live with Diabetes?
What words describe living with diabetes?



No One Wants to be Sick!

Disease Acceptance

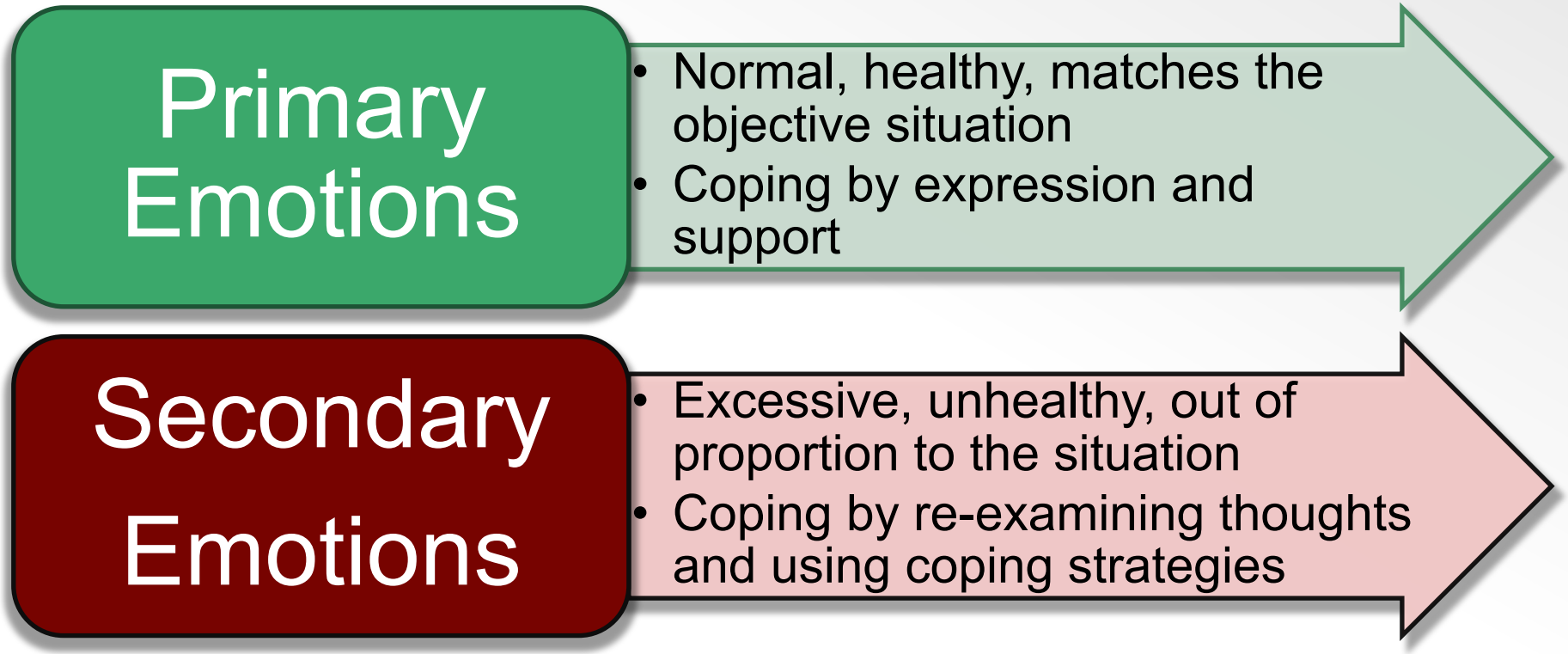
- How serious do you view your diabetes to be in your life at this time?
- How much personal responsibility do you currently have for managing your diabetes?

		Seriousness	
		High	Low
Personal Responsibility	High	Accepting	Uncertain
	Low	Passive/ Overwhelmed	Indifferent

Diabetes Distress

Psychological distress that is caused by the experience of living with the disease (*"If you did not have diabetes would you be experiencing X?"*)

What Do I Do About my Feelings?



Promoting Limbic System Discharge Might Be Easier Than You Think

Ask
Ask Again
Ask Again

Listen With Empathy

Treatment Acceptance

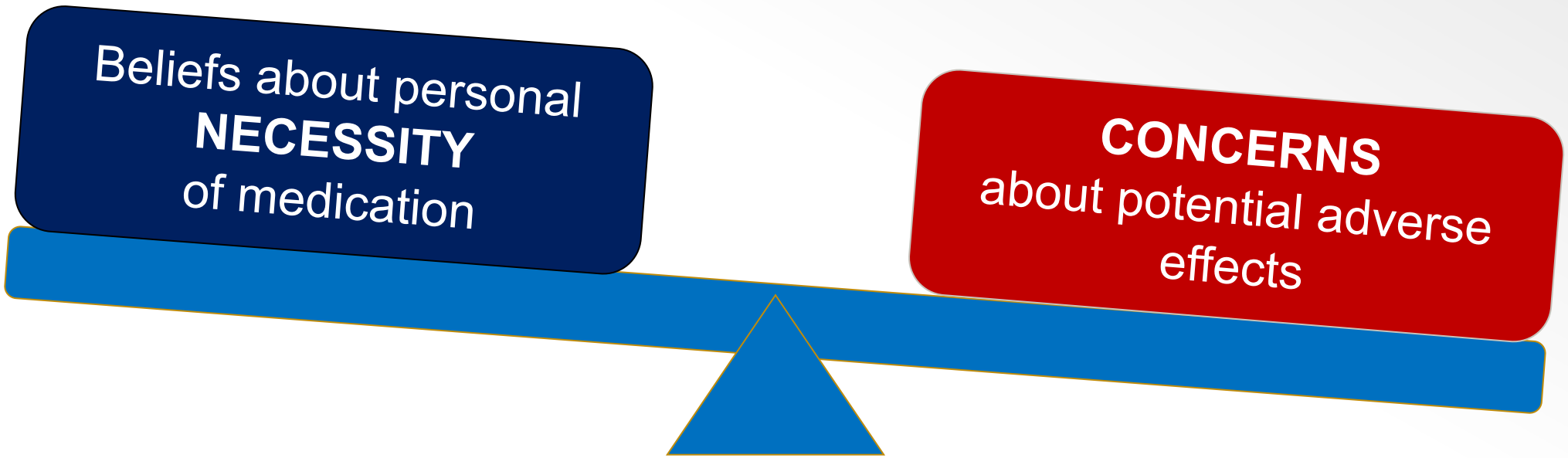
Common Sense Beliefs

- **Which is worse:**
  - **40 Units or 80 Units?**
  - **Being on 3 medications or 1?**
  - **Monitoring one factor (BG) or 3 (BG, BP, Lipids)?**
  - **Oral pills or injection?**
- **Personal stories**
  - **My grandfather smoked since he was 12 to when he died at 93 because he fell down some stairs**
  - **My mother didn't go blind till she went on insulin; she never should have done that**

Leventhal, H., Phillips, L.A. & Burns, E. The Common-Sense Model of Self-Regulation (CSM): a dynamic framework for understanding illness self-management. *J Behav Med***39,** 935–946 (2016)

Treatment Acceptance

Beliefs about medicines



Horne et al. *PLoS One* 2013;8:e80633; Renal dialysis (Horne et al. 2001); Renal transplantation (Butler et al. 2004); Asthma (Horne & Weinman, 2002); HIV/AIDS (Horne et al. 2007,2001; Gonzalez et al. 2006); Rheumatoid arthritis (Neame & Hammon, 2005); General practice (Clifford, 2008).

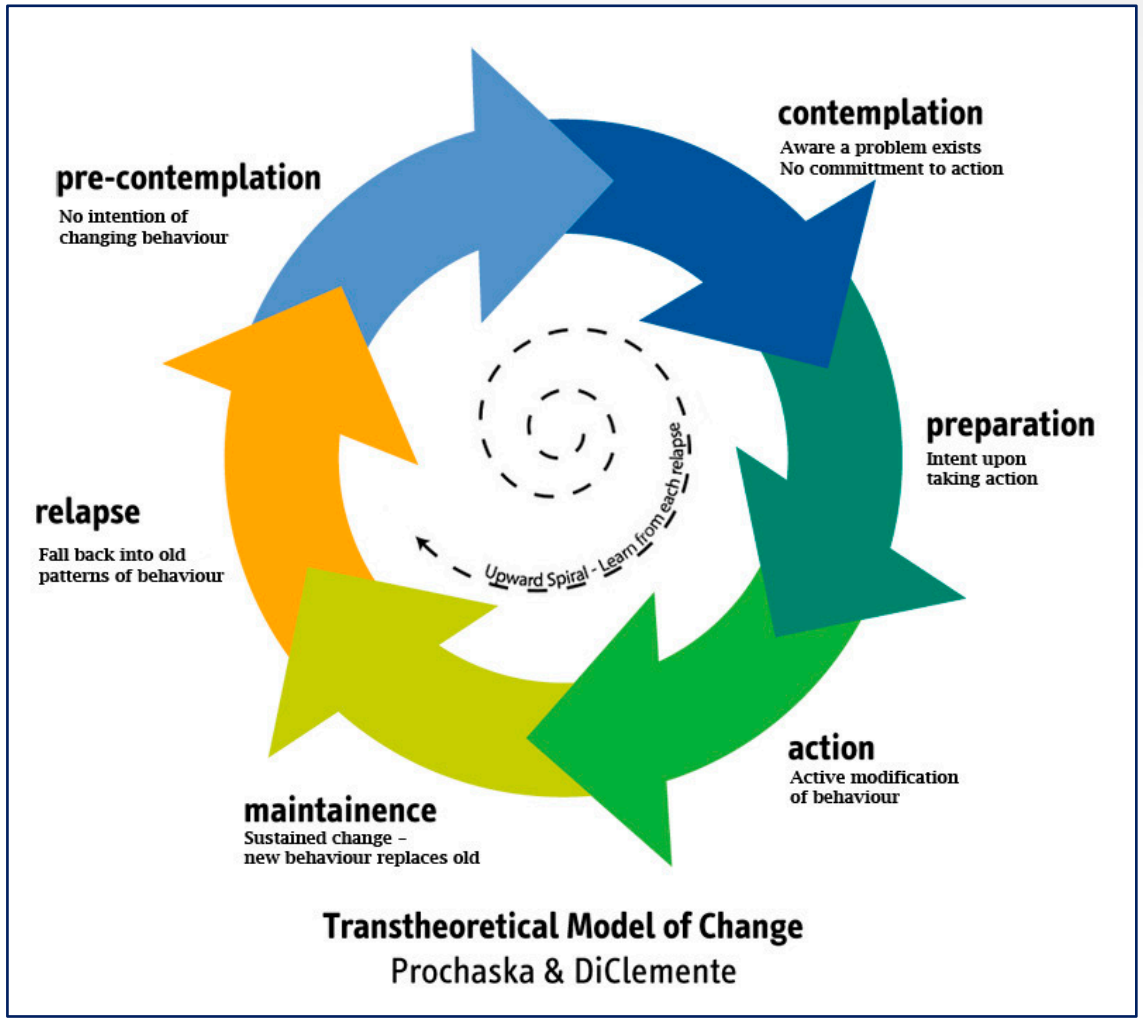
Treatment Acceptance

- To what extent do you need this medication?
- To what extent do you have concerns about this medication?

		Concerns: High	Concerns: Low
Needs	High	Ambivalent	Accepting
	Low	Sceptical	Indifferent

Horne R, et al. *Inflamm Bowel* Dis 2009;15:837–44

Readiness to Adhere to Treatment Recommendations



Epidemiology/Health Services/Psychosocial Research
ORIGINAL ARTICLE
DIABETES CARE, VOLUME 26, NUMBER 3, MARCH 2003

Changes in Diabetes Self-Care Behaviors Make a Difference in Glycemic Control

The Diabetes Stages of Change (DiSC) study

HELEN JONES, RN, MSN[1]
LYNN EDWARDS, PDT, MHSA[2]
T. MICHAEL VALLIS, PHD[3]
LAURIE RUGGIERO, PHD[4]
SUSAN R. ROSSI, RN, PHD[5]
JOSEPH S. ROSSI, PHD[6]
GEOFFREY GREENE, RD, PHD[7]
JAMES O. PROCHASKA, PHD[6]
BERNARD ZINMAN, MD[8]

OBJECTIVE — This study compared diabetes Treatment As Usual (TAU) with Pathways To Change (PTC), an intervention developed from the Transtheoretical Model of Change (TTM), to determine whether the PTC intervention would result in greater readiness to change, greater increases in self-care, and improved diabetes control.

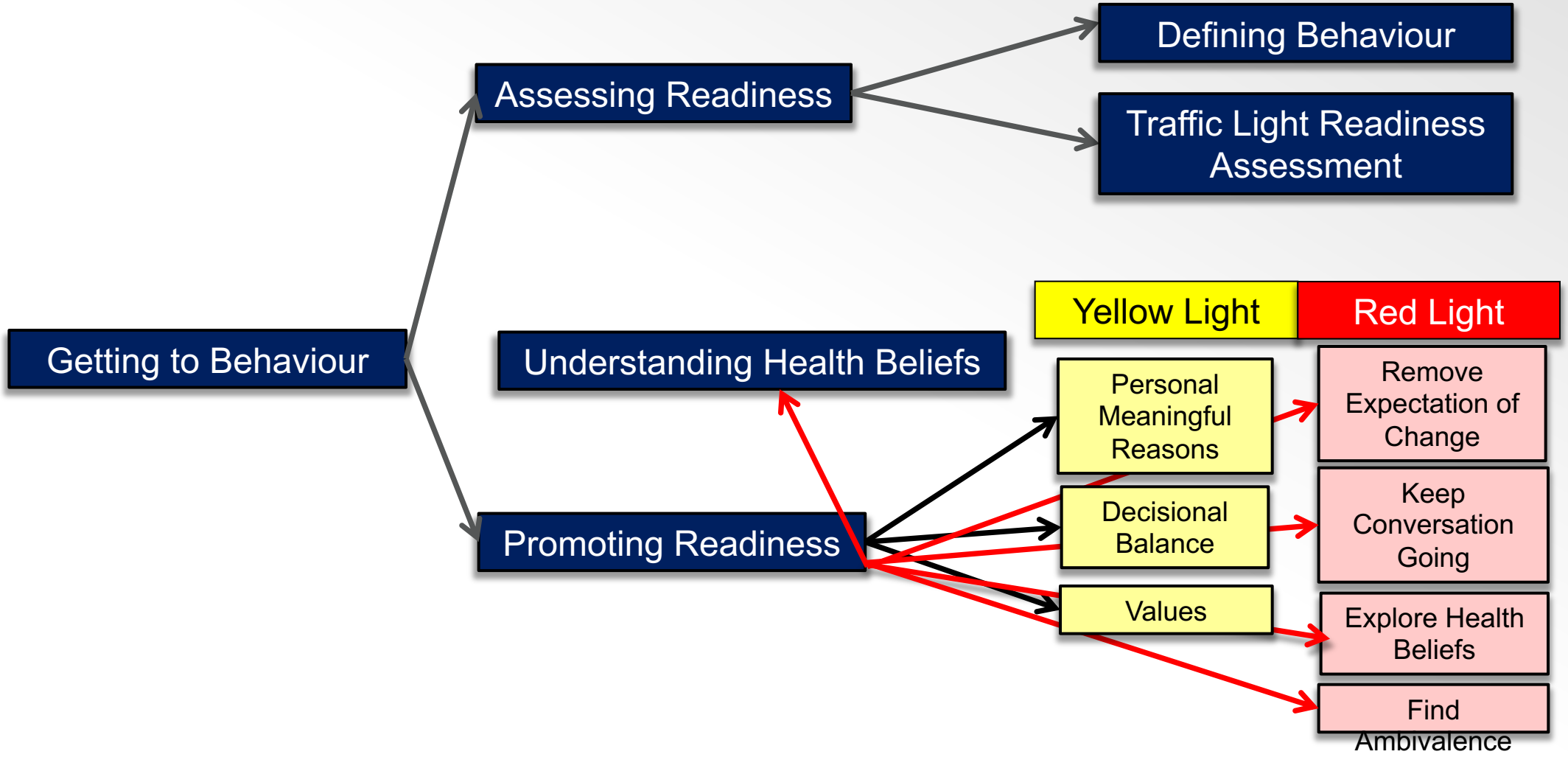
RESEARCH DESIGN AND METHODS — Participants were stratified by diabetes treatment and randomized to treatment with PTC or TAU as well as being randomized regarding receipt of free blood testing strips. The PTC consisted of stage-matched personalized assessment reports, self-help manuals, newsletters, and individual phone counseling designed to improve readiness for self-monitoring of blood glucose (SMBG), healthy eating, and/or smoking cessation. A total of 1,029 individuals with type 1 and type 2 diabetes who were in one of three pre-action stages for either SMBG, healthy eating, or smoking were recruited.

RESULTS — For the SMBG intervention, 43.4% of those receiving PTC plus strips moved to an action stage, as well as 30.5% of those receiving PTC alone, 27.0% of those receiving TAU plus strips, and 18.4% of those receiving TAU alone ($P < 0.001$). For the healthy eating intervention, more participants who received PTC than TAU (32.5 vs. 25.8%) moved to action or maintenance ($P < 0.001$). For the smoking intervention, more participants receiving PTC (24.3%) than TAU (13.4%) moved to an action stage ($P < 0.03$). In intention-to-treat (ITT) analysis of those receiving the SMBG intervention, PTC resulted in a greater reduction of HbA_{1c} than TAU, but this did not reach statistical significance. However, in those who moved to an action stage for the SMBG and healthy eating interventions, HbA_{1c} was significantly reduced ($P < 0$ 0.001). Individuals who received the healthy eating intervention decreased their percentage of calories from fat to a greater extent (35.2 vs. 36.1%, $P = 0.004$), increased servings of fruit per day (1.89 vs. 1.68, $P = 0.016$), and increased vegetable servings (2.24 vs. 2.06, $P = 0.011$) but did not decrease weight. However, weight loss for individuals who received the healthy eating intervention and who increased SMBG frequency as recommended was significantly greater, with a 0.26-kg loss in those who remained in a pre-action SMBG stage but a 1.78-kg loss in those performed SMBG as recommended ($P \leq 0.01$).

CONCLUSIONS — This study demonstrates that this intervention has the potential of positively impacting the health of broad populations of individuals with diabetes, not just the minority who are ready for change.

Diabetes Care 26:732–737, 2003

Diabetes self-management, including self-monitoring of blood glucose (SMBG) and making healthy food and lifestyle choices, is complex and demanding. The Diabetes Control and Complications Trial (DCCT) and the U.K. Prospective Diabetes Study (UKPDS)


Getting to Behaviour
Assessing Readiness
Defining Behaviour
Traffic Light Readiness Assessment
Understanding Health Beliefs
Promoting Readiness
Yellow Light
Red Light
Personal Meaningful Reasons
Decisional Balance
Values
Remove Expectation of Change
Keep Conversation Going
Explore Health Beliefs
Find Ambivalence

Defining Behaviour

- Behaviour is:
  - Observable
  - Measureable
  - Something that the patient does.

- Patients and providers need to agree on a behaviour (i.e. exactly what the patient needs to do) that is highly specific (when, where, what, how) and in the context of the persons life.
- The behaviour should be meaningful to the patient rather than solely the provider.

Defining the Behaviour

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Older adults' memory for medical information, effect of number and mode of presentation: An experimental study

José Miguel Latorre-Postigo[a,b], Laura Ros-Segura[a,b], Beatriz Navarro-Bravo[a,b,c,*], Jorge Javier Ricarte-Trives[a,b], Juan Pedro Serrano-Selva[a,b], Jesús López-Torres-Hidalgo[d,e]

[a] Faculty of Medicine, Department of Psychology, University of Castilla-La Mancha. Albacete, Spain
[b] Applied Cognitive Psychology Unit (CICyPA), Albacete, Spain
[c] Clinical Research Support Unit, National Paraplegic Hospital Foundation in Toledo, Albacete, Spain
[d] Faculty of Medicine, Department of Medical Science, University of Castilla-La Mancha, Albacete, Spain
[e] University Health Centre (Zone VIII), Albacete, Spain

Recall percentage by mode of presentation (visual or spoken, number of recommendations given (six or nine), type of recommendation (medication or lifestyle) and moment of recall (immediate or delayed).

	VISUAL				Spoken			
	Medication		Lifestyle		Medication		Lifestyle	
Number of recommendations	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Six								
Immediate	64.6	24.3	72.9	15.2	66.6	28.1	62.5	21.3
Delayed	52.1	20.7	54.1	14.7	52.1	28.7	62.5	17.2
Nine								
Immediate	31.9	24.1	59.7	17.7	41.6	21.2	56.9	15.0
Delayed	23.6	18.2	51.3	17.7	26.3	18.7	51.4	10.2

Importance of assessing readiness to change

- Interventions that are not tailored to the patient's stage of readiness are less likely to succeed
- Unrealistic expectations can lead to HCP and patient frustration
- Interventions that try to move a patient too quickly through the stages of change are likely to create resistance
- Readiness assessment establishes the patient's starting point

Natural change in readiness

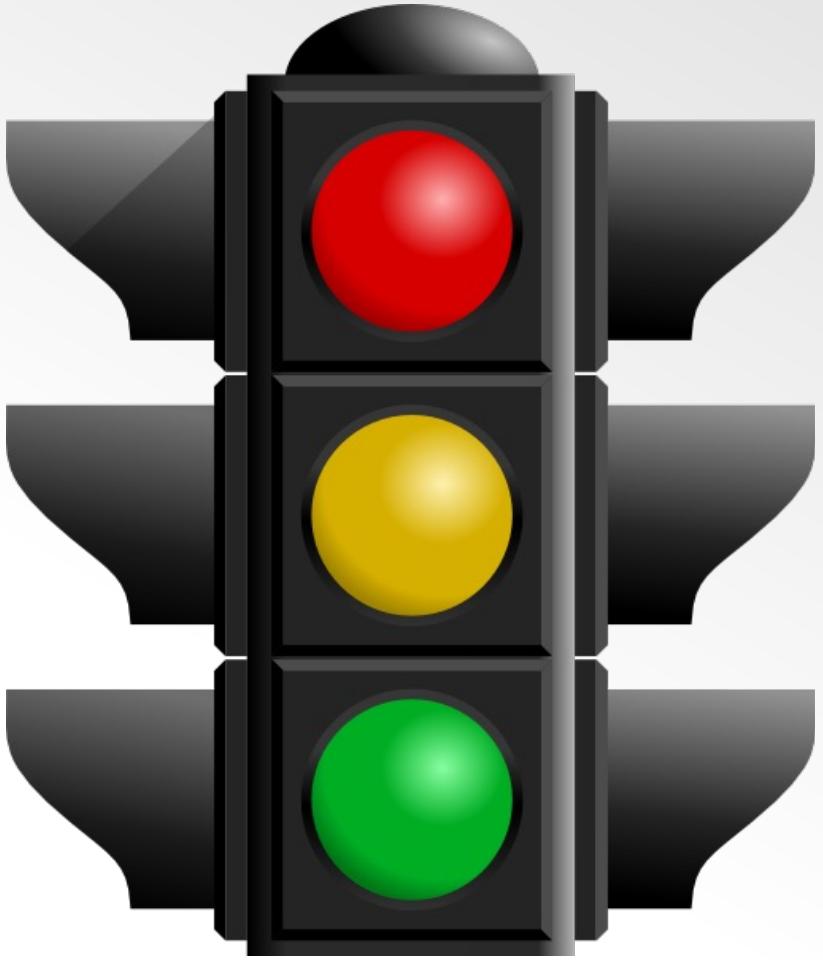
- How does change happen naturally?
  - Current situation becomes problematic
  - Problem causes distress
  - There is an interest in change
  - Person is ready to take action
- These 4 conditions become questions in a readiness assessment

Assessing Readiness

- Readiness for change is a state that fluctuates over time.
- The purpose of assessing readiness is to tell you how to get started.

Assessing Readiness

A person's readiness can be categorized as red light, yellow light or green light for a certain behaviour.



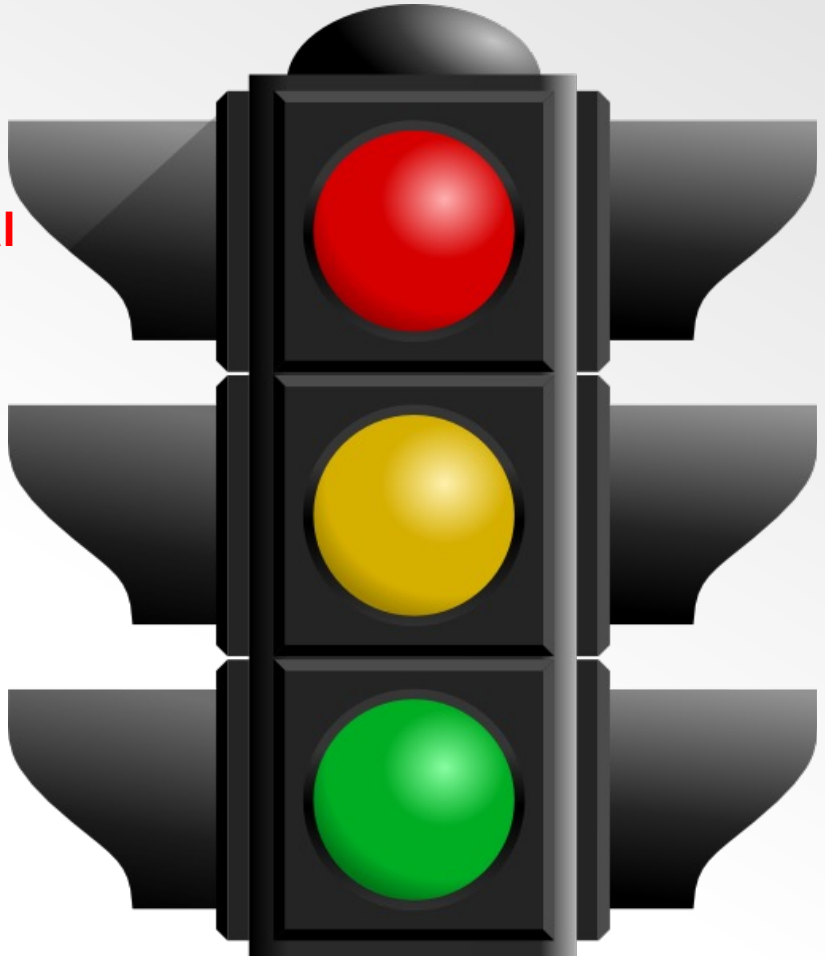
1. **"Do you consider [the behaviour] a problem?"**
2. **"Are you bothered by [the behaviour]?"**
3. **"Are you interested in changing [the behaviour]?**
4. **"Are you ready to change now?"**

Assessing Readiness

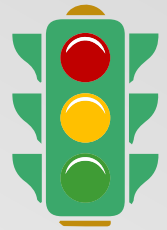
Readiness is a state, not a trait.

1. **"Do you consider [the behaviour] a problem?" – Frontal lobe engagement**
2. **"Are you bothered by [the behaviour]?" – Limbic system engagement**
3. **"Are you interested in changing [the behaviour]? – Identifying the goal**
4. **"Are you ready to change now?" – Action**

- **You are trying to be transparent with the process in order to give feedback to patients.**
- **Aim is to obtain buy-in.**



Readiness assessment is the beginning, not the end



Ready	Ambivalent	Not ready
Go right to behaviour modification	Begin working on behaviour and encourage a focus on personal meaningful reasons to change	Confirm that the person is not ready and ask permission to keep the conversation going

PROMOTING READINESS

This is what we would do for red and yellow light behaviours

Proceeding Under a Yellow Light

Yellow Light:

- **The person is ambivalent. They can see the pros and cons of changing.**
- **They are pulled in two directions.**
- **You can have opposite opinions at the same time.**
- **You will hear "Yes,…But"**
- **"Yes,…But" actually means "No,…Because" (Avoiding argument).**

What Gets Behaviour Started?

What Gets Behaviour Stopped?

	Pros	Cons
Of staying the same		
Of changing		

Invitation: “Can you tip the balance toward maximizing change?”

Values

The personal strengths or qualities a person most wants to express in his or her life and daily patterns of action

Values-driven behaviour

- The cookie example
  - Scene:
    - You are asked to choose between 2 cookies – freshly baked, warm and aromatic versus misshapen slightly burned 2-day-old cookies – which would you choose?

?

  - Punch line
    - You are told your 3-year-old granddaughter came up with the idea and worked hard to make this cookie for you, insisting that your son bring it to you so it arrived in time for your dinner tonight. Which cookie would you choose?

Proceeding Under a Red Light

Proceeding Under a Red Light:

- **This is the most challenging situation for us.**
- **Find a way to keep the dialogue going.**
- **Intervention is maintaining the relationship.**
- **Take the expectation of change off the table.**

Proceeding Under a Red Light

Steps for Proceeding Under a Red Light:

- **Your job is to understand why ‘not changing’ makes sense for this individual and summarizing to the patient (validating, empathizing).**
- **Recognizing that personal meaning and health beliefs associated with being red light are very productive lines of investigation can that lead to change.**

4 Types of Red Light Behaviour:
Questions to Clarify Type

(for clinician reflection or to ask patient)

1. Misinformation - I don't need to change – what I'm doing is fine

- What is your (patient's) perception of the risks/costs of the behaviour? (low)
- Do you (does the patient) see any benefits to change? (low)

2. Learned helplessness – I've tried before and nothing works

- Do you (does the patient) feel "stuck", or that trying to change is futile? (yes)
- Can you (does the patient) give examples of "failed" attempts at changing the target behaviour? (yes)
- Do you (does the patient) feel stuck / helpless about your (his/her/their) health in general? (yes)
- Are you (might the patient be) experiencing a loss of enjoyment or low mood lately? (yes)

4 Types of Red Light Behaviour:
Questions to Clarify Type

(for clinician reflection or to ask patient)

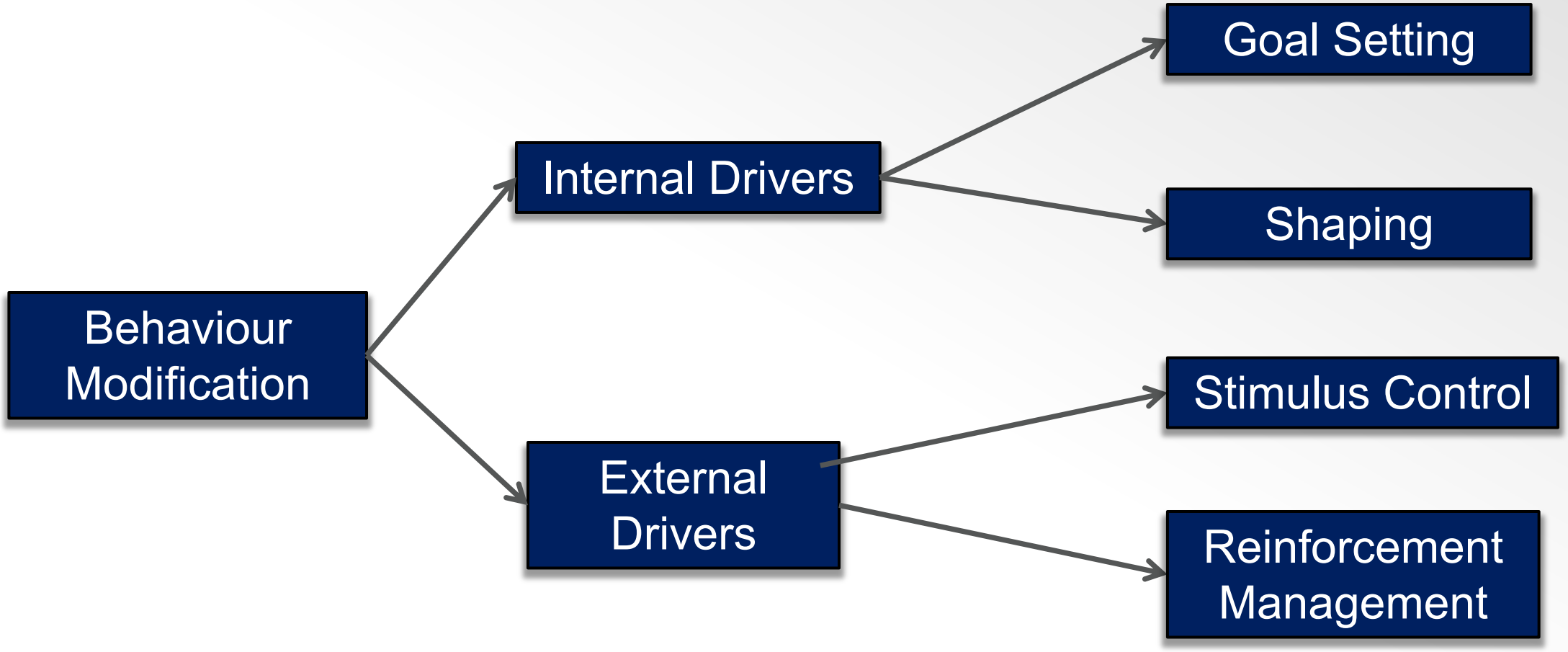
3. Psychological reactance – I am the boss of me

- How much do you (does the patient) feel you are being pressured or told what to do? (much)
- Do you (does your patient) feel pushed around by health care professionals or the health care system? (yes)
- Is a grand apology needed?

4. True red light – personal choice – I know the facts and I've made my choice

- What are the risks / costs to staying the same? (patient can articulate 1 or more)
- What are the benefits to changing (patient can articulate 1 or more)
- Is the patient missing crucial cost / benefit information? (no)

Proceeding Under a Green Light



Page	Grouping and BCTs
1	**1. Goals and planning**
	1.1. Goal setting (behavior)
	1.2. Problem solving
	1.3. Goal setting (outcome)
	1.4. Action planning
	1.5. Review behavior goal(s)
	1.6. Discrepancy between current behavior and goal
	1.7. Review outcome goal(s)
	1.8. Behavioral contract
	1.9. Commitment
3	**2. Feedback and monitoring**
	2.1. Monitoring of behavior by others without feedback
	2.2. Feedback on behaviour
	2.3. Self-monitoring of behaviour
	2.4. Self-monitoring of outcome(s) of behaviour
	2.5. Monitoring of outcome(s) of behavior without feedback
	2.6. Biofeedback
	2.7. Feedback on outcome(s) of behavior
5	**3. Social support**
	3.1. Social support (unspecified)
	3.2. Social support (practical)
	3.3. Social support (emotional)
6	**4. Shaping knowledge**
	4.1. Instruction on how to perform the behavior
	4.2. Information about Antecedents
	4.3. Re-attribution
	4.4. Behavioral experiments
7	**5. Natural consequences**
	5.1. Information about health consequences
	5.2. Salience of consequences
	5.3. Information about social and environmental consequences
	5.4. Monitoring of emotional consequences
	5.5. Anticipated regret
	5.6. Information about emotional consequences
8	**6. Comparison of behaviour**
	6.1. Demonstration of the behavior
	6.2. Social comparison
	6.3. Information about others' approval
9	**7. Associations**
	7.1. Prompts/cues
15	**11. Regulation**
	11.1. Pharmacological support
	11.2. Reduce negative emotions
	11.3. Conserving mental resources
	11.4. Paradoxical instructions
16	**12. Antecedents**
	12.1. Restructuring the physical environment
	12.2. Restructuring the social environment
	12.3. Avoidance/reducing exposure to cues for the behavior
	12.4. Distraction
	12.5. Adding objects to the environment
	12.6. Body changes
	13. Identity
	13.1. Identification of self as role model
	13.2. Framing/reframing
	13.3. Incompatible beliefs
	13.4. Valued self-identify
	13.5. Identity associated with changed behavior
	14. Scheduled consequences
	14.1. Behavior cost
	14.2. Punishment
	14.3. Remove reward
	14.4. Reward approximation
	14.5. Rewarding completion
	14.6. Situation-specific reward
	14.7. Reward incompatible behavior
	14.8. Reward alternative behavior
	14.9. Reduce reward frequency
	14.10. Remove punishment
	15. Self-belief
	15.1. Verbal persuasion about capability
	15.2. Mental rehearsal of successful performance
	15.3. Focus on past success
	15.4. Self-talk
	16. Covert learning
	16.1. Imaginary punishment
	16.2. Imaginary reward
	16.3. Vicarious consequences

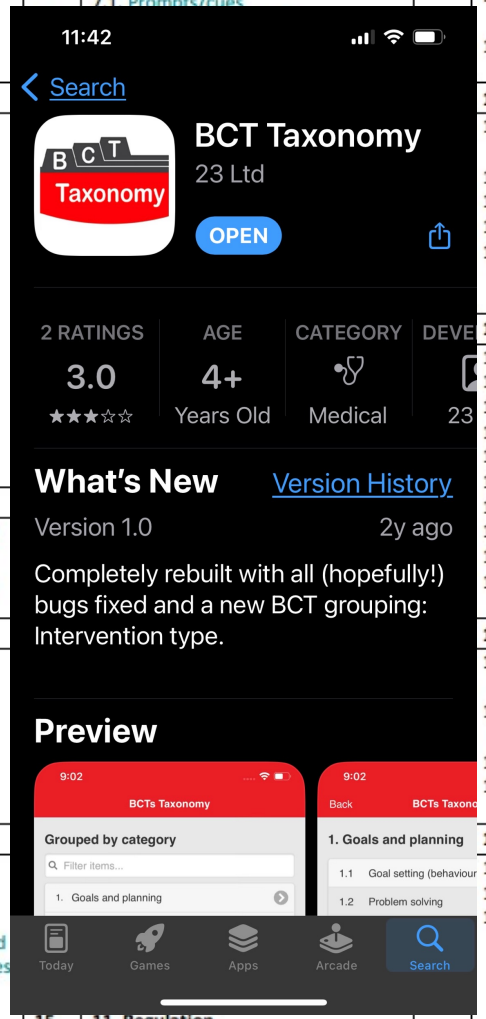
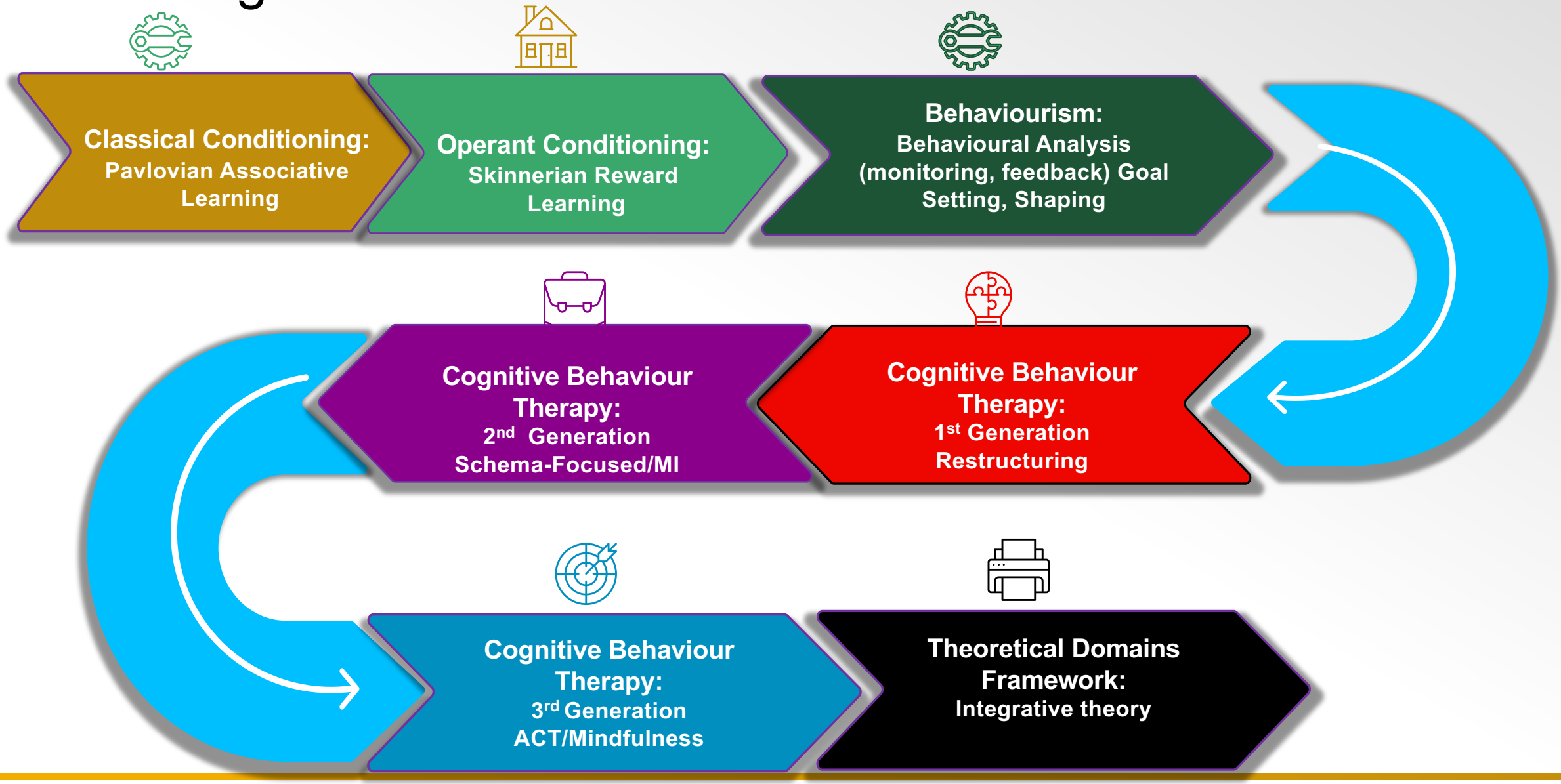
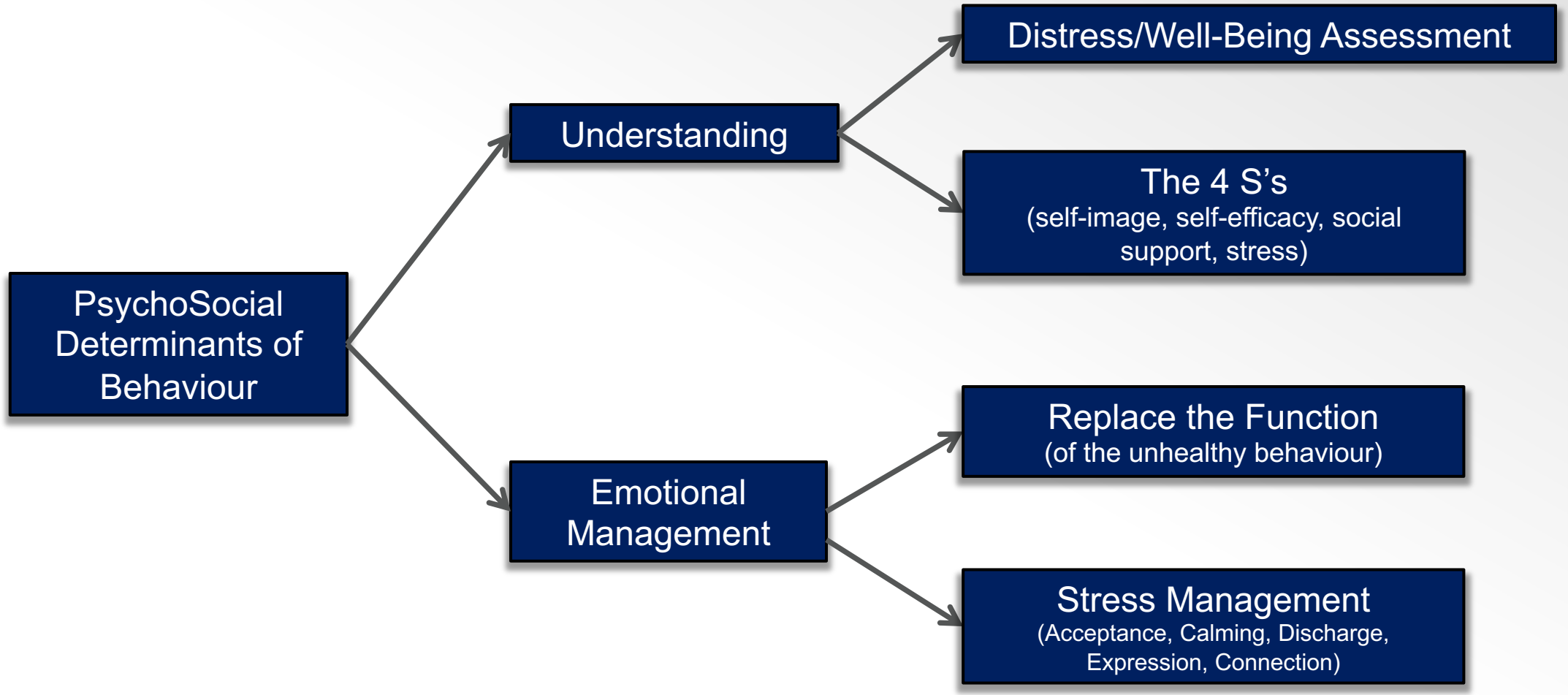


Table 1. Summary of MI techniques.

Technique number	Technique	Definition	Example of technique	Technique defined as content or relational
Engaging techniques				
1.	Open-ended questions	The counsellor asks questions that cannot be answered with a limited response (i.e., yes, no, maybe, twice).	'What have you tried before to make a change?' and 'How can I help with xxx?'	Relational
2.	Affirmation	The counsellor provides a statement of affirmation that acknowledges the client's difficulties, efforts and self-worth.	'I've enjoyed talking with you today'	Relational
3.	Reflective statements	The counsellor paraphrases client comments by repeating back what the client has said.	Simple reflections: 'It sounds like you … ' or 'The message I'm getting is that … '	Relational
4.	Summary statements	The counsellor pulls everything together that the client has said and offers a summary.	'So on the one hand you feel that xxx and on the other xxx'	Relational
Focusing techniques				
5.	Agenda mapping	The counsellor prompts the client to consider the way ahead and which behaviour they are motivated to discuss.	'I usually talk to people in a situation like yours about diet, exercise, that sort of thing. Which of these do you feel you would like to talk about?'	Relational
6.	Review a typical day	A prompt from the counsellor to build rapport while collecting information.	'Can we spend the next 5 minutes going through a typical day for you from beginning to end, and where (behaviour) fits in?'	Relational
7.	Permission to provide information and advice	The counsellor obtains the permission of the client before providing	'Would it be helpful if I tell you what has worked for other people	Relational
8.	Elicit-provide-elicit			
Evoking techniques				
9.	**Running head start**			
10.	Importance ruler			
11.	Confidence ruler			
12.	DARN questions	The counsellor uses DARN questions (open-ended questions) that seek to elicit four subtypes of client motivational talk. These four subtypes are: Desire, Ability, Reason and Need.	'What do you hope our work together will accomplish' (D) 'How would you do it if you decided to' (A)	Content
13.	**Looking forward**	The client is prompted to envision two possible futures. The first 'future' is if they continue on the same path without any changes where they might be five or ten years from now. The second future is if they decide to make a change, what their future might look like.	'If you were to change what would it be like?' How would you feel? How would things be different?'	Content
14.	Looking back	The client is prompted by the counsellor to talk about what life was like 'before'. The goal is for the client to observe how they have changed over time which may enhance motivation to return to a previous way of being.	A client may say: 'I wasn't always this way' and the counsellor may say: 'It sounds like things have changed over time. Tell me about your eating habits back then'.	Content
15.	Hypothetical thinking	The counsellor prompts the client to adopt hypothetical thinking to elicit ideas about behaviour change.	'Suppose that you did decide to change (behaviour) how would you go about it?'	Content
16.	**Query extremes**	A technique used to evoke change talk by asking clients to imagine best consequences of change or worst consequences of status quo.	'Suppose you did not change, what is the WORST thing that might happen?'	Content
17.	**Identify past successes**	The counsellor prompts the client to think about previous successes at behavioural changes to build confidence for change.	'What have you learnt from previous attempts to change?'	Content
18.	**Identify strengths**	The counsellor prompts the client to draw out their strengths and the relevance of these strengths to making successful behavioural changes.	'What are your key strengths?'	Content
19.	Brainstorming	The counsellor prompts the client to generate a menu of options.	'What are your ideas about how you could change (behaviour)?'	Content
20.	**Troubleshooting**	The counsellor prompts the client to think about potential barriers and identify ways of overcoming them in order to strengthen motivation.	'Suppose that this one big obstacle weren't there. If that obstacle were removed, then how might you go about making this change?'	Content
21.	**Values exploration (open or structured)**	The counsellor prompts the client to explore his or her values and how the behaviour fits in with these values. The counsellor may ask the client to describe their main goals and values in life. For structured values exploration, see Appendix A.	'What things are most important to you?' or 'What do you most want in life?' and 'How do your eating practices fit in with your goals and values?'	Content
22.	**Reframing**	A counsellor reflective statement that invites the client to consider a	'I can't do it' to 'So you find it difficult to … '	Content
23.	Double-sided reflection			
24.	Emphasise autonomy			
25.	Overshooting	Overshooting is a motivational technique provided by the counsellor to argue against change by exaggerating the benefits of or minimising the harm associated with a risky behaviour.	'So you see no benefit in changing XX' or 'XX is all positive for you'. The counsellor, by arguing against change can exhaust the client's negativity.	Relational
26.	Undershooting	A reflective statement, provided by the counsellor that understates slightly what the client has offered. By slightly understating the expressed intensity of emotion, the client is more likely to continue exploring and telling the counsellor about it.	The client says 'I'm out of breath even walking up the stairs' and the counsellor responds with: 'You're beginning to notice that everyday activities are more difficult'	Relational
27.	Coming alongside	A counsellor response to persistent resistance talk or discord in which the counsellor accepts and reflects the client's resistance.	'Perhaps now is not the right time to be thinking about change?'	Relational
28.	Shifting focus	A counsellor responds to discord and low level of motivation by redirecting attention and discussion to a less contentious topic or perspective.	'Since you've been forced to come here, what would you like to do with the time we have left together today'	Relational
29.	Agreement with a twist	A reflection whereby the counsellor reframes a negative comment by the client into a more positive response.	'I have no will power' to 'So you're saying that you have little confidence'	Relational
30.	**Normalising**	The counsellor communicates to clients that having difficulties while changing is not uncommon.	'Many people report feeling like you do. They want to lose weight, but find it difficult'	Content
Planning techniques				
31.	**Explore change expectations**	The counsellor prompts the client to identify the outcomes that the client expects to achieve based on the changes that they are motivated to make.	'Thinking about the benefits of (behaviour) that you've just been describing, what kinds of changes to your current level of (behaviour) are you prepared to make?	Content
32.	Consider change options	The counsellor prompts the client to consider change options in a neutral and supportive manner.	'How might you go about xxx?	Content
33.	**Develop a change plan (CATs)** C = Commitment A = Activation T = Taking steps	The counsellor prompts the client to develop a specific change plan that the client is motivationally ready to accept.	'What do you intend to do specifically?' © 'What would be a good first step?' (A) 'When and how will that step be taken?' (T)	Content
34.	**Goal attainment scaling**	A way to specify degrees of change towards the goal and focus motivation using a −3 to +3 scale where 0 is the status quo at the outset. The counsellor prompts the client to rate their goals on a scale ranging from the best possible outcome to the worst possible outcome.	Rate a weight loss goal on a scale ranging from −3 (most unfavourable outcome): gain 5 kg in one month to +3 (most favourable outcome): lose 5kg in one month where 0 is the status quo (remain at current weight)	Content
35.	**Support change/ persistence**	The counsellor functions as a partner or companion, collaborating with the client's own expertise.	'How can I best support you?'	Relational
36.	**Offer emotional support**	The counsellor offers reassurance, to the client.	'I appreciate how difficult this is'	Relational
37.	**Review outcome goal**	The counsellor asks the client how they are progressing with their goals.	'How are you progressing with your goal?'	Content
38.	**Summarise the plan**	The counsellor summarises the change plan including the specific behavioural goals, the reasons for making the change, the specific steps to be taken, the outcome goals and coping planning for relapse prevention.	'So you've decided you are going to … This is because … ' 'Specifically, you are going to … You will know if the plan is working if … '	Content

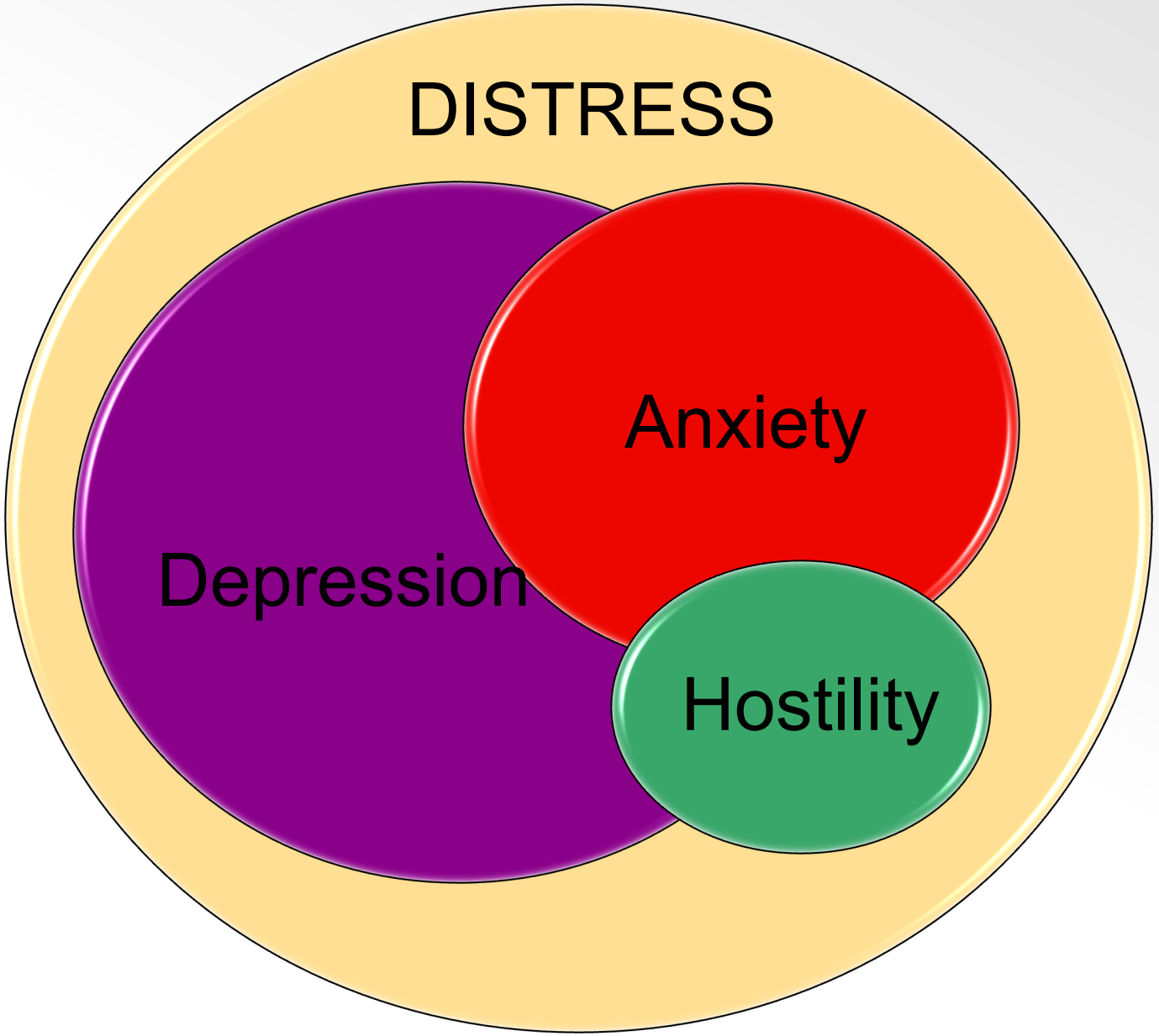
Defining Behavioural Interventions



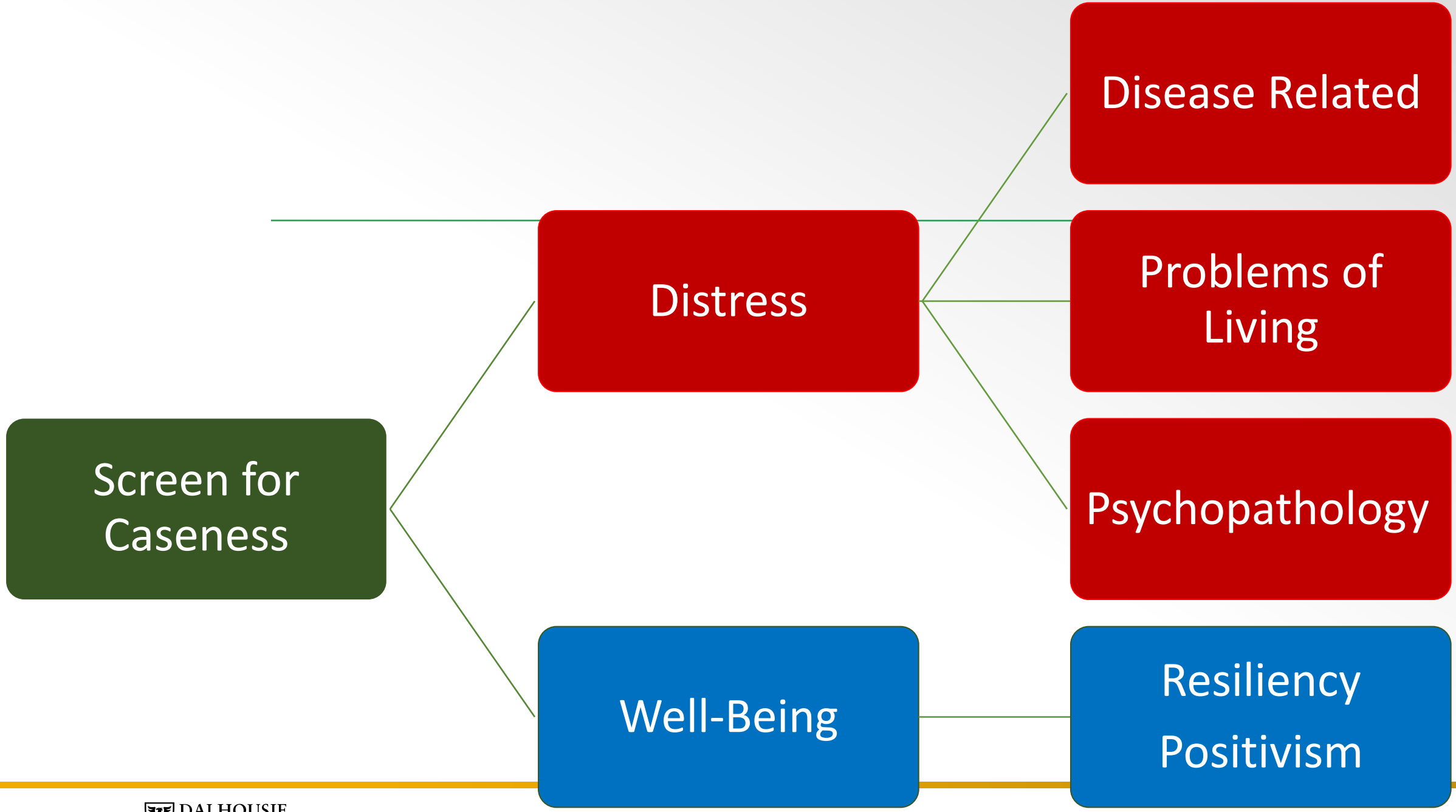

PsychoSocial Determinants of Behaviour
Understanding
Distress/Well-Being Assessment
The 4 S's
(self-image, self-efficacy, social support, stress)
Emotional Management
Replace the Function
(of the unhealthy behaviour)
Stress Management
(Acceptance, Calming, Discharge, Expression, Connection)

Role Clarity: Staying in Your Lane

- Addressing psychosocial determinants of behaviour within scope of practice
- Provider role and self-efficacy:
  - Identify
  - Educate
  - Recommend
  - Support


DISTRESS
Depression
Anxiety
Hostility


Distress
QUALITY
OF LIFE
Well-Being


Screen for Caseness
Distress
Well-Being
Disease Related
Problems of Living
Psychopathology
Resiliency
Positivism

The 4 Ss

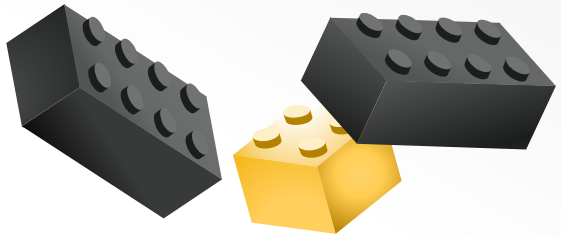
Imagine all of us are smoke-free, at the end of a 6-month smoking cessation program. Who amongst us will be smoking in 1 year?

- Self-Image
- Self-Efficacy
- Social Support
- Stress Management (discharge, calming, expression, connection)

- **Self-Image**
  - **Values**
  - **The personal strengths or qualities a person most wants to express in his or her life and daily patterns of action.**

- **Self-Efficacy**
  - A person's confidence to perform a specific behaviour, in a specific context, for a specific period of time, and in the face of specific barriers.

- **Social Support**
  - Identify the people who make it easier to engage in the behaviour
  - Manage the people who make it challenging



Stress Management

Acceptance/Mindfulness

Emotional Expression

Social Connection

Physical Discharge

Physical Calming

Coping Skills are:

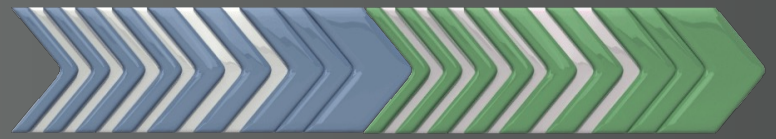
- **Additive**
- **Individual**
- **The ones that work make sense to the individual**

Replacing the Function

- Many unhealthy behaviours serve a purpose for the individual
  - Uncovering the purpose or function of the unhealthy behaviour is very important (nonjudgmental curiosity)
    - This function is a strong reason not to change
- Once the function of the behaviour has been understood
  - Focus on healthier alternative behaviours that provide a similar function
- Once a person has an alternative they can choose to give up the unhealthy behaviour

Questions?

tvallis@dal.ca
www.behaviourchangeinstitute.ca



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