

NAPCRG "Pearls"
What's New?

Our top picks of research findings to improve
practice for family physicians

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The Research Question

Does Cardiovascular Risk Predict Statin Use?

Johansen ME, Green LA, Sen A, Kircher S, Richardson CR
Cardiovascular Risk and Statin Use in the United States. Ann Fam Med. May 2014.

- Why is this important?
 - Statins are efficacious in reducing death in individuals with high cardiovascular risk



What the Researchers Did

- Adults between 30-79
- Cross-sectional study utilizing the nationally representative Medical Expenditure Panel Survey (MEPS)
- Basic Method/Intervention
 - Determine the proportion of individuals who were on a statin (2 or more prescriptions in a year)
 - Stratify by risk profiles
 - Determine clinical conditions associated with use



What the Researchers Found

- 58% of individuals with reported coronary artery disease and 52% of individuals with diabetes over age 40 reported statin use
- Hyperlipidemia, not cardiovascular risk, is most strongly associated with statin users



What This Means for Clinical Practice

- There are large numbers of individuals with coronary artery disease and/or diabetes that benefit from statins who are not taking them
- Getting more high-risk people on statins will save lives
- Refocus statin use from being a cholesterol lowering medication to one that reduces cardiovascular events and mortality



The Research Question

How effective is collaborative care in depressed patients with diabetes or heart disease or both?

Morgan MAJ, Coates MJ, Dunbar JA, et al.
The TrueBlue model of collaborative care using practice nurses as case managers for depression alongside diabetes or heart disease: a randomised trial. *BMJ Open* 2013;3

- Why is this important?
 - Multimorbidity is the norm in patients with diabetes and complicates care
 - There is a need for timetabled, protocol driven care, with tasks shared between the team, a robust communication tool and a case-manager to coordinate: This is collaborative care



What the researchers did

- A two-arm open randomised cluster controlled trial with usual care as control.
 - **Subjects:** Australian primary care patients with diabetes &/or Coronary Heart Disease + Depression (n=400)
 - **Intervention:** Each 3 months
 - Practice nurse (45 minutes):
 - Physical measures, pathology results, PHQ9 (depression) responses and lifestyle
 - Goal setting and problem solving to develop or review up to three personal goals
 - Case-management referrals and recall date
 - Patient-held care plan
 - Primary care physician (15 minutes) for clinical decisions



What the researchers found

- Depression reduced (10.7 to 7.1 on PHQ9)
- Cardiovascular risk reduced (27.4% to 24.8%)
- Exercising increased (41% to 60% of patients)
- Goal setting (81% achieved, 14% re-negotiated)
- Adherence to best-practice guidelines for diabetes, heart disease and depression



What This Means for Clinical Practice

- Successful ingredients for collaborative care in multimorbidity:
 - Combined guideline based on patient priorities
 - Patient-held summary and plan
 - Nurses skilled in goal setting, problem solving and depression assessment



The Research Question

Is montelukast an effective treatment for postinfectious cough?

Wang K, Birring SS, Taylor K, Fry NK, Hay AD, Moore, M, Jin J, Perera R, Farmer A, Little P, Harrison TG, Mant D, Harnden A.

Montelukast for postinfectious cough in adults: a double-blind randomised placebo-controlled trial. *Lancet Respir Med.* 2014;2(1):35-43.

- Why is this important?
 - Postinfectious cough following an acute respiratory tract infection is commonly encountered in primary care
 - However, there are no proven effective treatments
 - Postinfectious cough may be mediated by increased cysteinyl leukotriene production and cysteinyl leukotriene receptor expression (mouse and human models)



What the Researchers Did

- Population: Non-smoking adults aged 16 to 49 years with clinically diagnosed postinfectious cough of 2 to 8 weeks' duration recruited from 25 UK general practices
- Oral fluid test for pertussis (whooping cough); Laboratory-confirmed pertussis diagnosed if oral fluid anti-pertussis toxin IgG titre ≥ 70 arbitrary units
- Randomised (1:1) to receive montelukast 10 mg daily or placebo for 2 weeks; Option to continue study medication for another 2 weeks
- Primary outcomes: Change in cough-specific quality of life after 2 weeks and 4 weeks (measured using Leicester Cough Questionnaire [LCQ])



What the Researchers Found

- 276 patients randomised to montelukast (n=137) or placebo (n=139)
- 70 patients had laboratory-confirmed pertussis (25%)
- Improvements in cough specific quality of life observed in both groups after 2 weeks (montelukast: mean LCQ score change 2.7, 95% CI 2.2–3.3; placebo: 3.6, 2.9–4.3) but difference between groups (mean difference -0.9, -1.7 to -0.04) did not reach minimal clinically important difference of LCQ (1.3)
- No significant difference between groups after 4 weeks (montelukast: 5.2, 4.5–5.9; placebo: 5.9, 5.1–6.7; mean difference -0.5, -1.5 to 0.6, p=0.38)



What This Means for Clinical Practice

- Montelukast is not an effective treatment for postinfectious cough in primary care
- Pertussis is prevalent among adults who present in primary care with postinfectious cough
- Better understanding of the mechanisms underlying postinfectious cough is needed to identify future potential treatments



The Research Question

Can clinicians help patients reach a balanced understanding of cancer screening recommendations?

Saver B, Luckmann R, Hayes M, Mazor K, Bacigalupe G, Calista J, Esparza N, Gorodetsky T
Helping Patients Reach a Balanced Understanding of Controversial Cancer Screening Recommendations: The Impossible Dream?

- Why is this important?
 - The USPSTF has recently issued controversial recommendations about prostate cancer screening and mammography for women aged 40-49
 - Patients and some providers are confused by the counterintuitive recommendations and conflicting evidence
 - Information alone rarely changes behavior – can a persuasive, evidence-based approach be effective?



What the Researchers Did

- **Participants:** 27 men aged 50-74 and 28 women aged 40-49 recruited from academic & community health center clinics
- **Design:** For each topic, 2 English- and 1 Spanish-language focus group
- **Basic Method/Intervention:**
 - Initial focus group on each topic presented information about tests, benefits, harms, guidelines and how generated
 - Scripts for subsequent focus groups modified to focus more on persuading participants to trust/believe USPSTF recommendations
 - Polled periodically during final groups for opinions about screening



What the Researchers Found

- Neither men nor women aware of USPSTF
- No traction from distinguishing between processes used by USPSTF and other groups
- No traction without first making harms clear
 - Men did not easily grasp cascade following abnormal PSA test, but readily understood and wished to avoid treatment harms
 - Women had much greater difficulty appreciating mammography harms
- Socialization to the value of mammography is very strong, but providers are generally trusted



What This Means for Clinical Practice

- A persuasive approach, starting with making harms clear and then clarifying current knowledge about benefits, may help many men accept USPSTF recommendation against PSA screening
- This approach for women and mammography may be less accepted
- Provider recommendations are very important
 - USPSTF recommendations likely to change patient behavior only as they affect provider recommendations



The Research Question

How do patients and health care providers construct patient participation in palliative care decisions through their discourse in a community hospital-based palliative care team?

Bélanger E, Rodríguez C, Groleau D, Légaré F, & Marchand R. Shared Decision-Making in Palliative Care: Clinical Implications for the Practice of Family Medicine

- Why is this important?
 - Health care providers find end-of-life communication challenging
 - Palliative care decisions involve uncertainty and are preference-sensitive
 - Family physicians deliver a large part of palliative care in North America, yet few studies have directly observed their interactions with palliative care patients



What the Researchers Did

- Methodology
 - Organizational ethnography (one year of participant observation) & discursive psychology
- Participants: 18 patients and 1 palliative care team (6 family physicians, 2 pivot nurses)
- Methods of data generation:
 - Field notes, audio-recordings of consultations, field journal
- Methods of data analysis:
 - how decision-making conversations are initiated in context
 - how patient participation occurs in clinical conversations



What the Researchers Found

- Organization of care: early referral and discussions ensured patient opportunity to participate in decisions
 - Re: symptom control: direct questions, routine history
 - Re: patients' death: indirect questions & explanations (patients retain control on whether to discuss end-of-life issues)
- Patient participation was facilitated by:
 - exposing uncertainty (present options as equal/justifiable)
 - co-constructing treatment preferences (discuss treatment modalities in daily life, prompt for opinions/experiences)
 - affirming patient autonomy (state right to express opinion)
 - and resisting patients' attempts to uphold HCP authority (refer back to uncertainty/autonomy)



What This Means for Clinical Practice

- Examples of how to introduce decisions early and how to talk in a way that promotes patient participation
 - Explanations about the need to discuss end-of-life care options before patients can no longer participate
 - References to previous experiences and daily treatment modalities were part of patient expertise
- Promote awareness of the impact of discourse and better understanding of clinical communication guidelines
 - Use clinical discourse that enables patient participation if appropriate, coherence between ethical/clinical stance
 - Reflect on arguments that can achieve patient participation without abandoning vulnerable population



The Research Question

Does depression and prescription opioid use, alone or in combination, increase risk of myocardial infarction (MI)?

Scherrer JF, Schneider FD, Hauptman PJ, Freedland KE and Lustman PJ

Depression and Opioid Use Increase Risk of Incident Myocardial Infarction

- Why is this important?
 - Depression is a known risk factor for incident MI
 - Recent study by Solomon et al. (2010 Arch Intern Med) found increased risk of MI among opioid users
 - Depressed persons receive more opioid prescriptions and use for longer periods of time
 - Possible that the combined effect of opioids and depression is associated with a high risk of MI



What the Researchers Did

- Veterans Administration (VA) medical records from 119,710 subjects divided into:

- 46,828 patients with no opioid, no depression
- 32,407 patients with opioid, no depression
- 20,974 patients with no opioid, depression
- 19,501 patients with both opioid and depression

- Retrospective cohort 1999-2007

- Basic Method

- ICD-9-CM codes, vital signs and pharmacy records to create variables
- Balanced pain and control for residual confounding by inverse probability of treatment weighting
- Cox proportional hazard model computing risk of MI



What the Researchers Found

- Compared to patients without depression and free of opioid exposure:

- Patients with depression who initiated an opioid analgesic were 1.66 times more likely to develop an MI
- Patients with opioid exposure and without depression were 1.24 times more likely and those with depression and without opioid were 1.39 times more likely to develop an MI

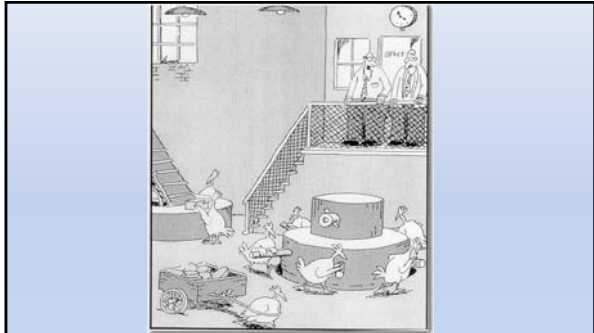
- Depression and opioid exposure have an additive or interactive effect resulting in risk of MI that is greater than exposure to either factor alone



What This Means for Clinical Practice

- Heightened monitoring of cardiovascular health in patients with depression and opioid exposed
- Consider risk of MI when discussing cost-benefit of opioids with patients
- Additional research is warranted to determine mechanisms and to identify ways to reduce risk
- With the U.S. opioid epidemic, may see new onset heart disease associated with comorbid depression-opioid use





"Oh, Yeah! They work real hard, all day long!... And here's the best part – for Chicken Feed"



The Research Question

What is the relationship between the PCMH Implementation process (change in care processes & staffing levels) and staff & clinician burnout?

Carvajal D, Alt E, Lechuga C, Neves S, Blank A, McKee MD
PCMH Implementation and Primary Care Provider and Staff Burnout: A Process Analysis

- Why is this important?
 - The PCMH is a model for advanced primary care, achieved through a team-based approach
 - Implementation involves changes in care processes, staff roles, and staffing levels
 - Implementation can directly impact clinician and staff burnout



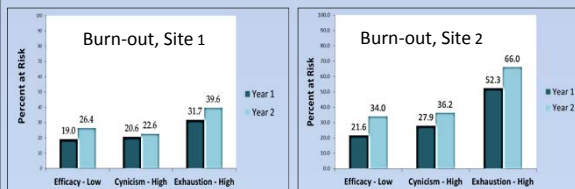
What the Researchers Did

- PCMH implementation process evaluation of 2 primary care sites in the Bronx, NY:
 - Site 1: Internal Med/Peds; non FQHC; non-teaching facility; 90,000 unique pts/yr
 - Site 2: Family Medicine; FQHC; teaching facility; 52,000 unique pts/yr
- Methods: survey at 1 and 2 years post-implementation
- Measures:
 - Burn-out: survey utilized the Maslach Burnout Index: measures professional efficacy, cynicism, & exhaustion
 - Change in care processes: reflected in the # of care delivery workflows implemented
 - Staffing levels: obtained from Human Resources & site administrators



What the Researchers Found

- Many workflows created, moving toward team-based care.
- Implementation involved a planned increase in staffing:
 - Site 1 achieved and sustained the planned staffing levels
 - Site 2 briefly achieved but did not sustain planned levels



What This Means for Clinical Practice

- Lack of improvement in burnout is likely multifactorial, including:
 - Concurrent demands related to meaningful use
 - Increasing responsibilities (workflows) and workload without a matched increase in staffing ratios
- Maintenance of adequate provider and staffing ratios is **crucial** to mitigate burnout during PCMH implementation





The Research Question

Does the management of patients with chronic non-malignant pain (CMNP) differ between those with and without co-existing mental illness?

Elder NC, White C, Regan S

- Why this is important?
 - Little is known about the effect of such co-existing conditions on pain management in primary care
 - Known bi-directional association with CNMP and mental illness: Patients with CNMP 2X more likely to have mood/anxiety disorder and patients with mood/anxiety disorder 2X more likely to experience pain

North American
PRIMARY CARE
RESEARCH GROUP

What the Researchers Did

- 21 family physicians from 8 Cincinnati Area Research and Improvement Group (CARInG) completed modified Primary Care Network Survey on 533 consecutive patient visits
 - Did patient have chronic pain?
 - Did patient have mental health diagnosis (mainly depression and anxiety)?
- Reviewed charts of chronic pain patients for documentation of pain assessment and management

North American
PRIMARY CARE
RESEARCH GROUP

What the Researchers Found

- 138 (26%) have chronic pain; 196 (37%) have mental illness; 73 have both (14%)
- Patients with CNMP were more likely to have a mental health diagnosis than patients without CNMP (56% vs 31%, $p < .001$)
- Patients with CNMP and mental health diagnosis are:
 - Younger (54 vs. 61 years old $p = .003$)
 - More likely to have >3 types of pain (57 vs 33% $p = .005$) and be on multiple medications
 - More likely to be prescribed chronic opioids (28% vs 9% $p = .005$)
 - Have same levels of assessment



What This Means for Clinical Practice

- Opiates have the potential to exacerbate mood symptoms over time
- The known comorbid substance abuse risk with mental illness makes this population at greater risk for opioid abuse
- Depression raises the risk of overdose and suicide attempts, and opiates have a high death rate.
- Despite this, patients with mental illness, mainly depression and mental illness, and chronic pain are prescribed opioids significantly more often





The Research Question

Which point of care (POC) tests do primary care clinicians use and which tests would they like to use in the future?

Howick J, et al.

Current and future use of point-of-care test in primary care: an international survey in Australia, Belgium, the Netherlands, the United Kingdom, and the United States

•Why is this important?

- Little is known about which clinical conditions Primary Care clinicians identify as priorities for these tests
- We aimed to determine patterns of current use of POCTs by General Practitioners (Family Doctors), and clinical conditions identified as priorities for future development and implementation for diagnosis, monitoring, and referral
- Tests identified as important in this survey have the potential to improve healthcare



What the Researchers Did

• **Subjects/Design:** Cross-sectional survey of 2770 primary care clinicians in Australia, Belgium (Flanders), the Netherlands, the United Kingdom, and the United States

• **Method:** Respondents asked to :

- Identify conditions for which POC tests could help them inform diagnosis
- Evaluate (from a provided list) which POC tests they currently use
- Evaluate (from the same list) which POC test they would like to use in the future



What the Researchers Found

- Conditions prioritized for POCT were
 - acute conditions (infections, acute cardiac disease, pulmonary embolism/deep vein thrombosis), and some chronic conditions (diabetes, anemia).
- Most commonly used tests currently are urine pregnancy, urine leukocytes or nitrite, and blood glucose.
- The most commonly reported tests respondents expressed desire for use: D-dimer, troponin, and chlamydia.
- The United Kingdom and United States reported a higher actual and desired use for POC tests than Australia, Belgium, and the Netherlands.



What This Means for Clinical Practice

- Current use of POCT is generally limited, but differences exist between countries
- Primary care doctors in all 5 countries indicated desire for POCT use for range of acute and chronic conditions
- Introducing cost-effective POC tests has the potential to reduce healthcare costs and improve patient care



The End