Diabetes Action Canada
Preventing complications. Transforming lives.

Strategy for Patient-Oriented Research
SPOR
Putting Patients First

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Pilot study for a Registry Randomized Controlled Trial using the Diabetes Action Canada National Data Platform

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NORTH YORK GENERAL *Making a World of Difference*

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SAPCReN NAPCReN

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PRACTICE-BASED RESEARCH NETWORK

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[6] Patient [7] Statistician [8]Bioethicist, [9] Endocrinologist

Outline

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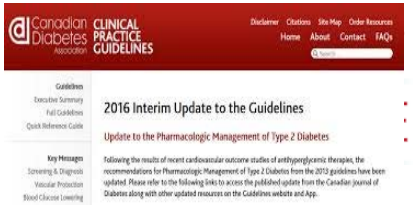
- Research question
- Study rationale
- Proposed methodology
- Engagement
  - Patients and Practices

Current Guideline



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‘Unless contraindicated, metformin should be the initial agent of choice, with additional antihyperglycemic agents selected on the basis of clinically relevant issues, such as contraindication to drug, glucose lowering effectiveness, risk of hypoglycemia and effect on body weight.’

Research question

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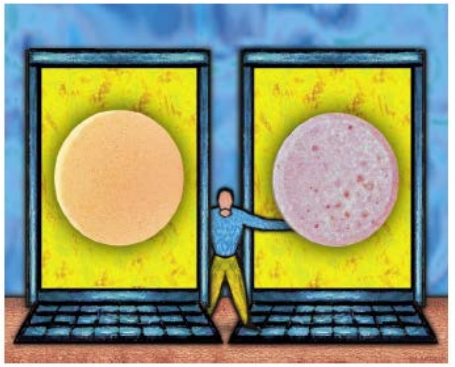
- P: People treated in primary care with Type 2 Diabetes Mellitus with Metformin only.
- I: Sodium glucose co-transporter 2 (SGLT2) inhibitor or an incretin hormone glucagon-like peptide-1 (GLP-1)
- C: Continue Metformin
- O: 5 year all cause mortality



Study rationale

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- Metformin is no better than placebo
  - Cardiovascular and Total Mortality
- Newer hypoglycaemic agents improve outcomes (in people with established CHD)
- 4K study subjects likely to be needed in an RCT
- A Registry RCT could answer the question
- The research infrastructure is being developed by Diabetes Action Canada

Metformin is no better than placebo

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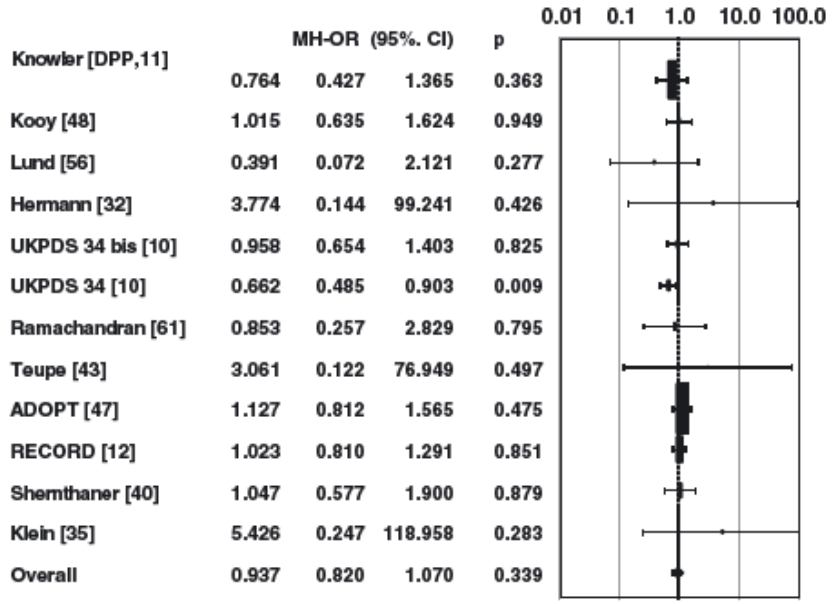

Figure 3. Effect of metformin on cardiovascular events across all randomized clinical trials included in the analysis. The size of the data markers represents the relative weight of the trial according to patient-years. MH-OR, Mantel–Henzel odds ratio; CI, confidential intervals. See Appendix S1 for refer

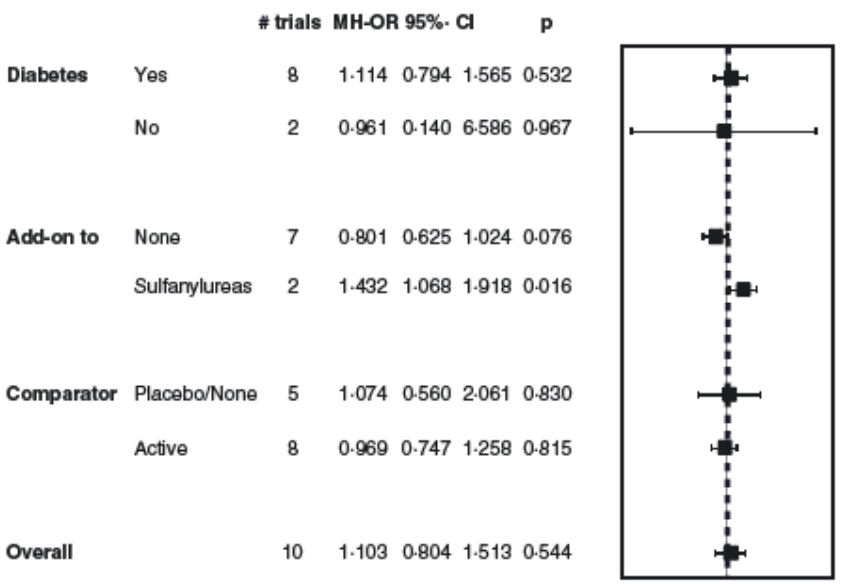

Figure 5. Separate analyses to explore the differential effects of metformin on all-cause mortality. MH-OR, Mantel–Henzel odds ratio; CI, confidential intervals.

original article

Diabetes, Obesity and Metabolism 13: 221–228, 2011.

Effect of metformin on cardiovascular events and mortality: a meta-analysis of randomized clinical trials

C. Lamanna[1], M. Monami[2], N. Marchionni[2] & E. Mannucci[1]

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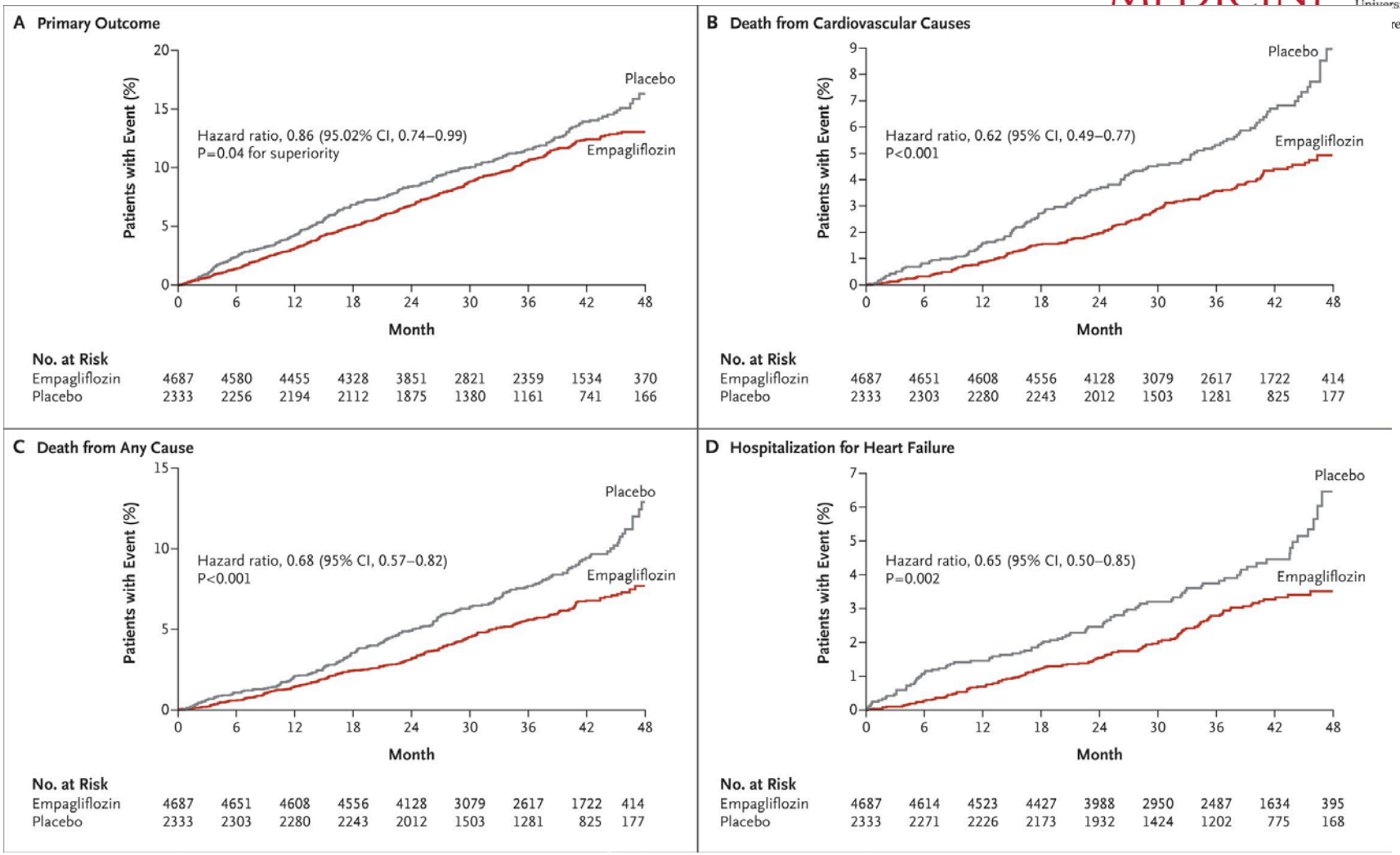
Newer hypoglycaemic agents improve outcomes



Cardiovascular Outcomes and Death from Any Cause.

Registry Randomised Controlled Trials (RRCTs)

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Key characteristics:

1. Randomly assigning patients in a clinical registry combines the features of a prospective randomized trial with a large-scale clinical registry.
2. Registry-based trials are more inclusive and enable fast enrolment, control of non-enrolled patients, and the possibility of very long-term follow-up. Inexpensive and simple designs are their main strengths.
3. The clinical registry can be used to identify patients for enrolment, perform randomization, collect baseline variables, and detect end points.

4 000 study subjects likely to be needed in an RCT

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Test H: p1 = p2,

Assumptions:

alpha = 5% (two-sided)

power = 90%

p1 = 8%

p2 = 11%

Estimated sample size:

n1 = 2006 n2 = 2006

Proposed methodology

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- Pilot and feasibility
  - Evaluate the operational feasibility and
  - Acceptability of the intervention itself and the feasibility and acceptability of the trials' design.
- Main Trial
  - Registry RCT
  - Develop methodology
  - Answer study question

CIHR IRSC
Canadian Institutes of Health Research
Instituts de recherche en santé du Canada

Qualtrics Pilot – n=60

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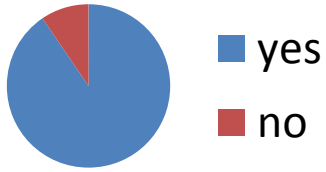
Intro
In recent years significant doubts over the suitability of Metformin as the initial agent of choice in Type 2 diabetes have emerged. UTOPIAN is considering undertaking a pilot study which would involve randomising patients taking Metformin with adequate renal function to Empagliflozin or to continue their usual treatment.

If you agree to participate we would provide you with a list of potentially eligible patients to review and some of those invited to participate might ask you for advice. You would be reimbursed by the study for any additional work.

Follow-up would be using EMR data linked to ICES data.

21 responses



Questions
Would you consider participation? Yes/No
What else would you like to know before deciding whether to take part?

Concerns

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- How to optimise study processes for RRCTs.
- Selection of outcome measures.
- Cluster or Individual patient RCT
- Engagement with the pharmaceutical industry
- Do we have enough patients in CPCSSN?

Patient views in Preliminary discussions

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- Main concerns
  - security of personal data generally
  - potentially inappropriate uses of health data, particularly by the private sector
- Participants were reassured when
  - provided with information about the process for removing or coding identifying information from health data,
  - oversight arrangements

Next steps

- What
  - Focus groups with staff and clinicians in 9 primary care practices
  - Interviews with up to 40 patients from these 9 primary care practices
- Where
  - NYGH, Mt. Sinai, St. Michael's
- When
  - Now in NYGH , once REB for others

Feasibility Study Design

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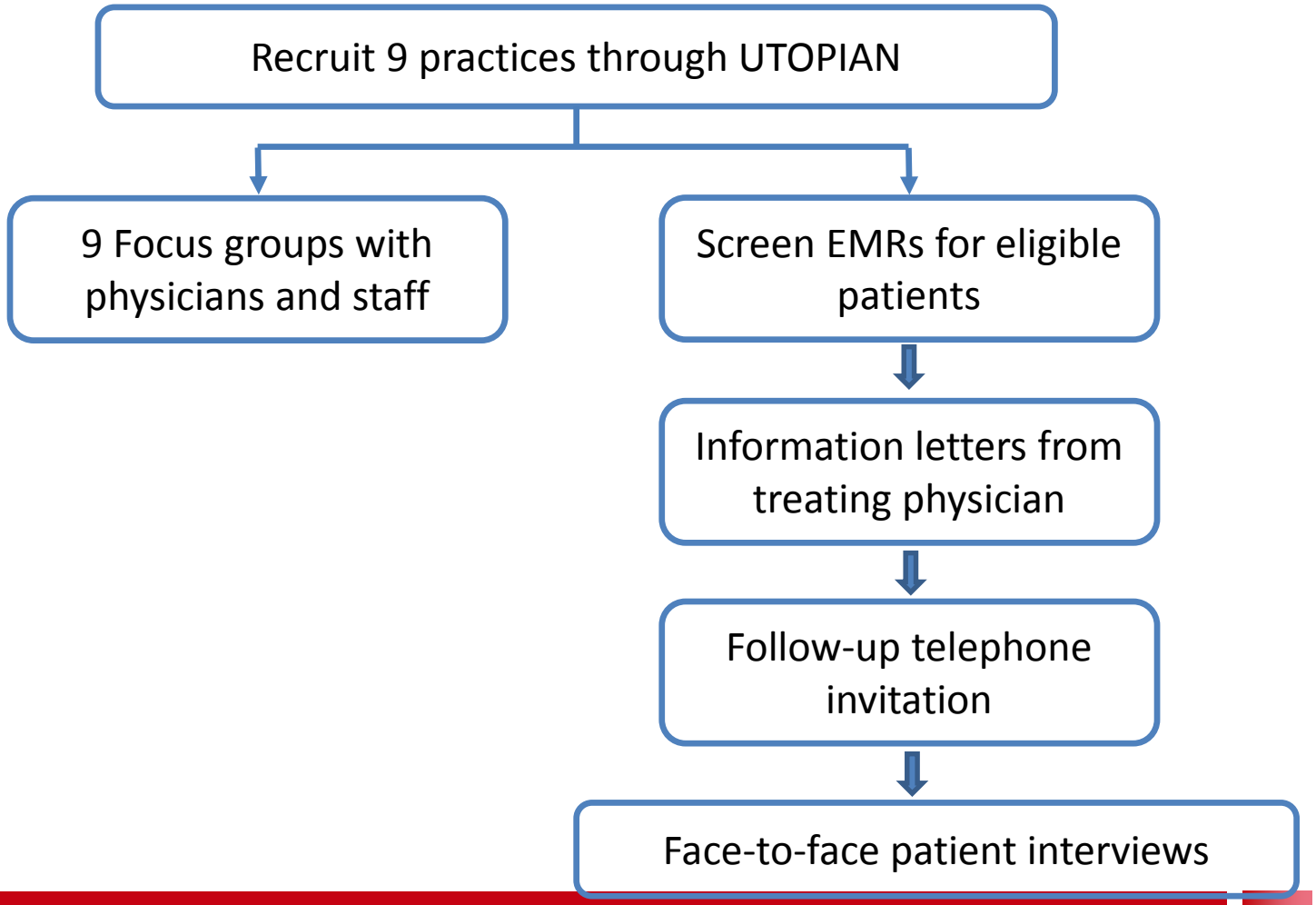

Questions?

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Links for more information:

Diabetes Action Canada: https://diabetesaction.ca/

UTOPIAN: http://www.dfcm.utoronto.ca/about-utopian

CPCSSN: http://cpcssn.ca/

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