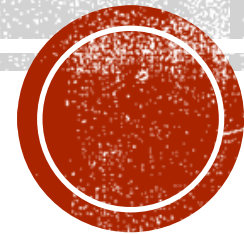


TAKING THE BM OUT OF EBM: AN EVIDENCE YEAR IN REVIEW

MEDS 2018





“OUTLINE”

- 1) PCSK9 inhibitors... Can I have fries and a bank loan with that?
- 2) Stat-in the name of age
- 3) BP targets in a BM world
- 4) Fracturing our beliefs
- 5) Not OH too!
- 6) Nauseating cage match
- 7) Hey Man, I am Pro biotics
- 8) Don't get P'd off
- 9) A Very Convenient Trial Design
- 10) Tap, Sparking or Live?
- 11) Size doesn't matter. What about length?
- 12) Landing in Incretinland
- 13) CANVAS... I think there's a hole in my tent
- 14) Instantly depressing
- 15) Does rounding matter?
- 16) Somewhere Over the Rainbow... is a very strange place
- 17) MEDS saves \$12.35 million



VALUE IN HEALTHCARE



“With the electricity we are using to keep Meredith alive, we could power a small fan for two days. You tell me what’s unethical.”



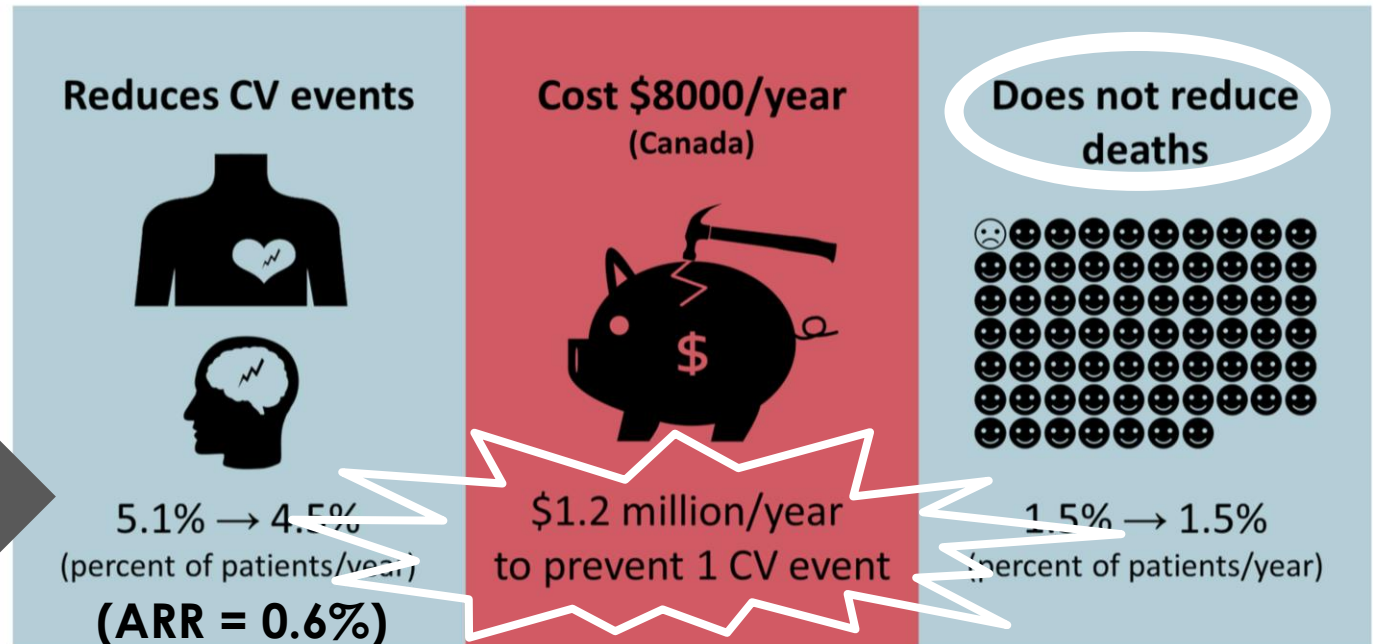
ON THAT NOTE...

Evolocumab and Clinical Outcomes in Patients with Cardiovascular Disease

FOURIER

- n=27,564 on a statin (70% at high intensity)
- Evolocumab sc q2w X 2.2 yrs
- How much extra LDL ↓?

59% → Even so...



FOURIER
nejm.org/doi/full/10.1056/NEJMoa1615664

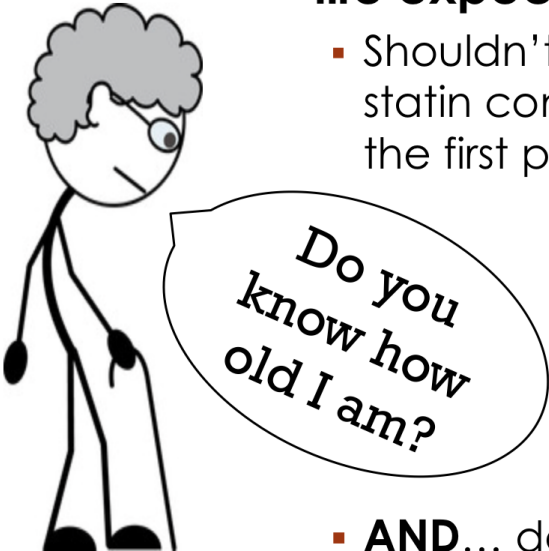
Prepared by: Ricky Turgeon & Judy Xie
March 31, 2017

+ little is known about long-term safety



You're Over 75, and You're Healthy. Why Are You Taking a Statin?

- If you recall last year's gripping MEDS talk...



- 1° prevention for those >75 yrs, regardless of life expectancy:
 - Shouldn't have had the statin conversation in the first place
- **AND...** don't measure lipids in those >75 yrs



Effect of Statin Treatment vs Usual Care on Primary Cardiovascular Prevention Among Older Adults

The ALLHAT-LLT Randomized Clinical Trial

- Post-hoc analysis of original RCT
 - n= 2867 ≥ 65 (mean age = 71) with HTN & without baseline CVD
 - **Intervention:** pravastatin 40mg vs. usual care
 - @ 6 yrs → 17% not taking the statin and 30% in usual care taking a statin

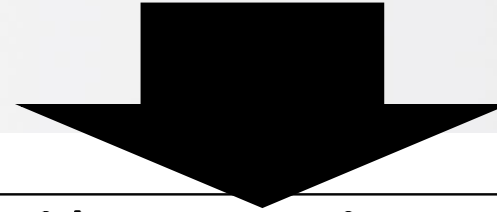
- **You're going the**  **!**

- All-cause mortality:
 - All ≥ 65: 1.18 (95% CI, 0.97-1.42; P = .09)
 - 65-74: 1.08 (95% CI, 0.85-1.37; P = .55)
 - **≥ 75: 1.34** (95% CI, 0.98-1.84; P = .07)
- No difference in CHD events

So, the answer hasn't changed... don't treat patients >75 with statins for primary prevention



AAFP Decides to Not Endorse AHA/ACC Hypertension Guideline



Recommendations for BP Goal for Patients With Hypertension		
References that support recommendations are summarized in Online Data Supplement 26 and Systematic Review Report.		
COR	LOE	Recommendations
I	SBP: B-R ^{SR}	1. For adults with confirmed hypertension and known CVD or 10-year ASCVD event risk of 10% or higher (see Section 8.1.2), a BP target of less than 130/80 mm Hg is recommended (1-5).
	DBP: C-EO	
IIb	SBP: B-NR	2. For adults with confirmed hypertension, without additional markers of increased CVD risk, a BP target of less than 130/80 mm Hg may be reasonable (6-9).
	DBP: C-EO	

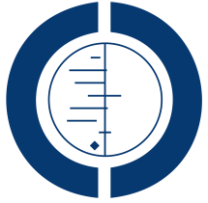


What will **CHEP** say this year? Will they follow in AHA/ACC footsteps?

→ If they do, will **CFPC** be bold enough to not endorse?



Vitamin D and vitamin D analogues for preventing fractures in post-menopausal women and older men (Review)



- What did we know 3-4 yrs ago?
 - **Vit D + calcium**
 - Hip #:
 - Community dwelling: **1 #** saved per 1000 patients/yr
 - “Institutionalized”: **9 #** saved per 1000 patients/yr

i.e. very little benefit for those in the community
(yet, it has remained a staple of standard practice)



This just in...

JAMA | Original Investigation

Association Between Calcium or Vitamin D Supplementation and Fracture Incidence in Community-Dwelling Older Adults A Systematic Review and Meta-analysis

- *What's different?*
 - Not much, except ~28,000 patients less due to concern for WHI hormone benefits
 - still **n=17,927** for vit D + calcium meta-analysis
- *End result*
 - Instead of very little benefit in community dwelling folks, there was **no reduction in ANY TYPE OF FRACTURE**



So?

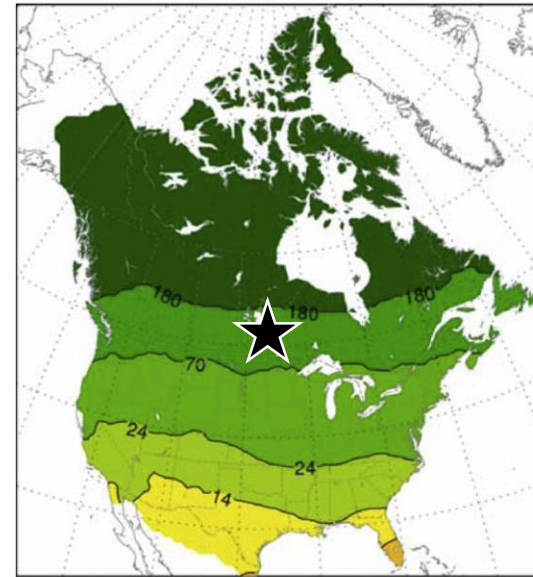


Throwing out
motherhood
& apple pie

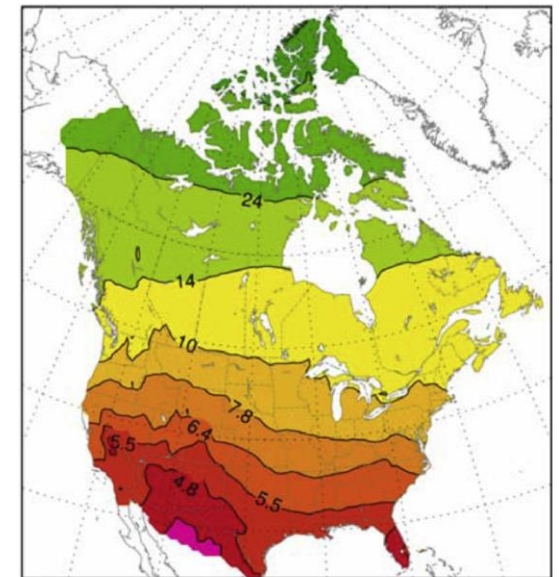


MILLION \$ QUESTION: WHAT ABOUT IN MANITOBA?

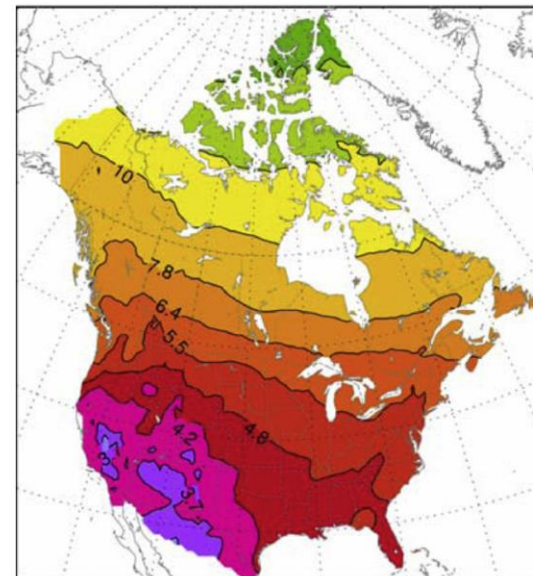
Do we need more
vitamin D than those
south of us



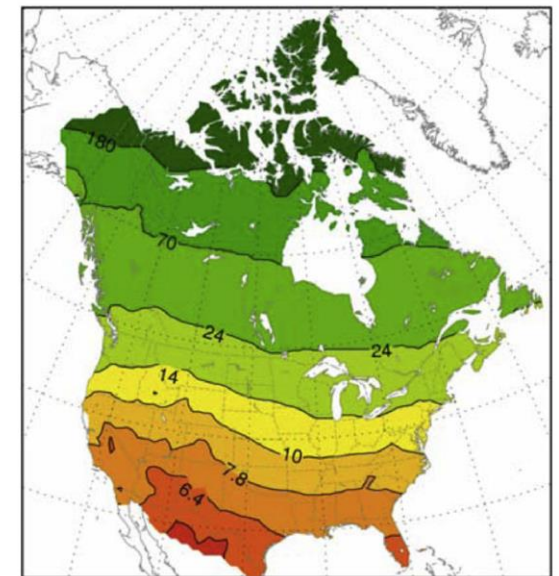
January



April



July



October

Minutes in the sun (**1/4 of skin exposed**) to get **1000 IU** vit D

PRE-MOTHERHOOD & BOURBON APPLE PIE

Prenatal Alcohol Exposure No Safe Amount

Many women know that it is important to avoid alcohol during the first trimester of pregnancy, but there are some myths that suggest that drinking a small amount of alcohol in the second or third trimester is okay. No amount of alcohol use is safe at any time during pregnancy. Prenatal alcohol exposure represents a preventable cause of developmental and health problems for children.



Vinay Prasad
@VinayPrasad82

Pro tip: Before advocating for a public health position, you should read 1 randomized trial on the intervention cover to cover (typically all 7 pages); I suspect majority do not &, in pinch, will even accept poorly performed obs study

Prenatal Alcohol Exposure

Facts

If you are pregnant, or trying to get pregnant, there is no safe amount of alcohol use

All types of alcohol—including wine, beer, and hard liquor—have similar risks for your baby

When a pregnant woman drinks, so does her baby

Risks

Fetal Alcohol Spectrum Disorder (FASD)

Growth abnormalities

Facial appearance changes

Fetal Alcohol Syndrome (FAS)

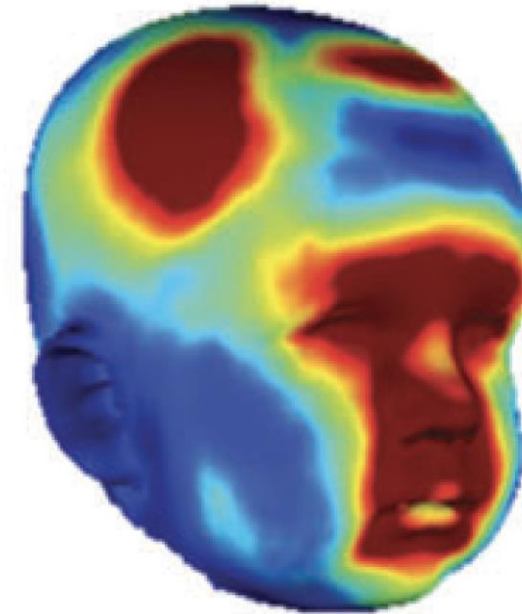


So?



Association Between Prenatal Alcohol Exposure and Craniofacial Shape of Children at 12 Months of Age

- **Some actual data...**
 - *Prospective Cohort Study*
 - *Alcohol Exposure*
 - None, Low, Moderate, High
 - Trimester
 - *3D Craniofacial Images at 1 year*
- **Results...**
 - Consistent association between craniofacial shape and prenatal alcohol exposure observed at almost any level regardless of whether exposure only occurred in the 1st trimester or throughout pregnancy



- **What we don't know...**
Are craniofacial findings linked with neurodevelopmental impairment?



CAGE MATCH...

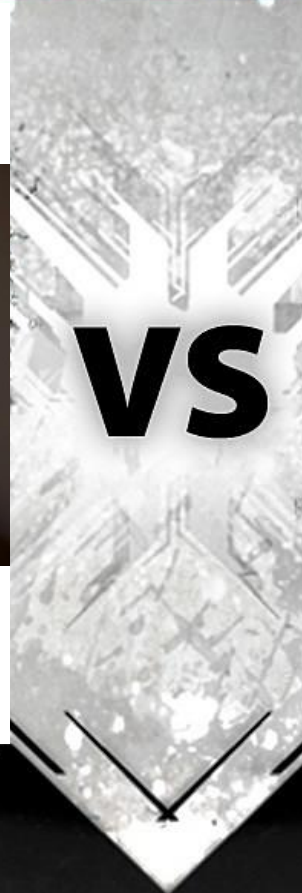
Pr

DICLECTIN®



DICLECTIN® CAGE MATCH...

CAGE MATCH



Dr. Nav Persaud

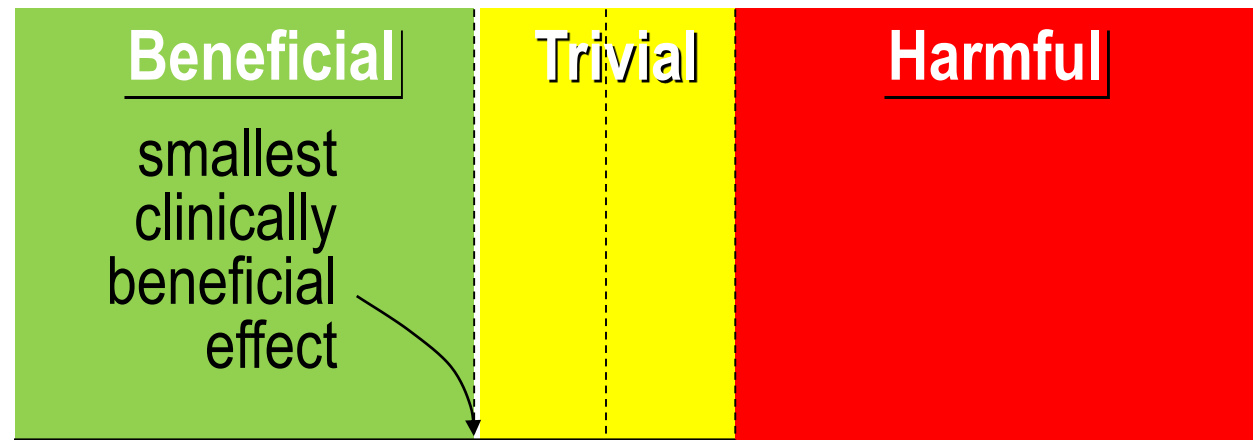


DICLECTIN® CAGE MATCH...



Dr. Nav Persaud

Pregnancy Unique Quantification Scale (PUQE Score)



← negative — 3 — 0 — positive →

Clinically significant difference
3 Points on 13-point PUQE Scale

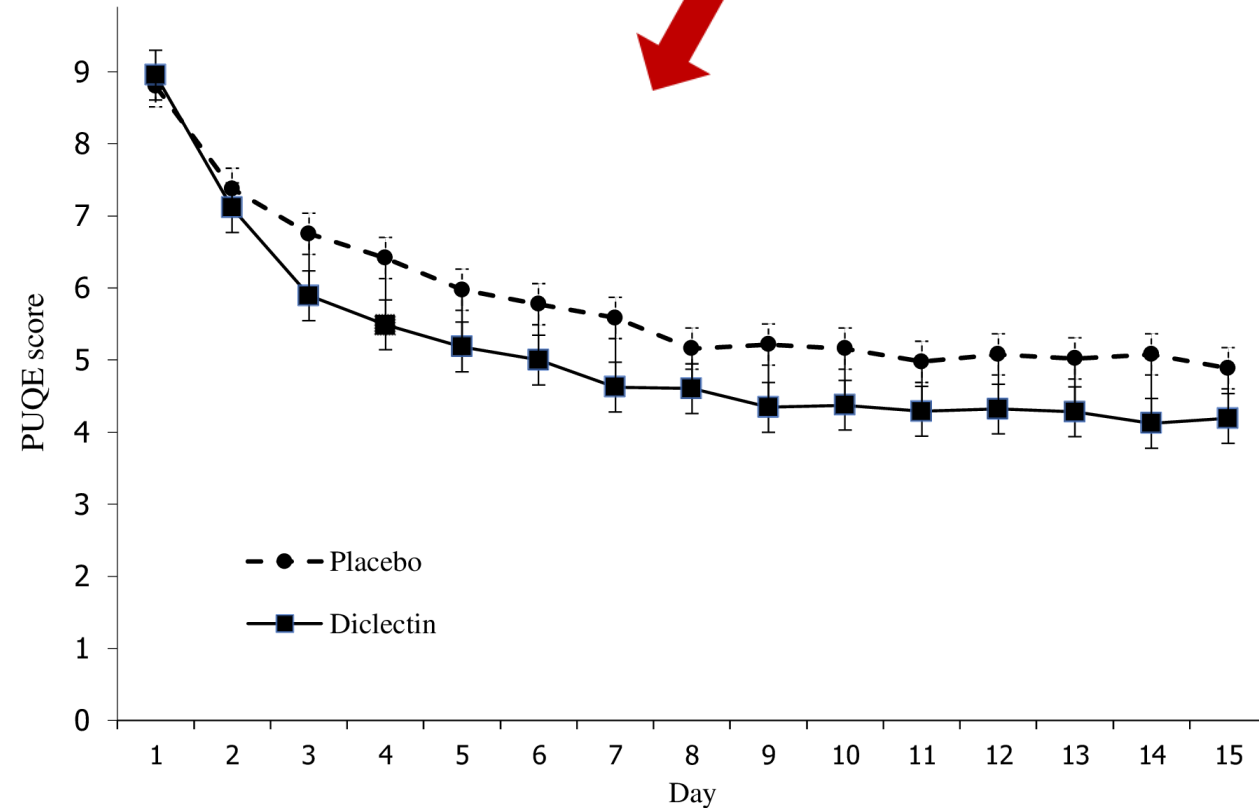


DICLECTIN® CAGE MATCH...

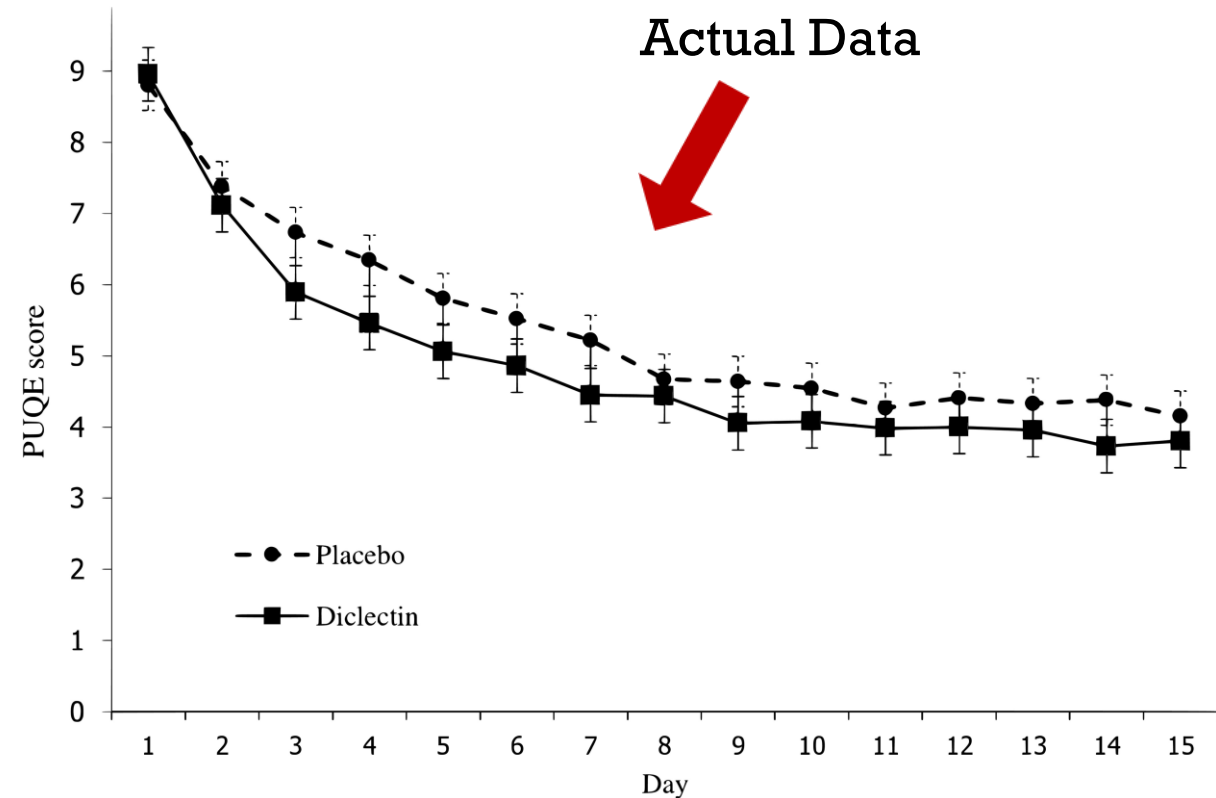


Dr. Nav Persaud

Last Observation Carried Forward (LOCF)



Actual Data



DICLECTIN® CAGE MATCH...

“Oh, people can come up with statistics to prove anything. 14% of people know that.”



Dr. Nav Persaud

Table 2. Results of different analyses of the primary outcome.

Model	Missing Data	Difference between groups in 13-point symptom scores	95% CI	P-value
ANCOVA*	last observation carried forward	-0.73	-1.25, -0.21	0.006
ANCOVA*	Include only “complete data”	-0.38	-0.84, 0.08	0.107
ANCOVA*	Include only “per protocol”	-0.53	-1.02, -0.05	0.032
GEE difference-in-difference	Available Case	-0.45	-1.11, 0.21	0.186
GEE final symptom scores	Available Case	-0.31	-0.78, 0.16	0.203
LMM difference-in-difference	Available Case	-0.54	-1.12, 0.05	0.071
LMM final symptom scores	Available Case	-0.38	-0.94, 0.17	0.175

*Prespecified. ANCOVA = analysis of covariance; GEE = generalized estimating equation; LMM = linear mixed model

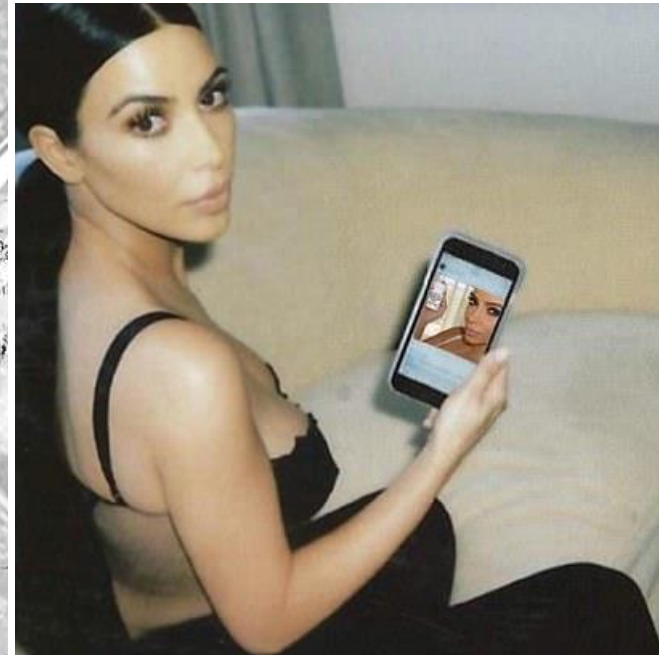


DICLECTIN® CAGE MATCH...

CAGE MATCH



Dr. Nav Persaud



Kim Kardashian



2-Year-Old Unaware He's Basis For 6 Couples' Decisions Not To Have Kids



**KIDS CAN BE
TOUGH TO
DEAL WITH**



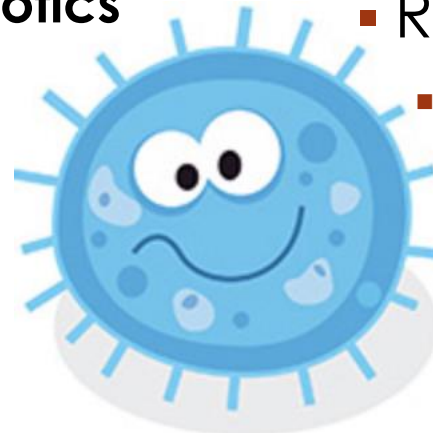
MICRO-ORGANISMS FOR LITTLE ORGANISMS (PEDS)



Cochrane
Library

2015, Issue 12. Art. No.: CD004827

- Prevention of **ped** abx-assoc diarrhea with probiotics:
n=3898 in 22 trials:
 - NNT (to prevent a diarrhea episode) = **10**
 - NNT = **6 for high-dose probiotics** (≥ 5 billion CFU/d)
 - *L rhamnosus* & *S boulardii* provided largest volume of patients with statistically significant benefit



THE JOURNAL OF PEDIATRICS 2017;186:82-6

- RCT **n=438** (mean age ~5 yrs) in primary care
 - ***L plantarum* 10 billion CFU/d** vs. placebo for duration of abx (5-10 days) + 7 days
- Results:
 - f/u at 2-4 wks:
 - Loose BM 39% vs. 45%
 - Abx-assoc diarrhea 3% vs. 4%

} NS



MICRO-ORGANISMS FOR LITTLE ORGANISMS (PEDS)



Cochrane
Library

2017, Issue 12. Art.No.: CD006095

- Prevention of **CDAD** in adults or children with probiotics:
 - Overall CDAD cases ↓ (NNT=42)
 - driven by those with high baseline risk (i.e. outbreak scenarios) → **NNT = 13**
 - **KIDS** CDAD (n=1141) → **NNT = 20**
(no peds high risk subgroup)



▪ Adverse events:

- In both CDSRs and the new RCT, side effects were minor and often not different between probiotic and control

BOTTOM LINE: for kids at high risk of developing diarrhea on antibiotics, probiotics could be considered

- Dose: ≥ 5 billion CFU/d
- Species: *L rhamnosus* ?
S boulardii ?



DON'T GET P'D OFF

Editor's Note

December 2016

Do Not Over (P) Value Your Research Article

JAMA **Cardiology**

JAMA Cardiology 2016;1(9):1048-1054 AND 1055



DON'T GET P'D OFF

Editor's Note

December 2016

JAMA Cardiology

JAMA Cardiology 2016;1(9):1048-1054 AND 1055

Do Not Over (P) Value Your Research Article

- Data for description of randomized samples (Table 1 – indicating imbalances between groups) should not be associated with p-values.



Describe and focus on differences of clinical importance.

- p-values are most meaningful in context of clear *a priori* hypothesis related to main conclusions of paper.



What are we testing and Why?



DON'T GET P'D OFF

Editor's Note

December 2016

JAMA Cardiology

JAMA Cardiology 2016;1(9):1048-1054 AND 1055

Do Not Over (P) Value Your Research Article

- Stand alone p-values discouraged. Crossing threshold ($p < 0.05$) by itself weak evidence without context.



Interpretation requires effect size & their uncertainty (confidence intervals) in clinical context.

- Researchers should define & interpret effect measures that are clinically relevant. Where possible convert to Absolute Risk Difference to establish clinical importance.



p-value alone is without meaning.

Provide Effect size, Confidence Interval, Clinical Importance in measures we and our patients can understand.

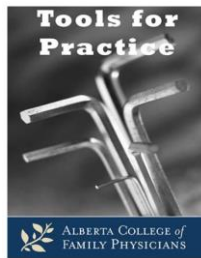


STEROID SHOTS FOR KNEE OA

What we knew so far...



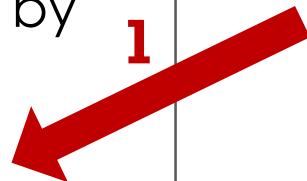
CDSR 2015, Issue 10.
Art.No.:CD005328



Mar 30, 2015

- **Pain & function** measures
 - Biggest effect at 1-2 wks, waning by 4-6 weeks (NNT = 3-5 @ 1-4 wks)
 - no obvious benefit @ 3 months
- **Joint infections** rare (>1/14,000)
- **Long-term effect** on joints...
 - No harms associated with max frequency of 4X/yr for up to 2 yrs

1



Effect of Intra-articular Triamcinolone vs Saline on Knee Cartilage Volume and Pain in Patients With Knee Osteoarthritis A Randomized Clinical Trial

- n = 140 → Given saline or steroid q3m X 2 yrs
- **Main outcomes:**
 - Pain q3 months before next shot
 - Cartilage volume at 24 months via MRI
(*"minimal clinically important difference not yet defined"*)
- **What did they find?**
 - No difference in pain
 - Cartilage volume loss of 0.11 mm



2

?

JAMA 2017;317(19):1967-1975



Goose Suddenly Realizes It Doesn't Have To Honk Like An Idiot Entire Time It's Flapping Wings



SPEAKING OF HONKING LIKE AN IDIOT...

“The first time I drank fresh, living spring water a surge of energy and peacefulness entered my being. I could never go back to drinking dead water again.”

- Live Water founder
(as reported in Huffington Post, Jan 4, 2018)

THINK

Raw Water Is A Dangerous 'Natural Food' Fad That Promises Health But Gives Diarrhea



by Tim Caulfield



INSULIN ACTION: IS IT ALL ABOUT LENGTH?



- *What we already know...*

- Glargine (long) vs. NPH (intermediate)

- NNT to prevent a **symptomatic hypo** = 10

- NNT to prevent a **HS hypo** = 8

} X ~6 months

- Any other benefits?

- **No difference in A1c**

- OD vs. potentially BID

- Cost comparison (5 X 3mL Penfill) → NPH: **\$48**

→ Glargine: Lantus **\$98**

Basaglar **\$73**



“ultra-long”

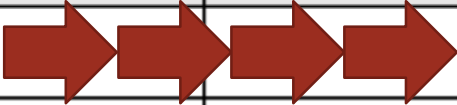
“long”

DEVOTE: DEGLUDEC *V.S.* GLARGINE

- How do you increase your chance of seeing hypos?
 → titrate insulin like this:

DEVOTE titration algorithm:

Lowest of three pre-breakfast SMPG values		Basal insulin adjustment
mg/dL	mmol/L	Units
<71	<4.0	-2
71-90	4.0-5.0	0
91-126	5.1-7.0	+2
>126	>7.0	+4



- If you're **inappropriately aggressive** with insulin titration...
 NNT = 59 (severe hypos), = 112 (HS hypos) X 2 yrs with degludec
- If you're not, they're likely much the same



EXSCEL: ANOTHER LACKLUSTER STOP IN INCRETINLAND?



CV benefit	
DPP4-inhibitors	
• saxagliptin	No (+ ↑ HF adm)
• sitagliptin	No
• alogliptin	No
• linagliptin	2018 (I'm sure this'll be the one)
GLP-1 agonists	
• liraglutide	Yes (1.9% ARR)
• lixisenatide	No
• exenatide	No
• dulaglutide	2018
• albiglutide	2019

- EXSCEL *N Engl J Med* 2017; 377:1228-1239
 - n= 14,752 (73% with CVD)
 - Exenatide SC q1w + std care vs. std care
- Results @3.2 yrs
 - A1c dropped 8% → 7.5%
 - CV death/MI/stroke: **0.8% (NS)**
 - Mortality: **1% ARR**
 - GI: not reported, but common in other GLP-1 studies



Canagliflozin and Cardiovascular and Renal Events in Type 2 Diabetes

for the CANVAS Program Collaborative Group

CLASS EFFECT ?
for the sugar pee drugs

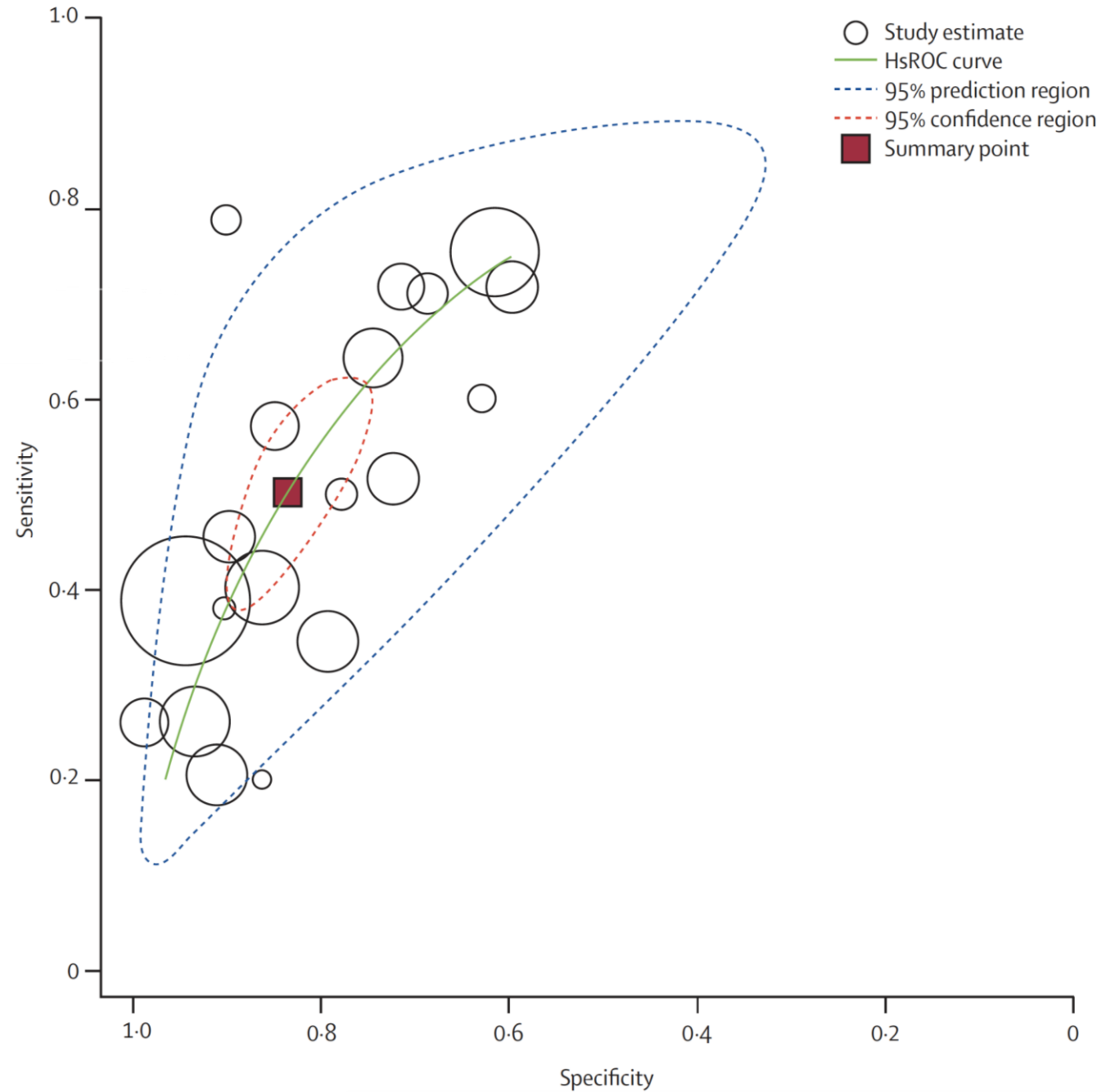
	EMPA-REG (n=7,020) X3.1y NNT or NNH/yr	CANVAS (n=10,142) X3.6y NNT or NNH/yr
CVD death, MI, stroke	192	218
Mortality	120	NS
Amputations	?	344
Fractures	NS	286
Volume depletion	NS	133
Genital infections	21	13

IF

...++ high risk for CVD
...patient cares about the modest magnitude of benefit in the context of harms (known & unknown) & cost

Why wouldn't we just choose empagliflozin?

DEPRESSING . . .



INSTANTLY DEPRESSING . . .



- Hue
- Saturation
- Brightness
- Comments
- Likes
- Posts/day
- Used filters
- Face presence
- Face count



Figure 1 Comparison of HSV values. Right photograph has higher Hue (bluer), lower Saturation (grayer), and lower Brightness (darker) than left photograph. Instagram photos posted by depressed individuals had HSV values shifted towards those in the right photograph, compared with photos posted by healthy individuals.

Table 1 Comparison of accuracy metrics for All-data and Pre-diagnosis model predictions

	Mitchell et al. μ	All-data $\mu(\sigma)$	Pre-diagnosis $\mu(\sigma)$
Specificity	0.813	0.478 (0.012)	0.833 (0.010)
Negative Predictive Value	0.858	0.579 (0.008)	0.665 (0.006)



INSTANTLY DEPRESSING...



- Hue
- Saturation
- Brightness
- Comments
- Likes
- Posts/day
- Used filters
- Face presence
- Face count



shawnlovespodcasts



Liked by rossbugden, mr._bugden and 4 others
shawnlovespodcasts HEY GUYS WATCH HOW FAST I CAN GO SUPER SPEEDY CAN YOU EVEN SEE ME JUST A BLUR NEEEEERRRRROOOOOOOM

View 1 comment
MAY 17, 2017

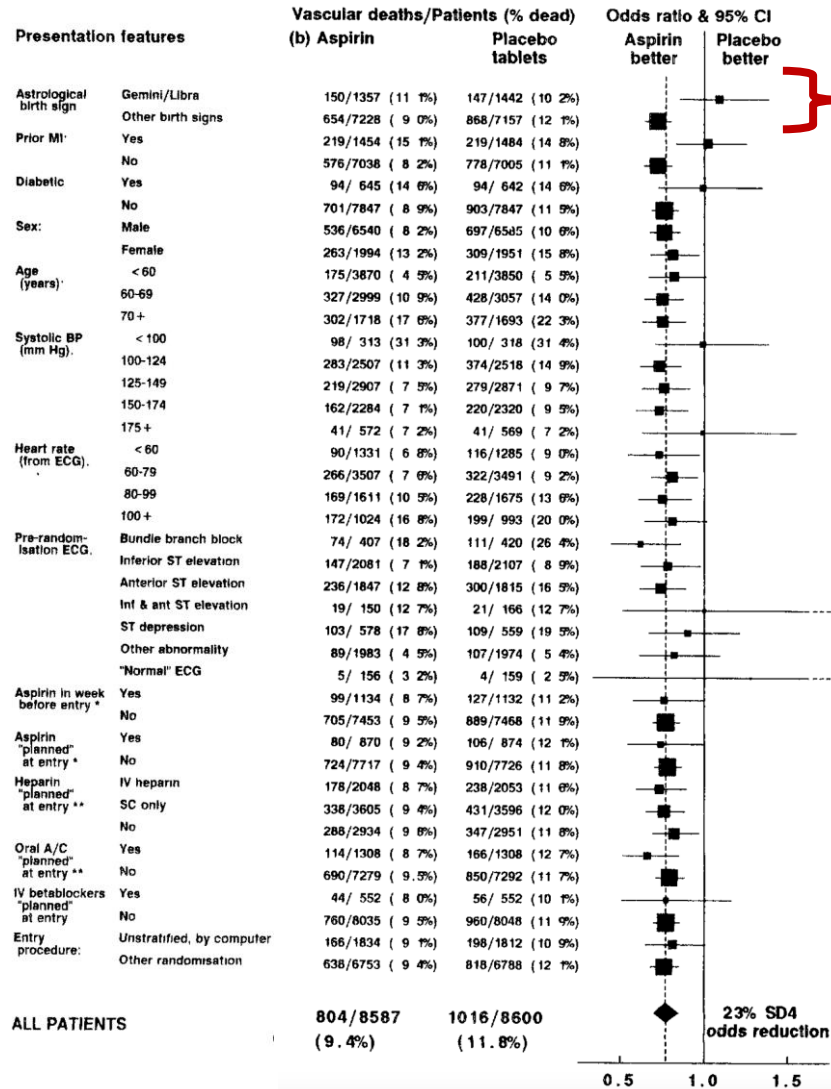
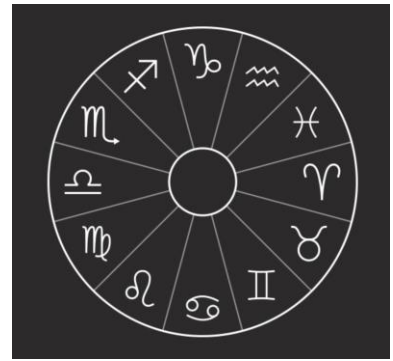
Home Search Post Like Activity



RANDOMISED TRIAL OF INTRAVENOUS STREPTOKINASE, ORAL ASPIRIN, BOTH, OR NEITHER AMONG 17 187 CASES OF SUSPECTED ACUTE MYOCARDIAL INFARCTION: ISIS-2

Lancet 1988;2(8607):349-60

WHAT'S YOUR SIGN?



Astrological birth sign

Vascular deaths/Patients (% dead)
(b) Aspirin Placebo tablets

Gemini/Libra	150/1357 (11.1%)	147/1442 (10.2%)
Other birth signs	654/7228 (9.0%)	868/7157 (12.1%)

Odds ratio & 95% CI
Aspirin better Placebo better

26% RRR (ASA good)

9% RRI (NS) (ASA not so good)



THE COMPASS TRIAL

Rivaroxaban with or without Aspirin in Stable Cardiovascular Disease

N Engl J Med 2017;377:1319-30

- **ASA 100mg** vs. Rivaroxaban 5mg BID vs. **ASA100mg + Riva 2.5mg BID** X 2 yrs
 - n=27,395 stable CVD (**91%** had CAD)
 - Results:
 - CV death, stroke, MI: **ARR = 1.30%**
 - Major bleed: **ARI = 1.29%**

Author's conclusions:

Among patients with stable atherosclerotic vascular disease, those assigned to rivaroxaban (2.5 mg twice daily) plus aspirin had better cardiovascular outcomes and more major bleeding events than those assigned to aspirin alone.



THE COMPASS SPINS: THE ROUNDING EFFECT



Rivaroxaban with or without aspirin in patients with stable coronary artery disease: an international, randomised, double-blind, placebo-controlled trial

Lancet 2017 Nov 10

- n = 24,824 with hx of CAD (i.e. the 91%)
 - Reported %:
 - CV death/MI/stroke: **ARR = 2%**
 - Major bleeding: **ARI = 1%**
 - Calculated %
 - CV death/MI/stroke: **ARR = 1.40%**
 - Major bleeding: **ARI = 1.25%**

Author's conclusions:

The addition of low-dose rivaroxaban to current evidence-based therapies will be of clinical benefit in a broad group of individuals with coronary artery disease.

Rivaroxaban with or without aspirin in patients with stable peripheral or carotid artery disease: an international, randomised, double-blind, placebo-controlled trial

Lancet 2017 Nov 10

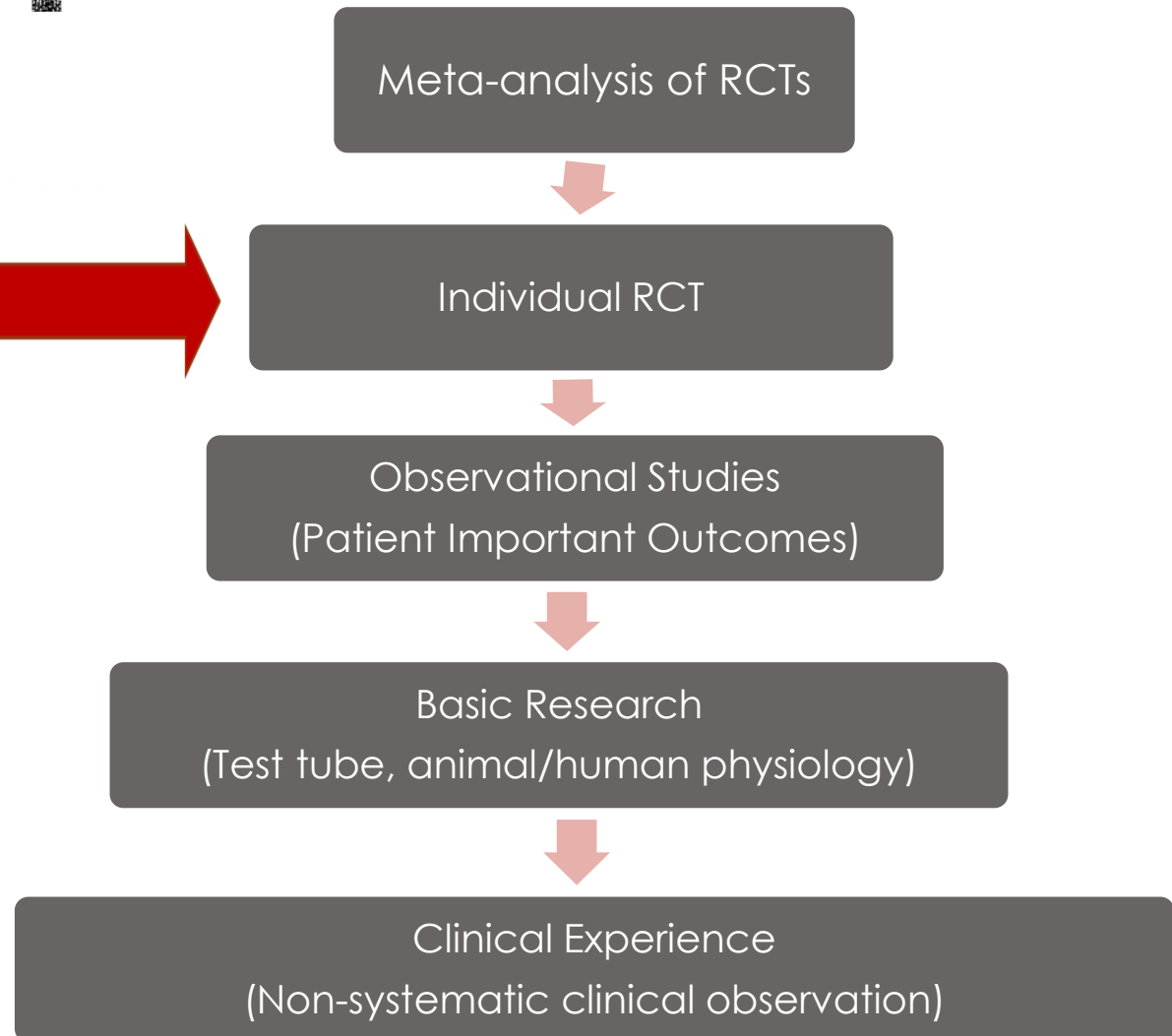
- n = 7470 with PAD or carotid artery disease (+ 67% had hx of CAD)
 - Reported %:
 - CV death/MI/stroke: **ARR = 2%**
 - Major bleeding: **ARI = 1%**
 - Calculated %
 - CV death/MI/stroke: **ARR = 1.89%**
 - Major bleeding: **ARI = 1.17%**

Author's conclusions:

Therefore, the combination of rivaroxaban and aspirin represents an important advance in the management of patients with peripheral artery disease.

ALSO DEPRESSING...

**RCT AS GOLD
STANDARD...**



SOMEWHERE OVER THE RAINBOW



The Colours of the Donut

- | | |
|---------------------------------|------------------------|
| ● Policy documents | ● Google+ |
| ● News | ● LinkedIn |
| ● Blogs | ● Reddit |
| ● Twitter | ● Faculty1000 |
| ● Post-publication peer-reviews | ● Q&A (stack overflow) |
| ● Facebook | ● Youtube |
| ● Sina Weibo | ● Pinterest |
| ● Wikipedia | |



SOMEWHERE OVER THE RAINBOW



Efficacy and effectiveness of an rVSV-vectored vaccine in preventing Ebola virus disease: final results from the Guinea ring vaccination, open-label, cluster-randomised trial (Ebola Ça Suffit!)

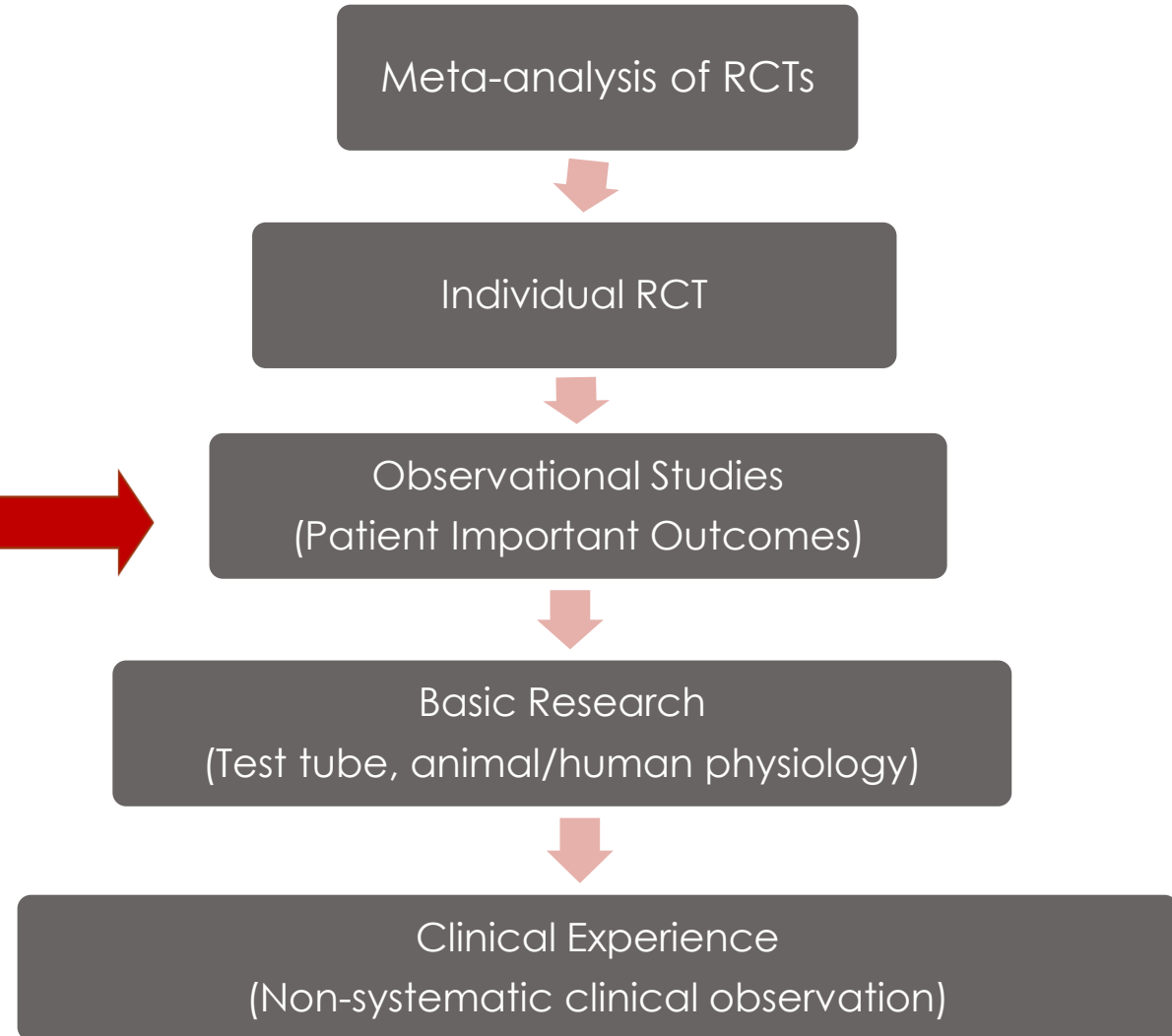
Lancet 2017; 389: 505-18



SOMEWHERE OVER THE RAINBOW



**SEXY OBSERVATIONAL
RESEARCH DOMINATES...**



SEXY OBSERVATIONAL RESEARCH DOMINATES



ORIGINAL ARTICLE

Correlation between pubic hair grooming and STIs: results from a nationally representative probability sample

E Charles Osterberg,^{1,2} Thomas W Gaither,¹ Mohannad A Awad,¹ Matthew D Truesdale,¹ Isabel Allen,³ Siobhan Sutcliffe,⁴ Benjamin N Breyer^{1,3}

Sex Transm Infect 2017;93:162-166

	Any STI N=943	
	Crude OR 1.0 (reference‡)	Adjusted OR† 1.0 (reference‡)
Non-groomers		
Groomers	1.9 (1.6–2.2)**	1.8 (1.4–2.2)**
Non-extreme groomers	1.8 (1.5–2.1)**	1.7 (1.4–2.1)**
Extreme groomers	2.4 (1.9–3.0)**	2.5 (1.9–3.3)**
Low-frequency groomers	1.9 (1.6–2.2)**	1.7 (1.4–2.2)**
High-frequency groomers	1.9 (1.5–2.4)**	2.0 (1.5–2.6)**



“SEXY” OBSERVATIONAL RESEARCH DOMINATES



ORIGINAL RESEARCH

Annals of Internal Medicine

Ann Intern Med. 2017;167:236-247.

Coffee Drinking and Mortality in 10 European Countries

A Multinational Cohort Study

Variable	Coffee Consumption*					P Value for Trend	Per Cup Per Day
	Nonconsumers	Quartile 1 (Low)	Quartile 2 (Medium-Low)	Quartile 3 (Medium-High)	Quartile 4 (High)		
All-cause mortality							
Men							
Deaths, <i>n</i>	1039	4972	4440	4250	3601		-
HR (95% CI)							
Basic model†	1.00 (reference)	0.89 (0.83-0.95)	0.89 (0.83-0.95)	0.90 (0.84-0.96)	1.07 (0.99-1.15)	<0.001	-
Basic model plus smoking variables‡	1.00 (reference)	0.88 (0.82-0.94)	0.83 (0.77-0.89)	0.78 (0.73-0.84)	0.83 (0.77-0.89)	<0.001	-
Multivariable model‡	1.00 (reference)	0.94 (0.87-1.00)	0.88 (0.82-0.95)	0.84 (0.78-0.90)	0.88 (0.82-0.95)	<0.001	0.97 (0.96-0.98)
Women							
Deaths, <i>n</i>	1817	6882	5236	5294	4162		-
HR (95% CI)							
Basic model†	1.00 (reference)	0.90 (0.85-0.95)	0.90 (0.85-0.95)	0.95 (0.90-1.01)	1.10 (1.04-1.16)	<0.001	-
Basic model plus smoking variables‡	1.00 (reference)	0.91 (0.86-0.96)	0.87 (0.82-0.91)	0.87 (0.82-0.92)	0.90 (0.85-0.96)	0.004	-
Multivariable model‡	1.00 (reference)	0.94 (0.89-0.99)	0.90 (0.85-0.95)	0.90 (0.85-0.95)	0.93 (0.87-0.98)	0.009	0.99 (0.98-1.00)



“SEXY” OBSERVATIONAL RESEARCH DOMINATES



ORIGINAL RESEARCH

Annals of Internal Medicine

Ann Intern Med. 2017;167:228-235

Association of Coffee Consumption With Total and Cause-Specific Mortality Among Nonwhite Populations

Table 2. Coffee Consumption and Total Mortality in the Multiethnic Cohort, 1993–2012

Coffee Consumption	Participants, <i>n</i>	Deaths, <i>n</i>	Adjusted Hazard Ratio (95% CI)		
			Model 1*	Model 2†	Model 3‡
Total					
None	30 082	9460	1.00 (reference)	1.00 (reference)	1.00 (reference)
1–3 cups/mo	13 370	4277	1.00 (0.96–1.04)	0.98 (0.95–1.02)	1.00 (0.95–1.05)
1–6 cups/wk	24 637	7894	0.99 (0.96–1.02)	0.94 (0.91–0.97)	0.97 (0.93–1.01)
1 cup/d	57 488	19 623	0.97 (0.95–1.00)	0.88 (0.85–0.90)	0.88 (0.85–0.91)
2–3 cups/d	47 282	13 395	0.95 (0.93–0.98)	0.80 (0.78–0.83)	0.82 (0.79–0.86)
≥4 cups/d	12 996	3748	1.11 (1.07–1.16)	0.80 (0.77–0.84)	0.82 (0.78–0.87)
<i>P</i> for trend	–	–	0.098	<0.001	<0.001
Increase per cup	–	–	1.00 (1.00–1.01)	0.94 (0.94–0.95)	0.95 (0.94–0.96)

“SEXY” OBSERVATIONAL RESEARCH DOMINATES



ORIGINAL ARTICLE

Chocolate intake and risk of clinically apparent atrial fibrillation: the Danish Diet, Cancer, and Health Study

Heart 2017;103:1163-1167

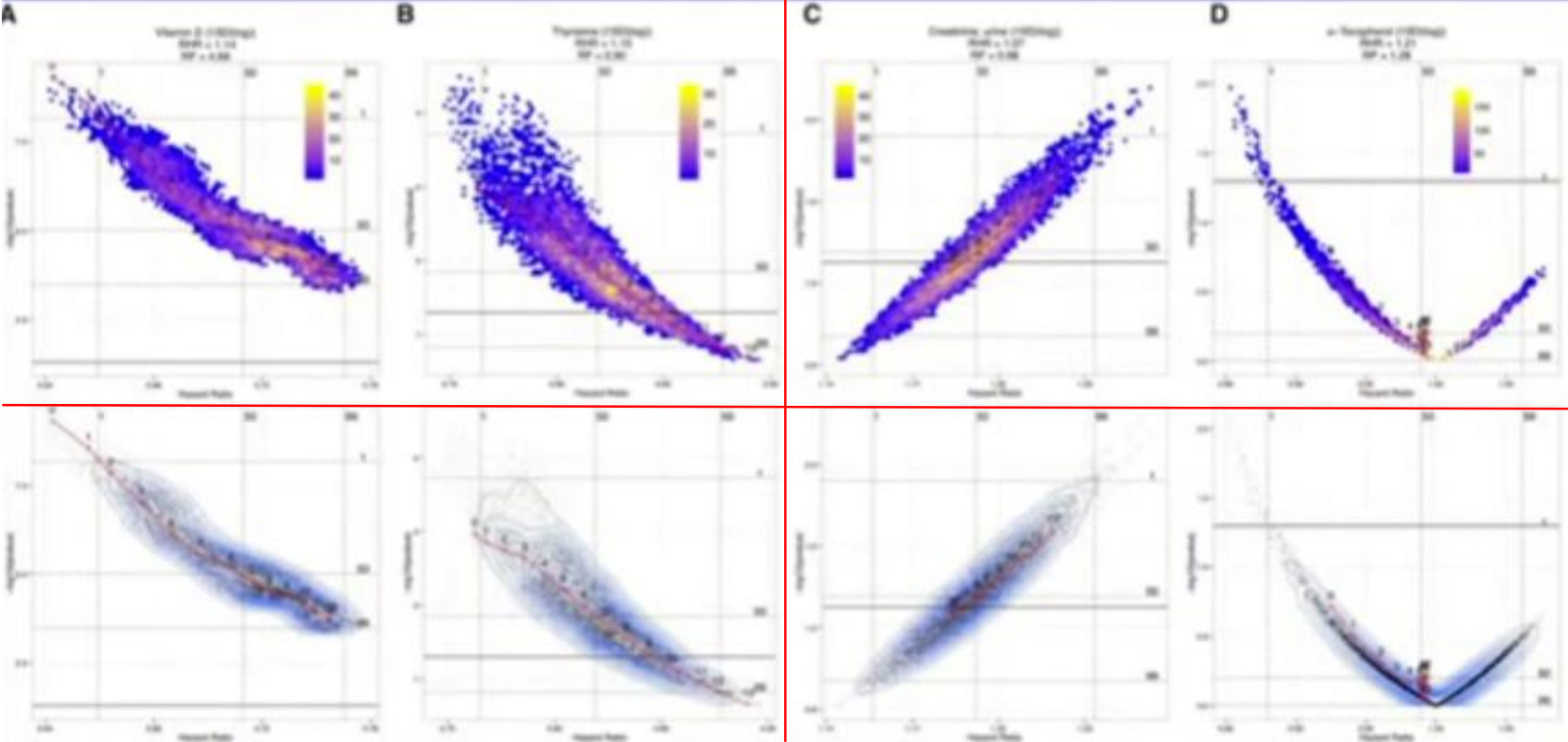
		Cases	Person Years	Multivariable HR (95% CI)	P-Trend
All	<1/month	871	154768	1.00 (Reference)	
	1-3/month	1393	296135	0.90(0.82-0.98)	
	1/week	575	137768	0.83(0.74-0.92)	.0001
	2-6/week	442	109620	0.80(0.71-0.91)	
	≥ 1/day	65	16010	0.84(0.65-1.09)	



SEXY OBSERVATIONAL RESEARCH DOMINATES → WHY WE DON'T CARE



Significance



Hazard Ratio



SEXY OBSERVATIONAL RESEARCH DOMINATES → WHY WE DO CARE



Same Research Flaws, but for

- Medications – we care about and prescribe
- Diseases – we care about and our patients worry about
 - Parkinson's, Dementia, MSP
 - Diabetes, CVD



THE LONG & WINDING ROAD OF POLICY CHANGE

- Cochrane Review (2012):
SMBG in DM2 patients **not using insulin**
 - @ 6 months, A1c **↓ 0.3%**
(benefit **subsided after 12 months**)

- **Ontario Drug Program 2013:**

Diabetes Treatment	Test strips allowed in 365 days
Insulin	3,000
Meds with high risk of hypoglycemia (e.g. glyburide)	400
Meds with low risk of causing hypoglycemia (e.g. metformin)	200
Diet/Lifestyle alone	200

JAMA Intern Med
2017;177:61-66:

- Cost **↓ 23%**
- No **↑** in ER visits or A1c

- **SMBG in MB** (*Clin Ther* 2016)

- 2013 test strip costs = **\$17.2 million**
 - 57% of use was by insulin users (~2 strips/d)

- Based on the Ontario policy, projected **5-year cost saving** associated with implementing a test strip limit in Manitoba

= \$12.35 million

- **95%** of savings would occur on those **not using insulin**

Bulletin #92

Changes to Pharmacare and Employment & Income Assistance Drug Programs benefit coverage for Blood Glucose Test Strips (BGTS)

Effective June 15, 2017

PIN/Name	Treatment Regimen	Comments/Examples	Approved Quantity
00993650 <i>Person with diabetes using Insulin</i>	Managing diabetes with insulin	This higher limit applies whether or not the patient is also taking other diabetes medications	3,650 strips per benefit year
00999400 <i>Person with diabetes using Oral - High Risk</i>	Managing diabetes with medication with a higher risk of causing low blood sugar	gliclazide (Diamicon®), glyburide (Diabeta), repaglinide (Gluconorm®), chlorpropamide, tolbutamide, Glimepiride (Amaryl®)	400 strips per benefit year
00999200 <i>Person with diabetes using Low Risk Oral or diet/lifestyle therapy</i>	Managing diabetes with medication with a lower risk of causing low blood sugar	acarbose (Glucobay®), linagliptin (Trajenta®), metformin (Glucophage®), pioglitazone (Actos), rosiglitazone (Avandia®), saxagliptin (Onglyza®), sitagliptin (Januvia®), canagliflozin (Invokana®), dapagliflozin (Forxiga®)	200 strips per benefit year
	Managing diabetes through diet/lifestyle therapy		200 strips per benefit year

**OKAY,
NOW WE'VE
CAUGHT UP**





“OUTLINE”

- 1) PCSK9 inhibitors... Can I have fries and a bank loan with that? \$\$\$
- 2) Stat-in the name of age **Do I have to?**
- 3) BP targets in a BM world **Do the right thing**
- 4) Fracturing our beliefs **I'm shattered**
- 5) Not OH too! **Not One Drop?**
- 6) Nauseating cage match **Kim Wins**
- 7) Hey Man, I am Pro biotics **Bugs as Drugs**
- 8) Don't get P'd off - **Turn on the light. P-values are more than on/off**
- 9) A Very Convenient Trial Design – **Ask a stupid question...**
- 10) Tap, Sparking or Live? **Live Water should be dead**
- 11) Size doesn't matter. What about length? **For insulin, not really**
- 12) Landing in Incretinland **Exscel-erate? Not sure we're moving forward?**
- 13) CANVAS... I think there's a hole in my tent ... **And my leg is gone**
- 14) Instantly depressing **I'll keep my Dr, thanks**
- 15) Does rounding matter? **YES**
- 16) Somewhere Over the Rainbow... is a very strange place **OBS Research**
- 17) MEDS saves \$12.35 million **Please send cheque**





QUESTIONS?



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