Pharmaceutical Industry Influence and Primary Care:

Is there a role for collaboration in our current healthcare system?

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Faculty/Presenter Disclosure

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Relationships with commercial interests:

Grants/Research Support, consulting fees: None to disclose

Honoraria: Member of the CDEC committee for Canada's Drug Agency (CDA-AMC)

Other: Employed at Bow Valley College School of Health and Wellness, Instructor

Relevant Non-Financial Relationships: Canadian Society of Hospital Pharmacists Sustainability Task Force member, Co-Chair for Canadian Association of Pharmacy for the environment and for Sustainable Prescribing working group with Canadian Coalition for Green Health Care

No honoraria received for this presentation

This program has received no financial or in-kind support in the development of this presentation

Faculty/Presenter Disclosure

Faculty: Melanie Hnatiuk

Relationships with commercial interests:

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Other: AMHSP Member, University of Calgary Department of Family Medicine, WellDoc Alberta/Canada, ACFP Board

Relevant Non-Financial Relationships: None to Disclose

No honoraria received for this presentation

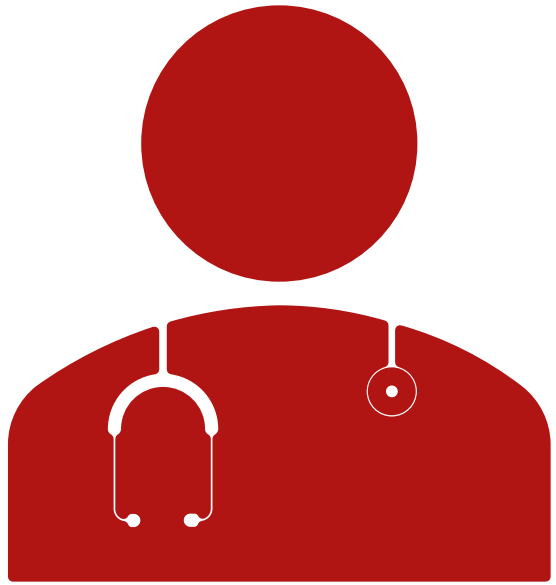
This program has received no financial or in-kind support in the development of this presentation

Poll questions

Learning Objectives

By the end of the presentation, participants will be able to:

Review	**Review the relevant literature on the influence of industry activities on prescribing**
Discuss	**Discuss ways to mitigate risks of bias involved in collaborating with Industry while leveraging ways to help our patients**
Recognize	**Recognize potential biases and blind spots of industry relationships and medical professionals**



Industry and its Impact on Clinicians

What Does The Evidence Say?

- RESEARCH
- SAMPLES
- EDUCATION

What Are Potential Harms Associated With Industry Sponsored Research And Education?

- Biased information and mis-information
- Over-emphasis of results
  - Beware relative risk reduction (RRR)
  - *always look at **absolute risk reduction (ARR)** to measure impact of outcome
- Under-emphasis on harms and costs
- Poly-pharmacy
  - Leading to prescribing cascade
- Off label prescribing
- Over-medicalization and premature initiation of drug treatments (disease mongering*)
  - i.e., shingles, high cholesterol in primary prevention, low BMD, pre-diabetes, pre-hypertension, depression, overactive bladder

* Disease-mongering is a term to describe the process of widening the boundaries that define medical illness in order to expand markets for those who deliver and sell treatments. – Health Action International

Industry Sponsorship & Research Outcomes

Cochrane Database Syst Rev 2017

IMPACT ON CLINICAL TRIAL DESIGNS

- No differences (risk of bias) associated with sequence generation, allocation concealment, follow up and selective outcome reporting

IMPACT ON REPORTING RESULTS

- Industry sponsored studies report more favorable results **RR 1.27 (95% CI 1.17-1.37)**
- Industry sponsored studies report more favorable conclusions **RR 1.34 (95% CI 1.19-1.51)**

IMPACT ON CONCLUSIONS

- Less agreement between results and conclusion in industry studies when compared to non –industry sponsored studies **RR 0.83 (95% CI 0.7-0.98)**

AUTHORS CONCLUSIONS OF REVIEW

Sponsorship of drug and device studies by manufacturing company leads to more favorable efficacy results and conclusions than sponsorship by other sources.

Our analysis suggest the existence of an industry bias that cannot be explained by the standard risk of bias assessments.

Evidence with Pharmaceutical Samples

- Associated with increased awareness, preference, rapid Rx uptake of new drug
- Associated with positive attitude towards pharm. reps
- Lack of policies regarding drug samples in family practice
  - **79% of family medicine teaching units (FMTU) in Quebec kept samples**
  - **30% of these clinics did not have policies about drug samples**
  - **67% of HCP reported using drug samples**

Soc Sci Med 1988;26:1183-1189; Br J Gen Pract. 1994;51:378-381; CFP 2018;64:532-539

Evidence with Industry Provided Education

FUNDING FOR TRAVEL OR LODGING TO ATTEND EDUCATIONAL SYMPOSIA

- Independently associated with increased hospital formulary addition requests for sponsored drug
- Impacts prescribing practices ***up to 2 years*** after event

PHARMACEUTICAL REP SPEAKERS AT LUNCH ROUNDS (a.k.a. DRUG LUNCHES)

- Resident exposure was associated with dissemination and learning of inaccurate information about the sponsor's and competitor's drug

DRUG DETAILING

- Serious Adverse effects associated with the sponsored drug only reported in **5 to 6%** of promotions
- Any harms only discussed in **1/3** of the encounters (required to be discussed at each encounter)

JAMA 1994;271:684-689; JAMA 1995;272-:1296-1298; Journal of General Medicine 2013

Industry Sponsored Research & Education

- **CME sponsorship (i.e., drug dinners)***
  - Drug company CME affected presentation content where sponsor's drug was preferentially highlighted during event
  - Changes in prescribing practice (self reported) in favor of the sponsor's drug
    - sustained for ***next 6 months*** after event

*industry guidelines were applied

- **HONORARIA, RESEARCH FUNDING**
  - Independently associated with hospital formulary addition requests of the sponsor's drug

Wazana A. JAMA. 2000 Jan 19;283(3):373-80.

What about Non-Prescribing staff?

Perceptions of the provision of drug information, pharmaceutical detailing and engagement with non-personal promotion at large physician network: a mixed methods study (BMJ Open 2021)

FINDINGS

- **85.3% of respondents indicated pharmaceutical rep visits are the most common source of drug information**
- **62.2% paper based was most common form of information provided**
- **Medical assistants usually responsible for handing information (46.3% of time)**
  - **Physicians 15.3%**
- **Drug rep detailing and lunches were the desired method of drug information (62.2%), email or e-journals (11%) next most common**

Highlights the importance of engaging all staff regarding industry-based policies and procedures in clinic

BMJ Open. 2021 Jan 18;11(1):e041098.

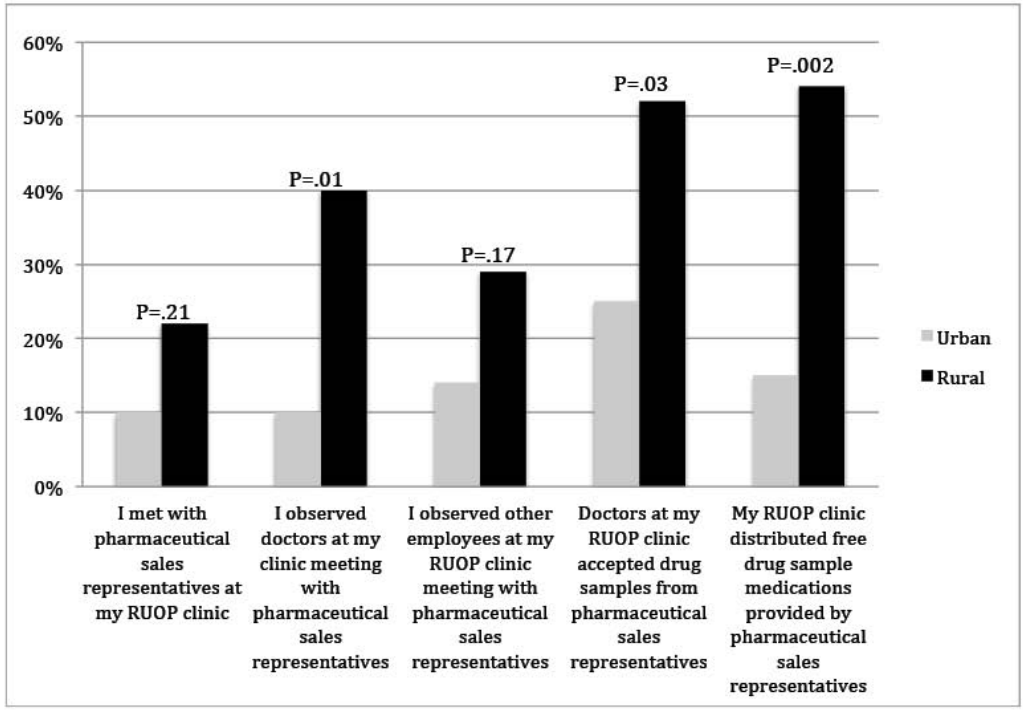
Evidence with Receiving Gifts from Industry

- Receiving gifts and number of gifts received correlates with belief pharmaceutical reps have no impact on prescribing behavior

- Physician payments from industry associated with greater medicare costs
  - Increase of $27 per patient for general surgery to $2931 per patient for neurology
    - **Family medicine ranges from $50-400/pt**

Perlis RH, et al. Plos ONE 2016;11(5):e0155474

Figure 1: Comparison of Student Exposure to Pharmaceutical Industry Marketing Between Those at Rural and Urban RUOP Sites



RUOP—Rural and Underserved Opportunities Program

Rural sites n=65 (Washington 18, Wyoming 3, Alaska 8, Montana 20, and Idaho 16)

Urban sites n=21 (Washington 14, Wyoming 2, Alaska 2, Montana 0, and Idaho 3)

Rural vs Urban sites and exposure to Pharmaceutical Industry

2nd year med students exposure while on rotation

Evans DV, Keys T, et al. Big Pharma on the Farm: Students are exposed to pharmaceutical Marketing more often in rural clinics. Fam Med 2016;48(7):561-4.

https://www.stfm.org/FamilyMedicine/Vol48Issue7/Evans561

Overall Quality of Data

- Self reported questionnaires and surveys
- Physician attitudes (surveys, interviews)
- Impact on prescribing
  - Prescribing trends, frequency
- Medicare data
- Formulary addition requests

*No patient outcome measures used

PubMed®

industry influence in family medicine

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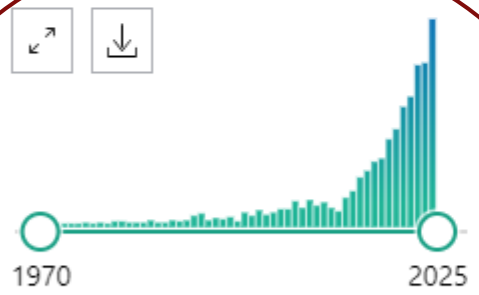
RESULTS BY YEAR



TEXT AVAILABILITY

- Abstract
- Free full text
- Full text

1 Cite Share

Changing Pharmaceutical **Industry** Interaction in US **Family Medicine** Residencies: A CERA Study.

Brown SR, Fugh-Berman A.

J Am Board Fam Med. 2021 Jan-Feb;34(1):105-112. doi: 10.3122/jabfm.2021.01.200287.

PMID: 33452088 Free article.

This study explores the extent and type of learner interactions in US **family medicine** residencies with the pharmaceutical **industry** and compares interactions from 2008, 2013, and 2019. ...CONCLUSIONS: Interaction between trainees in US **family medicin** ...

2 Cite Share

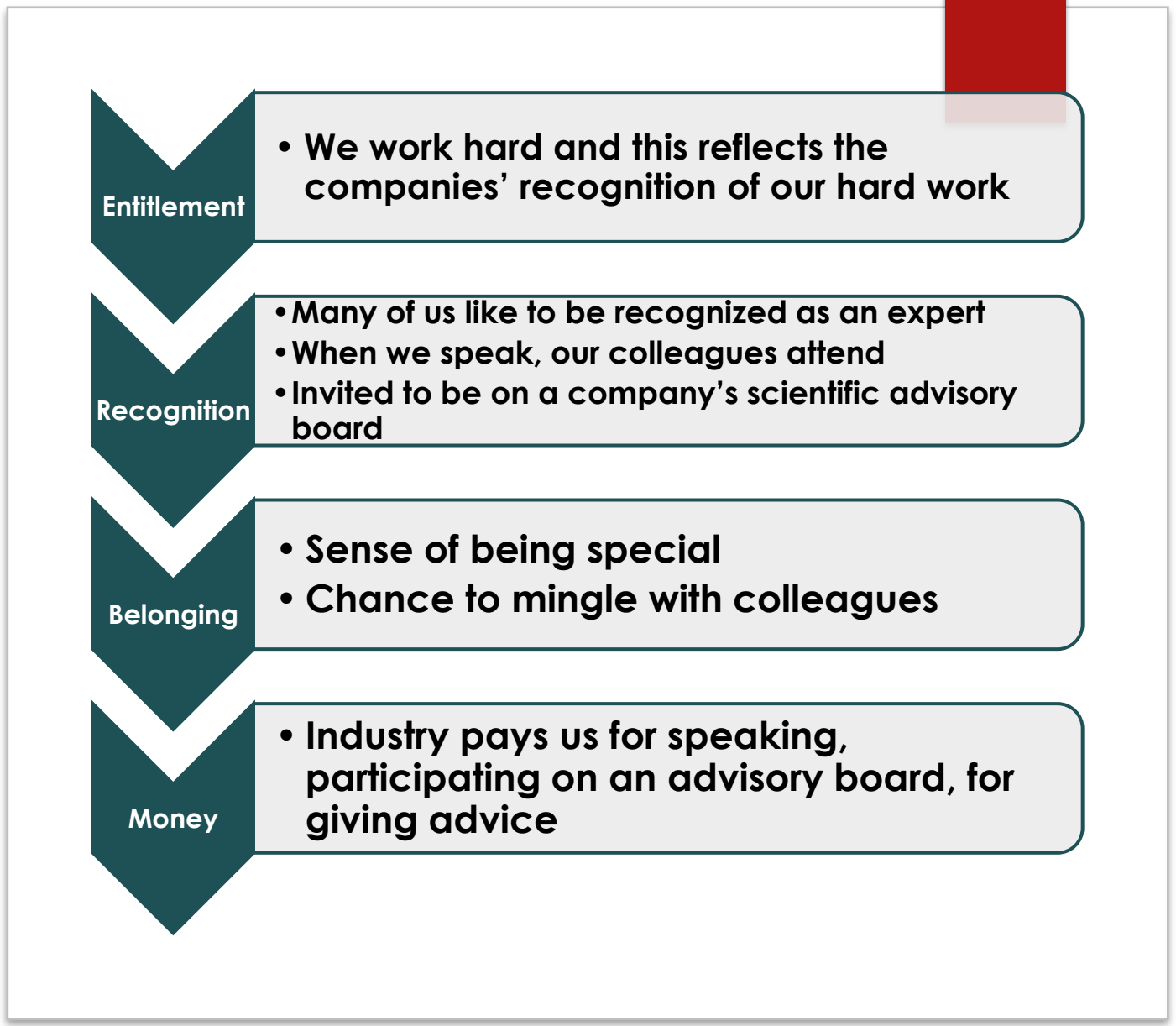
Industry payments to **family medicine** residents in Portugal: a descriptive analysis of the national transparency database.

Ruivo M, Cossutta F, Moreira Fonseca N.

BMJ Open. 2023 Aug 29;13(8):e074619. doi: 10.1136/bmjopen-2023-074619.

Industry-HealthCare Provider Relationship

Our Motivates And Rationale Of Industry-Healthcare Provider Relationship



Industry's Motives

Companies are in business

- Bottom line obligation is to increase value to their stakeholders
- Estimated $57.5 Billion annually (out of total revenue $307.2B) on marketing to physicians (US data) in 2007
  - Twice as much spent on marketing to physicians as for R&D
  - $61,000 per physician (US data)

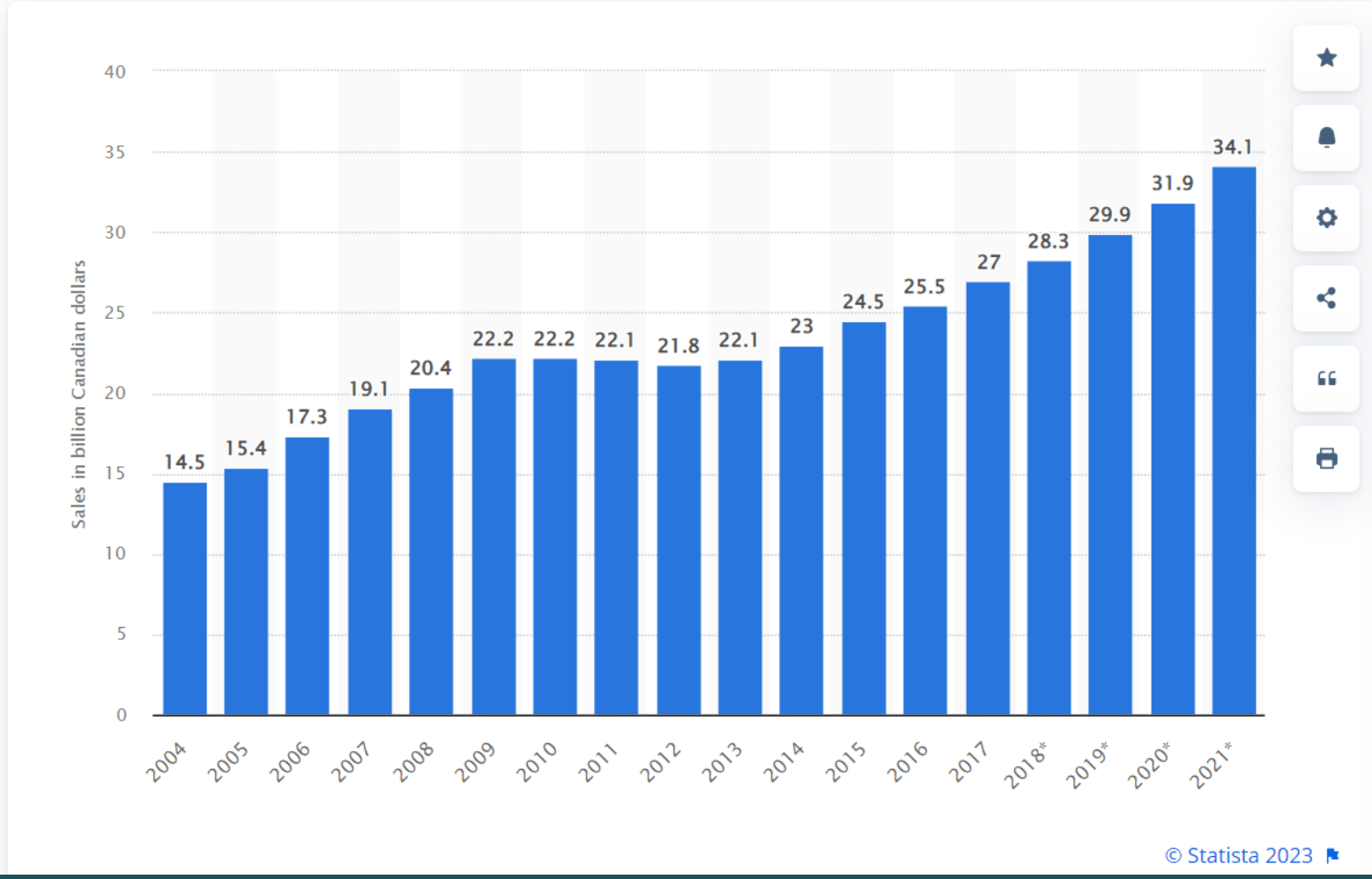
This buys access, influence and gratitude

  - In our culture – gratitude leads to reciprocity
- Industry covered 61% of CME in USA (2006) which equals $1.56 Billion – more than 3 x that in 1998

Gagnon M, et al. PLoS 2008;5:el;
ACCME Annual Report 2006

Total pharmaceutical sales in Canada from 2004 to 2021

(in billion Canadian dollars)

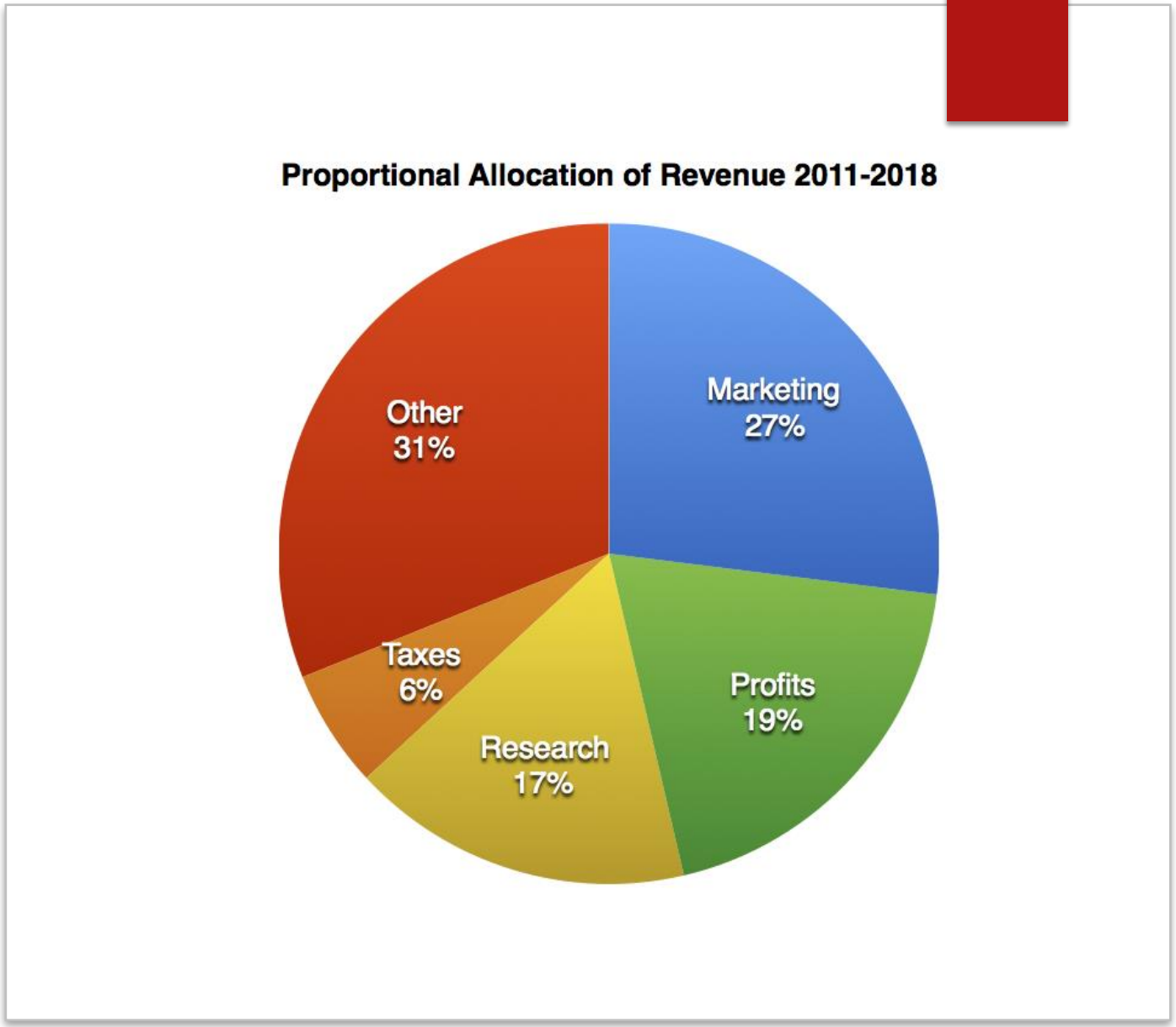


https://www.statista.com/statistics/422601/total-canadian-pharmaceutical-sales/

Proportional allocation of revenue earned by all **13** major pharmaceutical companies from **2011-2018**

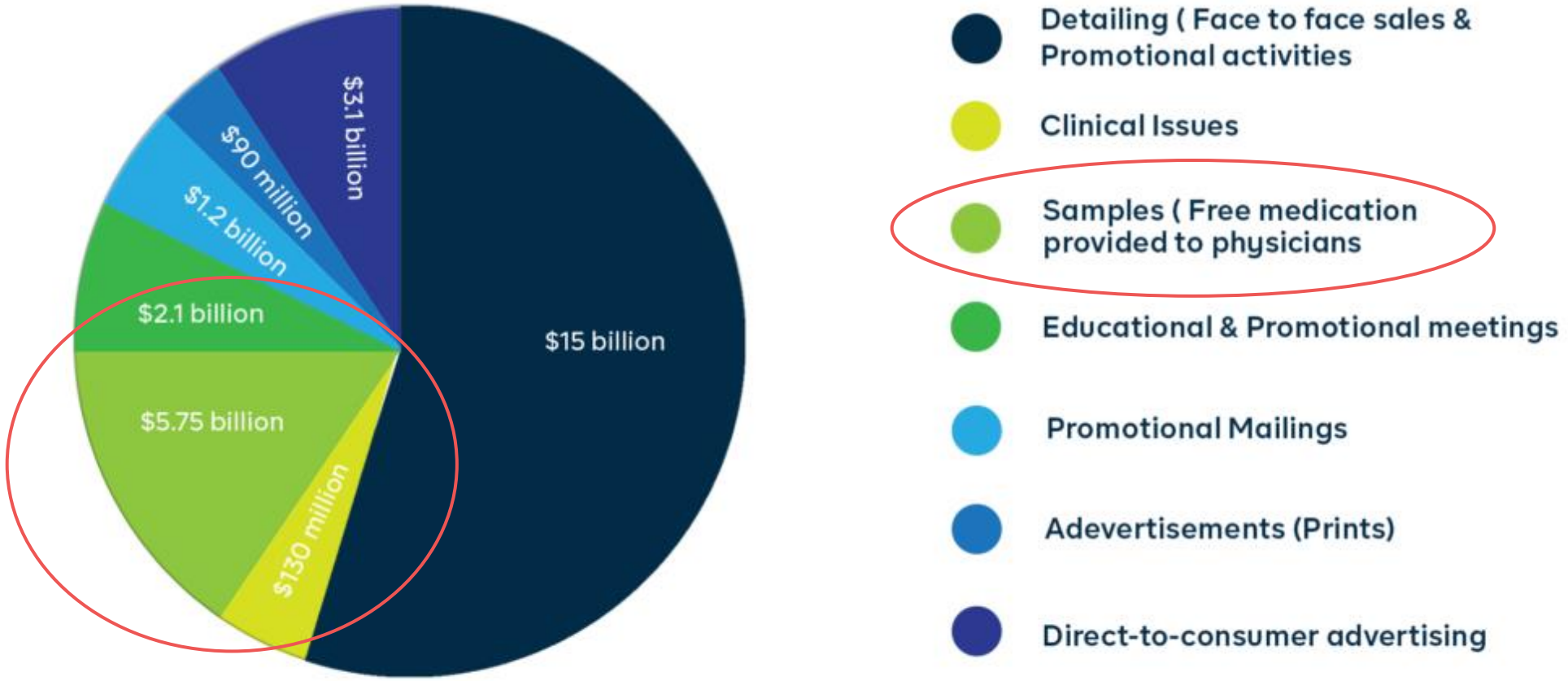
*USA data

**Other also includes – unrestricted educational grants, advisory board costs



https://truecostofhealthcare.org/the_pharmaceutical_industry/

Expenditure by type of Pharmaceutical Marketing (2012)



https://chekkitapp.com/blog/untapped-marketing-strategies-for-pharmaceutical-companies/

Top 3 pharma drug ad spenders for 2022

USA

#1. Dupixent (dupilumab) - IL-4, IL-3 blocking monoclonal antibody

- Marketing expenditure: $491 M
- Sales in 2022: $8.7B

2. Rinvoq (upadacitinib) - JAK inhibitor

- Marketing expenditure in 2022: $425.9 M
- Sales in 2022: $2.52 B

#3. Entyvio (vedolizumab) - Monoclonal antibody

- Marketing expenditure in 2022: $370.6M
- Sales in 2021: $3.9B

Ozempic (semaglutide)
$180.2M in marketing (#6)

https://www.fiercepharma.com/special-reports/top-10-pharma-drug-brand-ad-spenders-2022#

Pharmaceutical Industry Marketing changes from 1995 to 2005

1995

- 12% more marketing positions than research positions

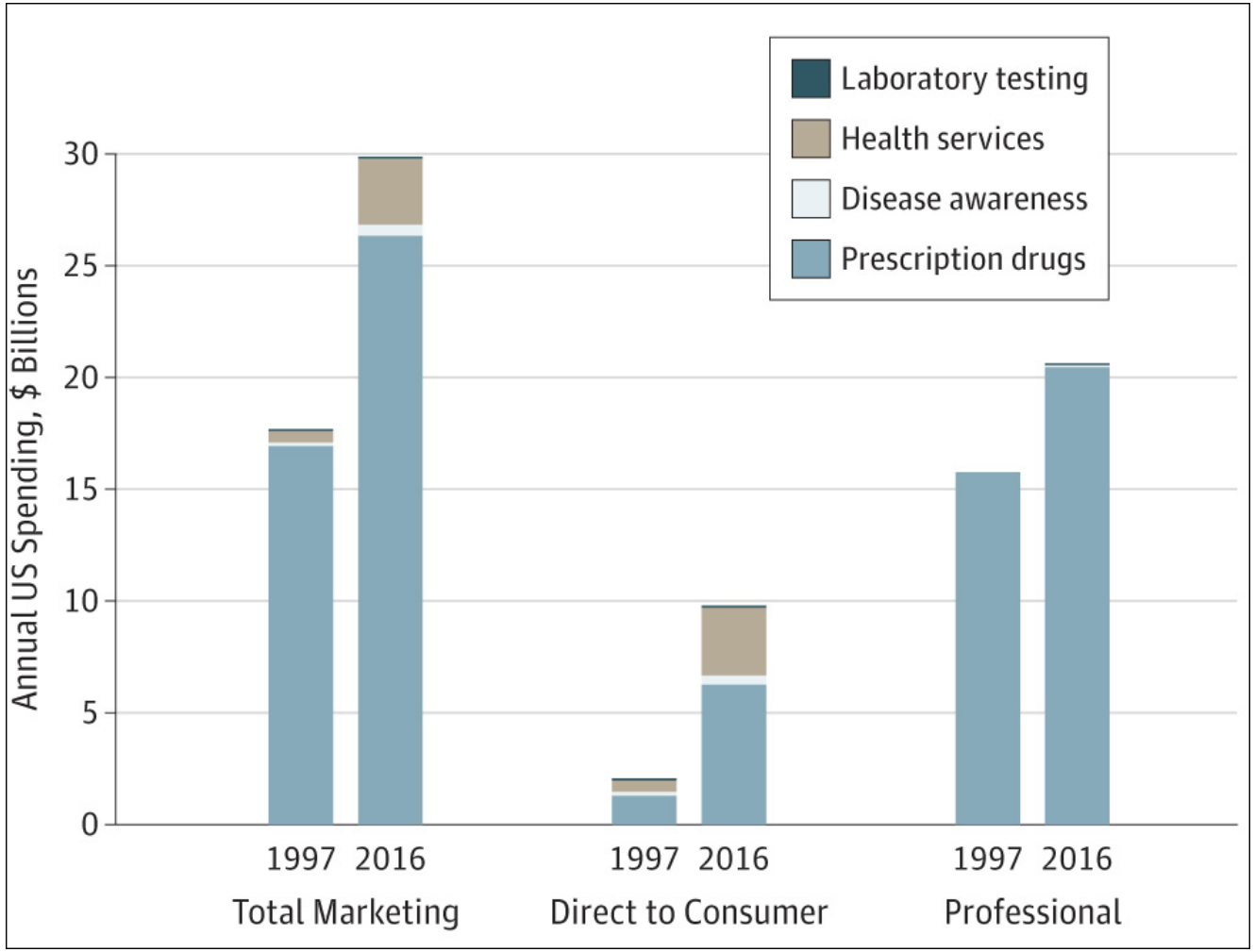
2000

- 81% more marketing positions than research position
  - absolute increase of 56% of marketing positions whereas research positions remained static

2005

- Number of pharmaceutical reps in USA over 100,000
  - 1 rep per 6 practicing physicians
  - Family physicians and internists meet with reps more frequently than other specialties

Journal of Ethics in Mental Health 2009; 4 Suppl 1



Spending on Medical Marketing in 1997 vs 2016

*USA data

https://jamanetwork.com/journals/jama/fullarticle/2720029

Present Day Marketing Strategies

- Digital Advertising
- Video Marketing – YouTube, TikTok
- Search Engine Optimization (SEO)
- Webinars, Live Panels and Interviews
- Influencer Marketing/Product placement
- Account Based Marketing (ABM)
  - Ability to build relationships with target audiences before they enter a sales cycle, improving the probability of a sale with highly targeted content – this includes patient advocacy groups, clinical specialist groups or organizations
- AI
- PR
- Video Blogging

https://www.orientation.agency/insights/pharmaceutical-marketing-tactics-workbook

Mitigating the Influence

How to Mitigate the Influence?

INDUSTRY INDEPENDENT DRUG INFORMATION SOURCES

Towards optimized practice (TOP) Guidelines

PEER – Patient Experience Evidence Research

Therapeutics initiative

Rx Files

BE PREPARED IF YOU PLAN TO ATTEND INDUSTRY SPONSORED EVENT

Review trial, critically appraise, look for potential over-emphasis of the data

Ask yourself – does this add value to your clinical practice, what did you learn?

ACADEMIC DETAILING

Provision of evidence-based summaries provided by non-industry HC provider

-usually pharmacists or other physicians

A word about Samples

- **LIMIT SAMPLE USE (ELIMINATE preferred)**
  - Samples are for usually for:
    - New agents to market (limited experience)
    - Not covered by insurance
    - Expensive
  - What do you do when the samples run out?
    - Consider EXIT strategy if using samples
    - Not a reliable source and can lose supply at any time

- **MANAGING SAMPLES IN AN OFFICE SETTING**
  - Ensure expiry date checks are completed routinely (monthly)
  - Must be labeled with:
    - patient name
    - clear instructions for use
    - Auxiliary labels (ie keep out of reach of children)
    - physician prescribing medication
    - location medication was dispensed/provided
    - Date provided and qty
  - Remember, samples do not make it to provincial health record or community pharmacy records
    - Smart cards help this somewhat

What should we do?

‘It is easy to take a righteous stance against physician-industry relationships

BUT

If we accept that we have a duty to our patients to act always in their best interests above our own, then we cannot in good conscience be shills for industry.’

Paul Lichter, MD
Ophthalmologist
Professor Emeritus
University of Michigan

Is There A Role For Industry In Our Current Healthcare system?

Samples

- Risk of over prescribing
- Funding and cost concerns for our patients

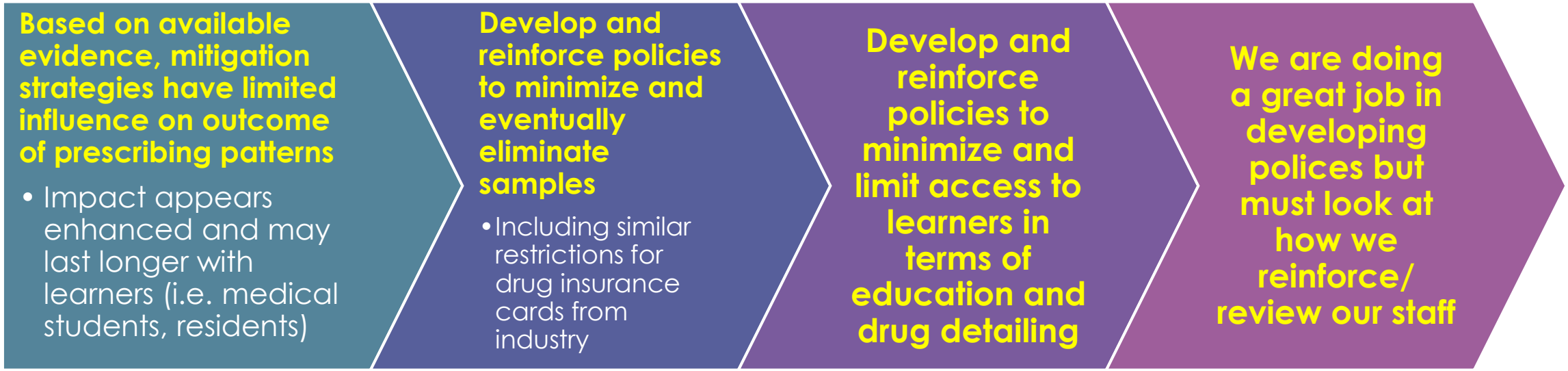
Education

- Risk of bias and lasting impact on our learners
- Potential bias in presentation of information
- Commonly used strategies to mitigate information bias are unlikely to be effective

Influence on practitioners and learners/students

- Learners unaware of influence of industry if not discussed and addressed and may be impacted more
- Unaware of our biases and impact on prescribing

Framework For Learners And Preceptors In Teaching Clinics And Industry Interactions



What should be contained in a Policy Related to Industry?

- Strict sample policy (or no samples)
  - If samples within clinic setting must be treated as if dispensed (same rules apply)
- Limit access to patient care areas
- Eliminate sponsored lunches in the workplace(no free lunches)
- Minimize industry sponsored/provided education in clinic settings
  - Be aware of the biased information
- If attending an industry sponsored event, consider reviewing the evidence before hand in a journal club style and debrief after event

When Samples are Accessible in Clinic…

Discuss exit strategies & sustainable prescribing for patient

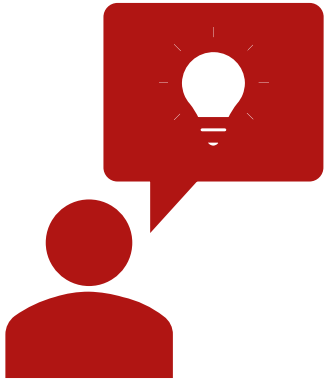
- Patient to seek out insurance plan (i.e. non-group blue cross, other coverage sources)
- Is there an equally effective, less expensive alterative we can prescribe
  - **In most cases this is an option!!**
- How do we decide who should receive samples?
  - financial need, new starts/trials?
- How do we ensure this is equitable and responsible?

Ensure expiry dates are routinely checked and drugs are stored in secure facilities

When dispensing, samples must follow legislated labeling requirements (same as if dispensed in a pharmacy)

- Instructions for use, patient name, prescriber's name, date dispensed and brand and generic name of medication

Potential Next Steps for YOUR Practice



Provide education regarding potential biases when interacting with industry and where to go for reliable and balanced information

- Didactic discussions through lunch and learn education sessions, grand rounds, etc.
- Review reliable sources of information – CDA drug summaries, HTA reports, PEER group, TOP guidelines, Therapeutic Initiatives, Best Science in Medicine podcast, etc.
- **Optional Field trip** – review literature on education topic, go to industry sponsored education event and then debrief as a group post event?

Strengthen clinic policies regarding samples

Strengthen clinic policies related pharmaceutical industry

- Review policies and with all staff (prescribing and non-prescribing)

How to Assess your Practice

Drug Samples – Questions to ask

- **Are they being equitably utilized?**
- **Are they medication you would normally prescribe?**
  - are samples influencing your choice of drug class or drug?
- **Exit strategy for patients**
  - Are you bridging until coverage?
  - What happens when the samples run out?

Drug Sample - Mitigation Ideas

- **Discuss the source of the issue with the patient**
  - Is this a cost issue?
    - Access to coverage – is there a provincial plan patient qualifies for?
  - Do we really need this drug?
    - Consider sustainable prescribing/deprescribing
  - Are there alternatives equally effective for the pt's condition?
    - At a lower cost? Covered by their insurance plan?
    - *NOTE: it most cases the answer is YES!!*
- **Are we managing samples appropriately?**
  - Expiry date checks, labelling the product to meet requirements

Patient Education

How long does it take to have a conversation about risk/benefits for patient requested prescribing

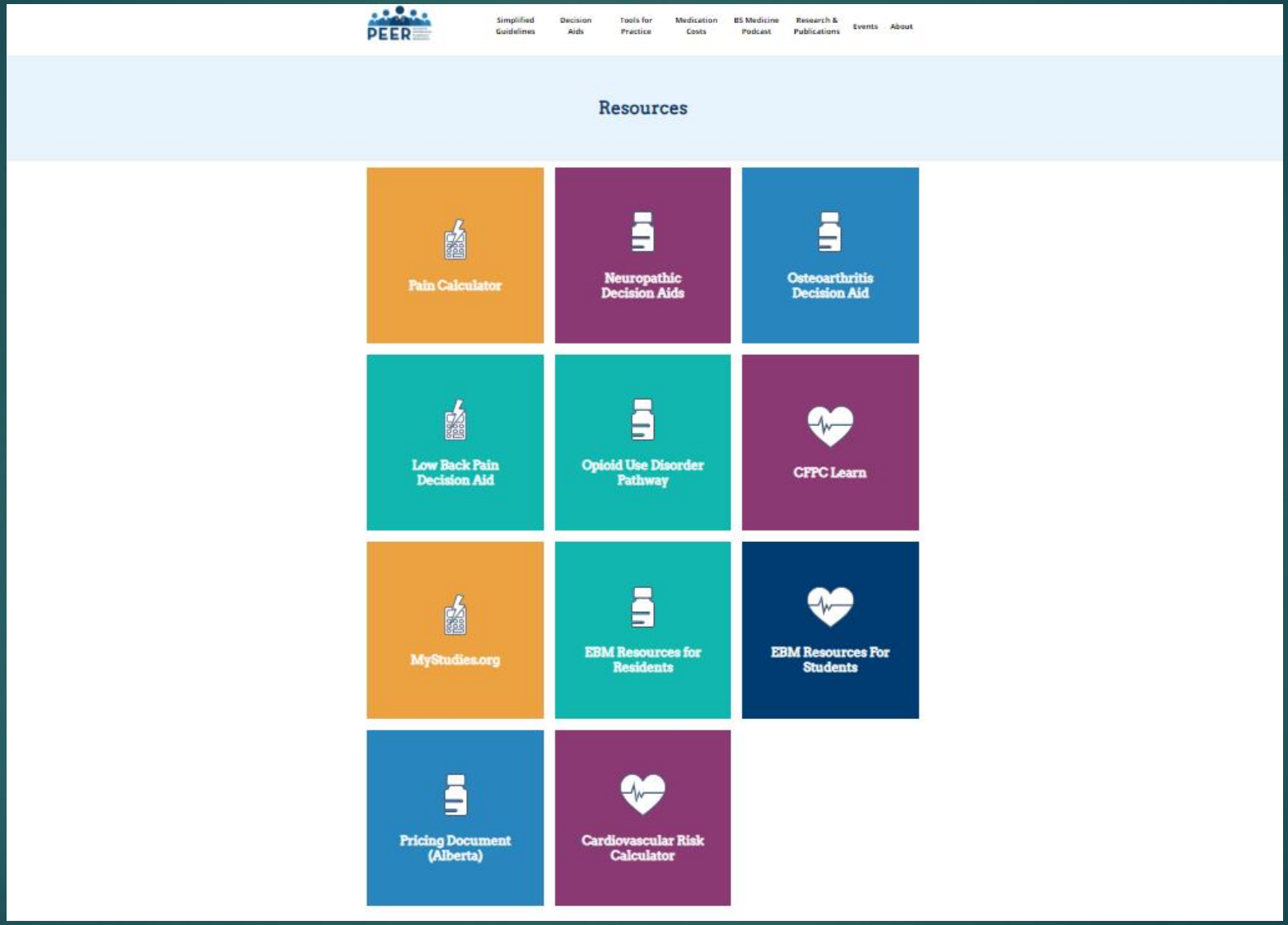
- i.e., Shingles vaccine
  - How much does marketing influence this?
- i.e., Weight management conversations

What do you have on your clinic walls?

- Weight chart posters, Vaccine related information
- Are they branded? What is the marketing strategy?

Patient oriented EBM resources

- Tim Caufield's U of A course – SCIENCE LITERACY
  - https://www.ualberta.ca/en/admissions-programs/online-courses/science-literacy.html
- Peer Clinical Decision-Making Tools
  - https://peerevidence.ca/physician-tools/



https://peerevidence.ca/physician-tools/

Bias Assessment for Evidence

Three quick questions to r/o evidence

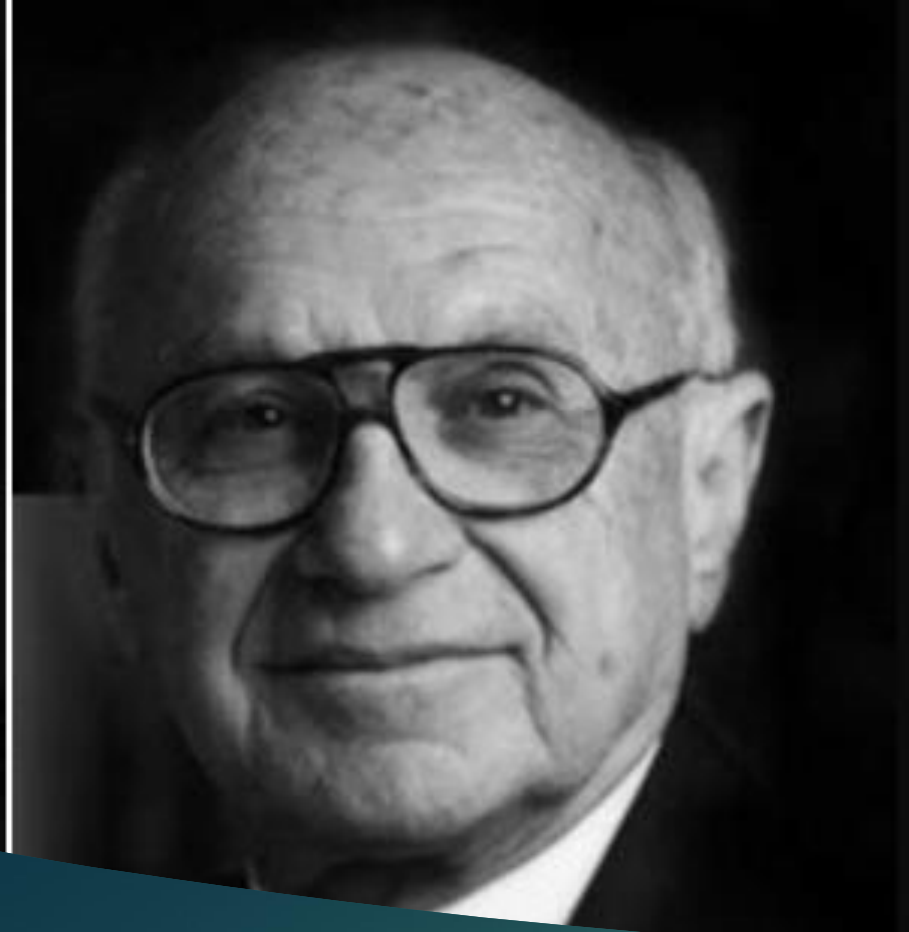
- **Who Sponsored of study?**
  - Source of funding (Industry, gov't, other?) - Be wary of third-party sources
- **Are Outcomes Important to Patients?**
  - Are they important to you or your patient?
  - Do not let industry tell you what are important outcomes
    - MRI changes to determine cognitive function, A1c to determine CV outcomes for DM
    - Uric Acid levels to measure gout, BMD for risk of osteoporosis fractures
- **Would your patient be included in the study?**
  - If not, then we are unsure of the benefits/harms
  - If not included **– then you as their physician are likely the highest form of evidence**

https://www.researchgate.net/figure/Hierarchy-of-research-designs-in-evidence-based-medicine-SR-Systematic-reviews-MA_fig3_314541488

EBM Resources

- **The study**
  - Takes approximately 1 hour of your time to review efficiently
  - May be worth your time if you get this question often
- **Examples of EBM resources for busy clinicians**
  - Therapeutics Initiative https://www.ti.ubc.ca/
  - PEER group https://peerevidence.ca/
  - Canada's Drug Agency (CDA-AMC) https://www.cda-amc.ca/
    - https://www.cda-amc.ca/reports
  - EBM Medicine Tool kit: https://www.aafp.org/pubs/afp/authors/ebm-toolkit.html
  - Others?

Polling questions



There's no such thing as a free lunch.

— Milton Friedman —

Discussion

Thank you for your time!

Questions? Comments? Discussion?

Feel free to reach out:
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Melanie.hnatiuk@ahs.ca

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