# Blogs, infographics and storytelling to get your message across, examples from Cochrane Work

Jani Ruotsalainen, ex-Managing Editor

# Communicating evidence

## Large scale – Dissemination

- from one to many
- mainly ”shotgun approach”


## Small scale – Practise of EBM

- from one to one
- focused, precise

# WHAT

## Content

# HOW

## Delivery method

# Ingredients of good communication

- LOGOS = Good content - e.g. a Cochrane review
- ETHOS = Credible source/medium - e.g. Cochrane Work (?)
- PATHOS = Arousing emotion - e.g. amusement, sadness, frustration
  - NB! Beware of click-baiting!

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## Blog

- Previous issues
- Blog

### Why ignore Cochrane systematic reviews? Our response to a systematic review published in the Lancet

We read with great interest but also with disappointment the systematic review by West et al. (1). According to the authors: “previous reviews of physician distress have been limited in their ability to inform these issues by … an absence of focus on physicians and burnout and inconsistent adherence to modern methodological systematic review...

April 7 2017

### Lessons from Seoul - From Cochrane reforms to eating live squid

I will try and make this more about useful things I learned and less of egotistical self-aggrandisement.Right then. You may or may not know that a Cochrane Colloquium is the annual meeting of the secret society known as Cochrane. Actually the meeting is a tightly packed combination of three things: 1) meetings of various Cochrane groups, teams,...

December 8 2016

# NORDIC-EBM

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A blog-laboratory on what works in healthcare

about

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The Zen of

## THE ZEN OF CREATING RELIABLE SCIENTIFIC EVIDENCE

November 4, 2015 - by Jani Ruotsalainen - Bookmark the permalink. - Edit


In a previous post I wrote how Evidence Based Medicine is akin to Islam in that it too rests on pillars. Three for EBM and five for Islam. Recently I realised that there is also an important facet of EBM in which the likeness is closer to Buddhism. And that is how we deal with the self that creates the evidence to feed EBM. You see, Buddhists go to quite some lengths to remove the annoyance that is the I with it's pesky thoughts and feelings. They also get to wear cool robes and sport aerodynamic hair cuts but that's beside the point. Same as those clever rock arrangements where you can never see all of them at once no matter how hard you try. That is also cool but even further beside the point. Let's leave most of the embellishments for now and concentrate on this

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Blunt versus sharp suture needles for preventing percutaneous exposure incidents in surgical staff Review information Review number: 010 Authors Annika Saarto1, Jos H Verbeek2, Marie-Claude Lavoie3, Manisha Pahwa4 1Finnish Institute of Occupational Health, Turku, Finland2Cochrane Work Review Group, Finnish Institute of Occupational Health, Kuopio, Finland3University of Maryland Baltimore, Baltimore, Maryland, USA4Dalla Lana School of Public Health, University of Toronto, Toronto, Canada Citation example: Saarto A, Verbeek JH, Lavoie M-C, Pahwa M. Blunt versus sharp suture needles for preventing percutaneous exposure incidents in surgical staff. Cochrane Database of Systematic Reviews 2011, Issue 11. Art. No.: CD009170. DOI: 10.1002/14651858.CD009170.pub2. Contact person Annika Saarto Finnish Institute of Occupational HealthLemminkäisenkatu 14-18 B20520 TurkuFinlandE-mail: annika.saarto@utu.fi Dates Assessed as Up-to-date: 01 May 2011 Date of Search: 23 April 2011 Next Stage Expected: 01 June 2017 Protocol First Published: Issue 6, 2011 Review First Published: Issue 11, 2011 Last Citation Issue: Issue 11, 2011 What's new Date / Event Description 15 March 2016Feedback incorporated We received a comment saying that our plain language summary made no reference to patient-relevant outcomes. Unfortunately none of the 10 studies included in our Cochrane review assessed patient-relevant outcomes such as wound infection or failure of operations. However, another Cochrane review evaluated different techniques for closing the abdominal wall and their effects on patient-relevant outcomes. They included one study that showed no statistical significant difference in wound infection at discharge when using blunt needles for abdominal closure, albeit the confidence interval was wide. This study was not included in our review because it did not measure needle stick injuries. Given the lack of evidence on patient-relevant outcomes, we think this issue is worth further study. We will take this issue better into account when we update this review. We will then revise all relevant sections of text accordingly. 08 May 2012Amended We changed risk ratios to rate ratios 27 February 2011Amended The original version of this protocol was published with the title: "Prevention of percutaneous injuries with risk of hepatitis B, hepatitis C, or other viral infections for health-care workers". However, it turned out that the scope was far too wide and would result in an unmanageable amount of studies for one review. Therefore the decision was taken to split the protocol into four new ones. The other three new titles are: "Devices to prevent needle recapping for preventing percutaneous exposure injuries in health care personnel", "Education and training for preventing percutaneous exposure injuries in health care personnel" and "Extra gloves versus a single pair of gloves for preventing percutaneous exposure injuries in healthcare personnel". History Date / Event Description Abstract Background Surgeons and their assistants are especially at risk of exposure to blood due to glove perforations and needle stick injuries during operations. The use of blunt needles can reduce this risk because they don't penetrate skin easily but still perform sufficiently in other tissues. Objectives To determine the effectiveness of blunt needles compared to sharp needles for preventing percutaneous exposure incidents among surgical staff. Search methods We searched MEDLINE and EMBASE (until May 2011), CENTRAL, NHSEED, Science Citation Index Expanded, CINAHL, Nioshtic, CISdoc, PsycINFO, and LILACS (until September 2010). Selection criteria Randomised controlled trials (RCTs) of blunt versus sharp suture needles for preventing needle stick injuries among surgical staff measured as glove perforations or self-reported needle stick injuries. Data collection and analysis Two authors independently assessed study eligibility and risk of bias in trials and extracted data. We synthesized study results with a fixed-effect model meta-analysis. Main results We located 10 RCTs involving 2961 participating surgeons performing an operation in which the use of blunt needles was compared to the use of sharp needles. Four studies focused on abdominal closure, two on caesarean section, two on vaginal repair and two on hip replacement. On average, a surgeon that used sharp needles sustained one glove perforation in three operations. The use of blunt needles reduced the risk of glove perforations with a relative risk (RR) of 0.46 (95% confidence interval (CI) 0.38 to 0.54) compared to sharp needles. The use of blunt needles will thus prevent one glove perforation in every six operations. In four studies, the use of blunt needles reduced the number of self-reported needle stick injuries with a RR of 0.31 (95% CI 0.14 to 0.68). Because the force needed for the blunt needles is higher, their use was rated as more difficult but still acceptable in five out of six studies. The quality of the evidence was rated as high. Authors' conclusions There is high quality evidence that the use of blunt needles appreciably reduces the risk of exposure to blood and bodily fluids for surgeons and their assistants over a range of operations. It is unlikely that future research will change this conclusion. Plain language summary The use of blunt needles compared to sharp needles for preventing needle stick injuries in surgical staff Surgeons and their assistants are especially at risk of needle stick injuries during operations. This can lead to infection with HIV or other blood-borne viruses. The use of blunt needles is proposed to prevent needle stick injuries. We reviewed the literature to evaluate the preventive effect of blunt needles compared to sharp needles on needle stick injuries among surgical staff. We searched multiple medical databases (to May 2011). We included studies if they were randomised controlled trials (RCTs) of blunt versus sharp suture needles for preventing needle stick injuries among surgical staff. We located 10 RCTs with 2961 operations in which blunt needles were compared to sharp needles. Six studies focused on abdominal operations, two on vaginal repair and two on hip replacement. On average, a surgeon that used sharp needles sustained one glove perforation per three operations. The use of blunt needles reduced the risk of glove perforations by 54% (95% confidence interval 46% to 62%) compared to sharp needles. The use of blunt needles in six operations will thus prevent one glove perforation. In four studies the use of blunt needles also reduced the number of self-reported needle stick injuries by 69% (95% confidence interval 14% to 68%). Even though surgeons reported that the force needed for the blunt needles was higher, their use of the needles was still rated as acceptable in five out of six studies. We concluded that there is high quality evidence that the use of blunt needles appreciably reduces the risk of contracting infectious diseases for surgeons and their assistants over a range of operations by reducing the number of needle stick injuries. It is unlikely that future research will change this conclusion. Background Healthcare workers are at risk of acquiring infectious diseases through exposure at work. Exposure to blood or bodily fluids from infected patients can lead to infection with hepatitis B (HBV), hepatitis C (HCV) and HIV, among other pathogens. These are serious viral infections that may cause a chronic disease process or initiate cancer and eventually lead to death. According to the model of Pruss-Ustun et al, 16,000 HCV, 66,000 HBV and 1000 HIV infections may have occurred worldwide among healthcare workers in the year 2000 due to their occupational exposure to blood and bodily fluids (Pruss-Ustun 2005). The World Health Organization (WHO) reports that two million healthcare workers across the world experience percutaneous exposure to infectious diseases each year (WHO 2007). The operating room is a special environment in the healthcare setting with a high risk of sharps injuries (Watt 2008; Watt 2010). Description of the condition The risk of acquiring an infection is proportional to the prevalence of the infection in the patient population. Thus, in areas where hepatitis B is endemic and HIV is prevalent, such as in Africa, the risks are much higher than in Western Europe or North America. This situation has a significant impact on the health of the workers and also on the healthcare system as a whole. The transmission of occupational blood-borne infectious diseases leads to absenteeism, morbidity and, in some cases, mortality among healthcare workers, which ultimately leads to a reduction in workforce and consequently affects patients' quality of care and safety. Because of the risk of acquiring an infectious disease at work, healthcare workers may also suffer from psychological stress, which affects both their work and personal life (Fisman 2002; Sohn 2006). There is also the financial burden imposed on hospitals due to occupational exposure to blood-borne diseases, which includes costs related to blood tests, treatment, outpatient visits and lost working hours. Description of the intervention Exposure to blood or bodily fluids is also called percutaneous exposure and happens most often when healthcare workers are injured with sharp needles or instruments, or when blood or body fluids are splashed during medical interventions or accidents. These incidents are called sharps or needle stick injuries, or percutaneous exposure incidents (PEI). The actual causes of a PEI are multi-factorial and include elements such as, but not limited to, types of devices and procedures, lack of access to or availability of personal protective equipment for the healthcare workers, sub-optimal use of personal protective equipment, professional inexperience and lack of training and education on infection control and occupational health principles, improper management of sharps, poor organisational climate, high workload and fatigue, working alternative shifts, and high mental pressure and subjective perception of risk (Akduman 1999; Ansa 2002; Clarke 2002; Doebbeling 2003; Fisman 2007; Ilhan 2006; Oh 2005; Orji 2002; Roberts 1999; Smith 2006; Smith 2006b; Wallis 2007). Most of these causes can be addressed by specific interventions. In the operating theatre, one of the specific risks is a needle stick injury caused by suture needles. This accounts for more than half of all percutaneous injuries that occur in the operating room (Meyers 2008). Also, according to the American College of Surgeons, suture needles pose the greatest risk of sharp injuries to surgeons and scrub personnel (ACS 2011). The reporting of these injuries in surgical settings remained quite stable in the US between 1993 and 2003, in spite of the introduction of legislation requiring the use of safety-engineered sharp devices in 2000. The lack of adoption of safer devices such as blunt suture needles is blamed for the lack of improvement (Jagger 2008; Jagger 2011). How the intervention might work There are several possibilities to prevent infection from PEI. For hepatitis B, vaccination has been successful (Chen 2005) but vaccination is not yet possible for HCV or HIV (Mast 2004). Therefore, exposure reduction remains the main preventive strategy. In general, there are several ways of reducing or eliminating exposure, such as elimination of hazards at the source (for example, elimination of unnecessary injections) or along the path (for example, safer medical devices or workplace practices, use of personal protective equipment) (Ellenbecker 1996; Roelofs 2003). For surgical staff, the prevention of sharp injuries related to sharp suture needles could be overcome by using blunt or taper point needles (ACS 2011; Monz 1991; NIOSH 2008). There is also evidence from laboratory studies that gloves give better protection against punctures with tapered needles than with sharp needles (Lefebvre 2008). Why it is important to do this review Blunt needles have been advocated for a long time (Wright 1993). It is important to know if this preventive intervention is effective. Some studies indicate that blunt needles would reduce PEIs by more than 50% without leading to less operative dexterity, whereas others argue that blunt needles simply don't work (Nordkam 2005; Wilson 2008). However, there is currently no review that gives a systematic summary of the available evidence on the effectiveness of blunt needles. Objectives To determine the effectiveness of blunt needles compared to sharp needles for preventing percutaneous exposure incidents among surgical staff. Methods Criteria for considering studies for this review Types of studies Randomised clinical trials (RCTs) and cluster-randomised trials (c-RCTs). Types of participants Persons working in the operation theatre that are exposed to the risk of percutaneous injuries with suture needles. Types of interventions Blunted suture needles compared to sharp needles. We defined blunt needles as suture needles that have a rounded blunt point and that are circular in diameter and that can be either curved or straight. Sharp needles are suture needles that have a tapered point and that can be either circular in diameter or square with cutting edges and that can be either curved or straight. Types of outcome measures Primary outcomes Exposure of healthcare workers to contaminated blood or bodily fluids was our primary outcome measure. Exposure can be observed either as self-reported needle stick injury or glove perforations. Many needle stick injuries and glove perforations are not noticed by the surgeon. A glove perforation means that the skin is exposed to blood or bodily fluids. A needle stick injury means that the skin has been perforated and the wound has been exposed to blood or bodily fluids. A needle stick injury is therefore a more serious exposure than a glove perforation. The occurrence is, however, proportional. In other words, an increase in glove perforations will be accompanied by an increase in percutaneous needle stick injuries. Therefore, we took both occurrences as a measure of outcome. Because it is easy for glove perforations to go unnoticed in situ, the perforations must be observed by means of a water or air test. In the water test the gloves are filled with water and the release of a jet-stream of water is taken as a sign that there is a hole in the glove. In the air test, the gloves are filled with air and then submersed in water and air bubbling up to the surface indicates a hole in the glove. The combination of both tests was shown to detect all glove perforations that were made on purpose with 19, 21 and 23 gauge needles (Smith 1988; Smith 1990). The water test has been reported to detect only 80% of holes made on purpose (Brough 1988). For needle stick injuries, there are no objective tests so we took all self-reports of needle stick injuries as an outcome. Secondary outcomes We included satisfaction with, or ease of use of, the needles. Search methods for identification of studies The search was part of a larger search for all interventions to prevent PEI in healthcare personnel and was intended to also include non-randomised studies as we also searched for interventions that are more difficult to randomise such as safe work practices. Electronic searches First, search terms for PEI were applied. These terms for PEI were then combined with the recommended search strings for randomised trials and for non-randomised studies. For randomised clinical trials and controlled clinical studies, we used the search strategy that has been developed by Robinson and Dickersin (Robinson 2002). For finding non-randomised studies we used the sensitive search strategy for occupational health intervention studies (Verbeek 2005). The strategy was used to search MEDLINE, EMBASE, Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library) and the Occupational Safety and Health Review Group Specialised Register, NHSEED, Science Citation Index Expanded, CINAHL, Nioshtic, CISdoc, LILACS and PsycINFO (up until September 2010). The search strategies for the databases are described in Appendix 1. We did an additional search for the blunt needle intervention in MEDLINE and EMBASE (up until 27 April 2011), which we detail in Appendix 2. Searching other resources We searched the databases of the WHO, UK National Health Service (NHS) and www.med.virginia.edu/epinet. In addition, we checked the references of the included articles. Data collection and analysis Selection of studies Using the inclusion and exclusion criteria, two authors working independently screened the identified titles and abstracts of the references that resulted from the search strategy for potential studies. We obtained the full-text articles of the references that appeared to meet the inclusion criteria. Disagreements between authors were resolved by discussion. A third author (JV) was consulted if disagreements persisted. Data extraction and management Two authors independently extracted the data into a form. The form included essential study characteristics about the participants, the interventions, primary and secondary outcomes and results. We also intended to note any adverse events and the sponsorship of the study, but none were reported. The risk of bias of the studies was also independently assessed by two authors. In case of disagreements, a consensus method was used to come to a conclusion. A third author was consulted if disagreement persisted. We did not mask trial names because we feel that this would not increase validity. Assessment of risk of bias in included studies For the assessment of risk of bias in studies, we applied the risk of bias tool as provided in RevMan. We used the items on randomisation, allocation concealment, blinding of participants and outcome assessors, incomplete outcome data and selective outcome reporting, as described in the Cochrane Handbook for Systematic Reviews of Interventions (Higgins 2011). Studies that had more than four out of the seven items rated as low risk of bias were rated as having low risk of bias, following the advice of the Cochrane Back Review Group (Furlan 2009). Measures of treatment effect Authors reported the outcome of their studies in many different ways. We assumed that the most valid estimate of the risk of exposure for a member of the operating staff was provided by the number of holes in gloves used by one surgeon or one assistant during one operation. It would have been more precise if 'operation' could have been defined as 'the number of hours engaged in an operation of average difficulty', comparable to a number of person-years at risk, but the data were not sufficient to calculate this. We intended to treat the results of all trials as being dichotomous, even though needle stick injuries can be sustained more than once, because the resulting risk ratios are easier to interpret. However, the perforation rates in some studies were so high that the use of risk ratios was not feasible anymore. Therefore we calculated the natural logarithm (ln) of the rate ratios and their standard errors from the number of glove perforations and the number of surgeon-operations in an Excel sheet, as recommended by the Cochrane Handbook (Higgins 2011). The ln rate ratios and the standard errors were used as input in RevMan where we combined them using the generic inverse variance method. Unit of analysis issues We intended to calculate the design effect for studies that employed a cluster-randomised design but that did not make an allowance for the design effect. In six studies the unit of randomisation was the operation but the outcome was measured for one surgeon only. Therefore we assumed that there was no unit of analysis issue in these cases. In four studies

Työterveyslaitos

# BLUNT NEEDLES = HALF THE RISK

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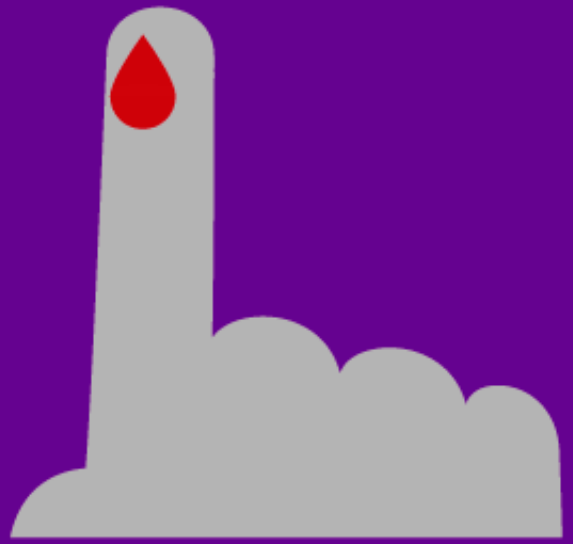
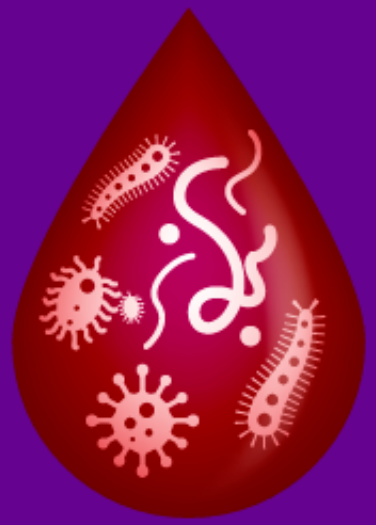


Every day near
**5,5 thousand**

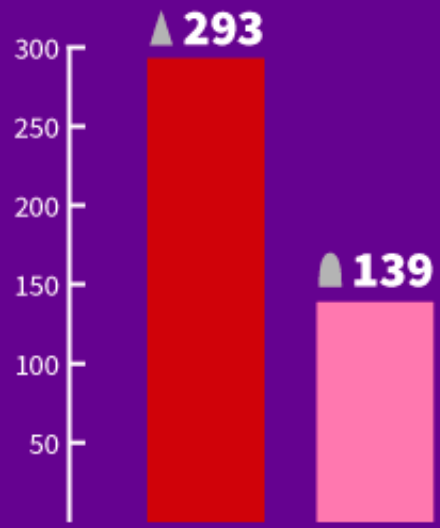
healthcare workers have percutaneous exposure to infectious diseases.



One drop of blood
can contain
**5 billion**
virus particles.

**HIV** can be transmitted

even when viral load in blood is below what can be detected.




**139** glove perforations per surgeon per 1 000 operations

The risk
of glove perforation
decreases by more than
**50 %** when using
**blunt needles.**




# Tweet, tweet + blogshot, or tweet + picture: results from a Twitter pilot study

NOVEMBER 30, 2016 / JANI RUOTSALAINEN / 4 COMMENTS / EDIT

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Return to work after depression: Cochrane Work webinar recording

123 näyttökertaa

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# Podcast: Förebyggande av arbetsrelaterad stress bland Hälso- och sjukvårdspersonal

***Jag heter Charlotte Wåhlin och jag arbetar som ergonom och forskare vid Arbets- och miljömedicin i Linköping, Region Östergötland.***

***Cochrane Library tillhandahåller olika systematiska översikter för att samla kunskap om evidensbaserade åtgärder som på bästa sätt kan hjälper patienter. Översikterna ska även vara en guide för de som arbetar inom hälso- och sjukvården.***

***Det här är en svensk översättning av en systematisk genomgång som har titeln* Preventing occupational stress in healthcare workers.**

0:00 5:50

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  - Focus your energy on the contents
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- 4. Keep the text short and sweet
  - Include links to longer texts, such as Cochrane reviews
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# If we had an unlimited budget…

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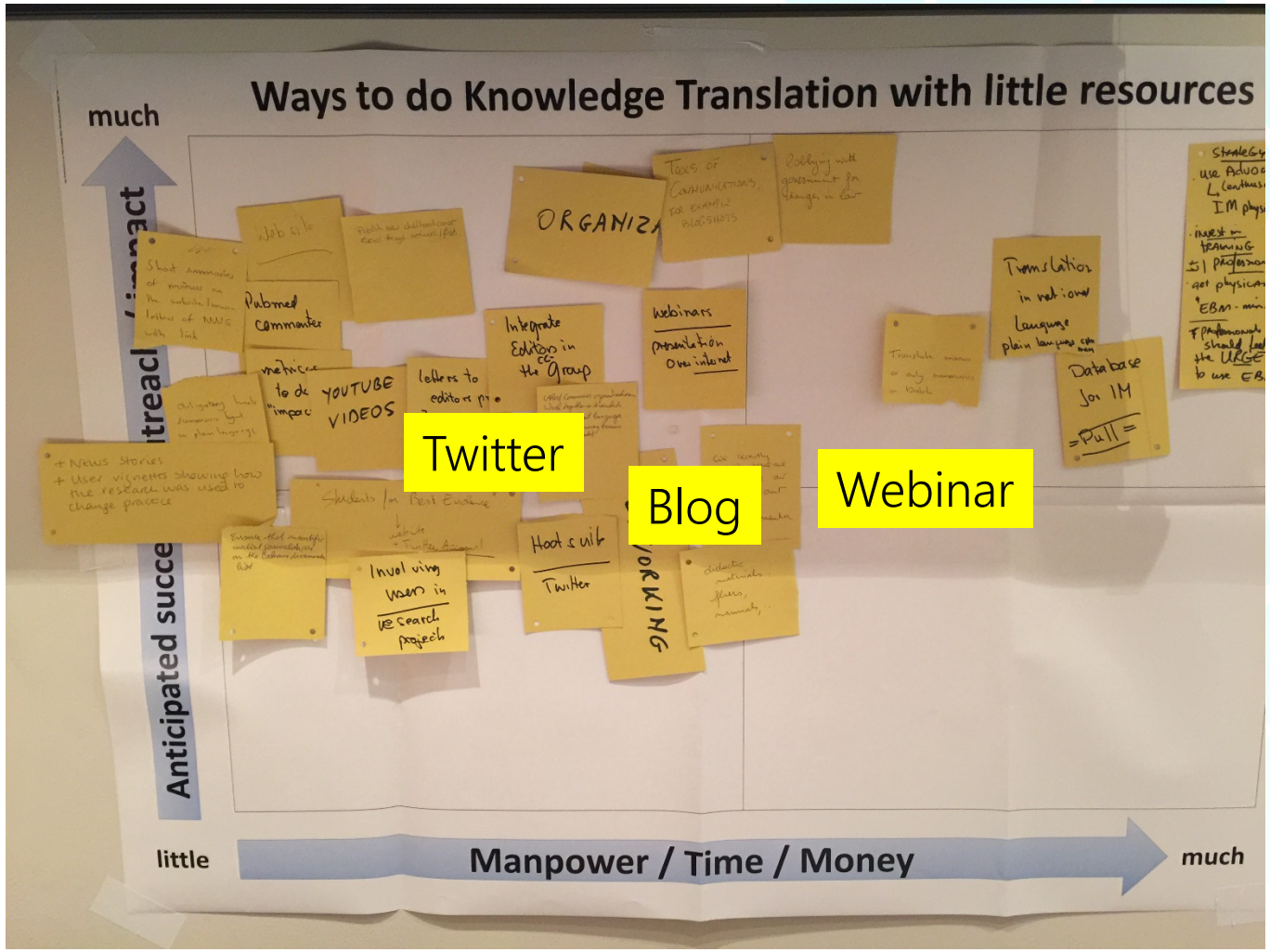
# Good to continue discussion on what and how

Anticipated success / outreach / impact




Workshop in GES, Cape Town titled: How to do knowledge translation without money

# Finally

- Many exciting novel communication tools are available
- Same rules of rhetoric and human psychology still apply
- Good content is more important than ever to fight post-truths!
- Read Cochrane PLS, listen to podcasts, follow us on Twitter
- Communication need not be one-way
  - Great way to collaborate: social media, joint blogs, translation, etc.
  - All of what we showed here you can do yourself!

# *Thank you!*

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