How and when to update a clinical practice guideline

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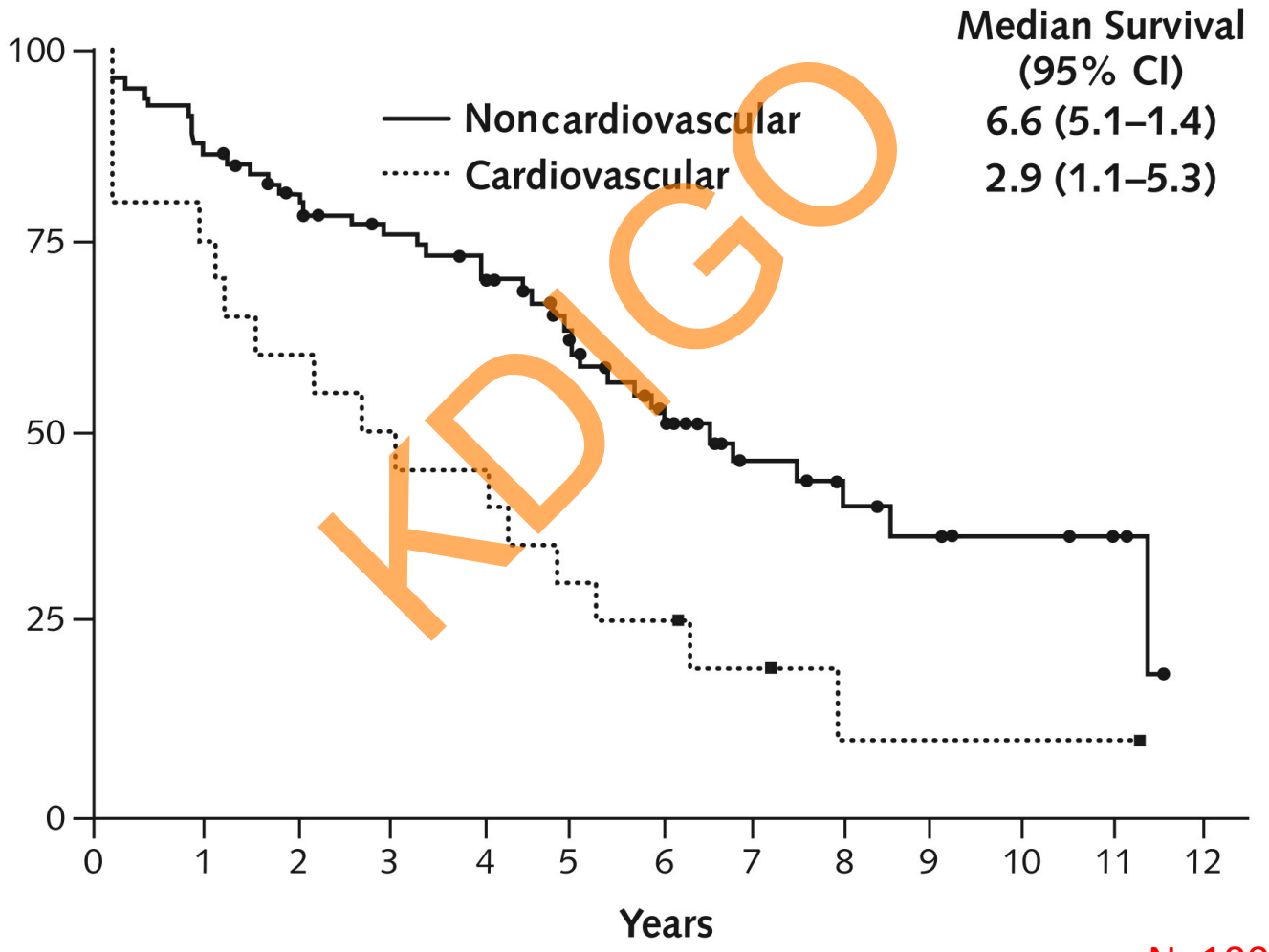
Guidelines have a “best before date”

Timeline for 2009 KDIGO CKD-MBD CPG

Mar 2006	Generate PICOD questions
Jun 2006	1st WG Meeting: September 11-12, 2006
Sept 2006	Finalize literature search parameters: PICOD Population Intervention Comparator Outcomes Duration
Dec 2006	
Mar 2007	2nd WG Meeting: March 6-7, 2007 Begin literature review
Jun 2007	
Sept 2007	3rd WG Meeting: October 3-4, 2007
Dec 2007	Craft guideline statements & complete lit review
Mar 2008	4th WG Meeting: March 3-4, 2008
Jun 2008	Consensus on strength of GL statement, evidence & wording
Sept 2008	Public Review: August 2008
Dec 2008	5th WG Meeting: Jan 19-20, 2009
Mar 2009	Consensus on GL revisions based on public feedback
Jun 2009	
Aug 2009	Publication

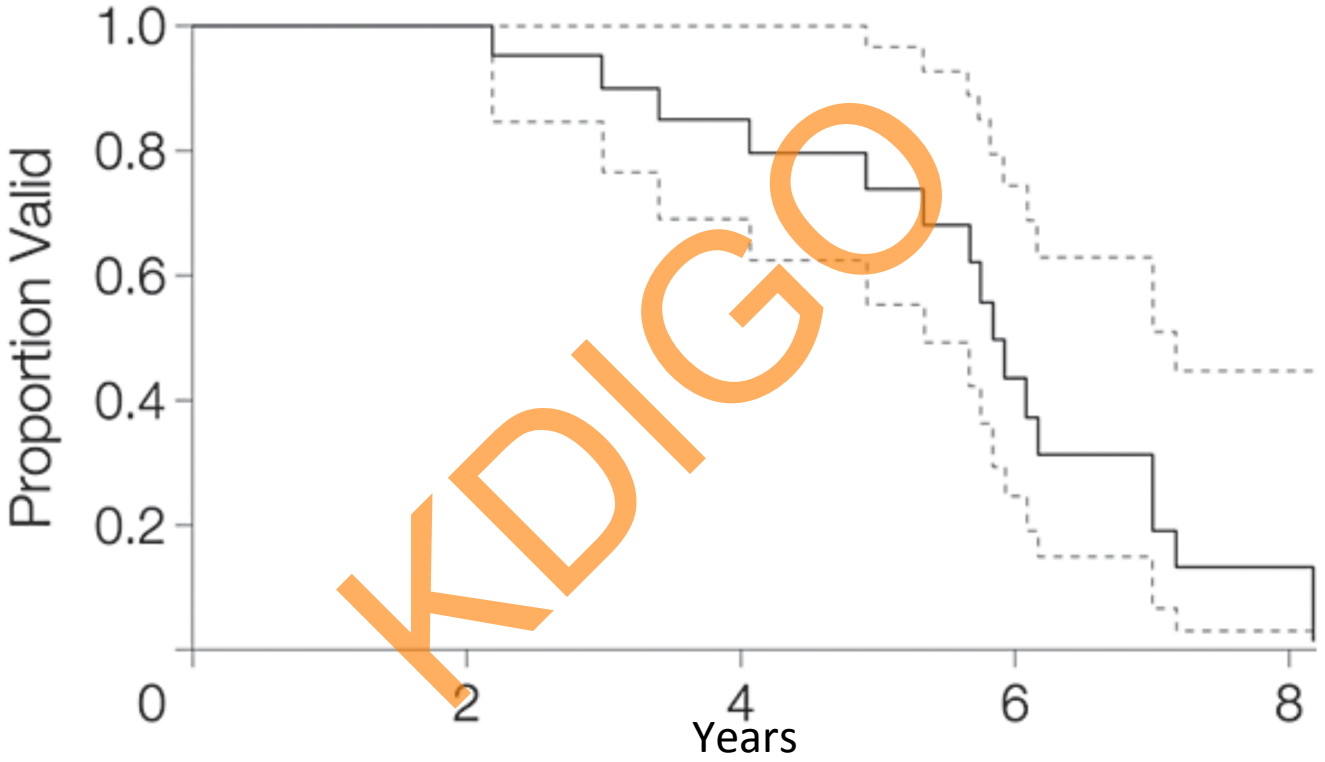
How long does it take before systematic reviews are out of date?



N=100

Shojania, Ann Intern Med 2007

How long does it take before CPG are out of date?

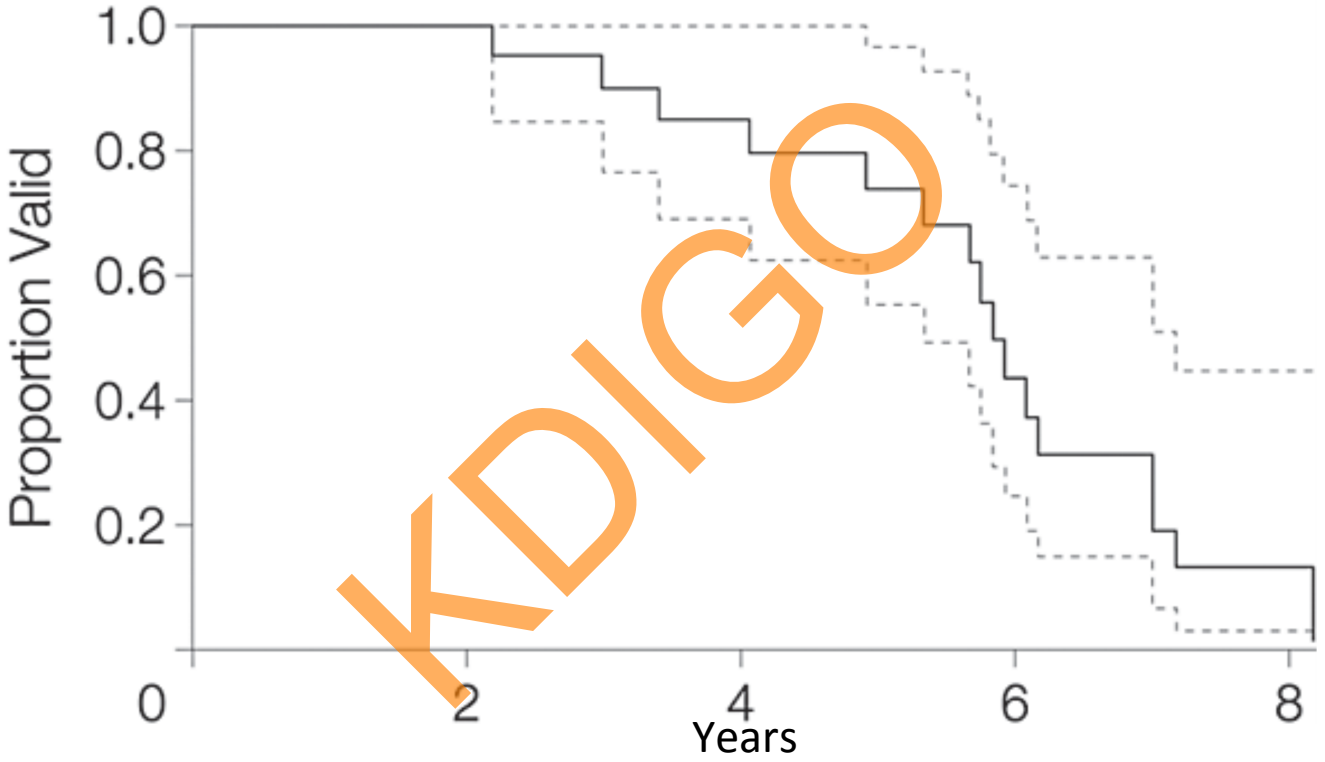


% of Guidelines Still Valid	Time (95% Confidence Interval), y
90	3.6 (2.6, 4.6)
80	4.4 (3.5, 5.3)
50	5.8 (5.0, 6.6)

Time since completion (1y before publication)

Shekelle, JAMA 2001

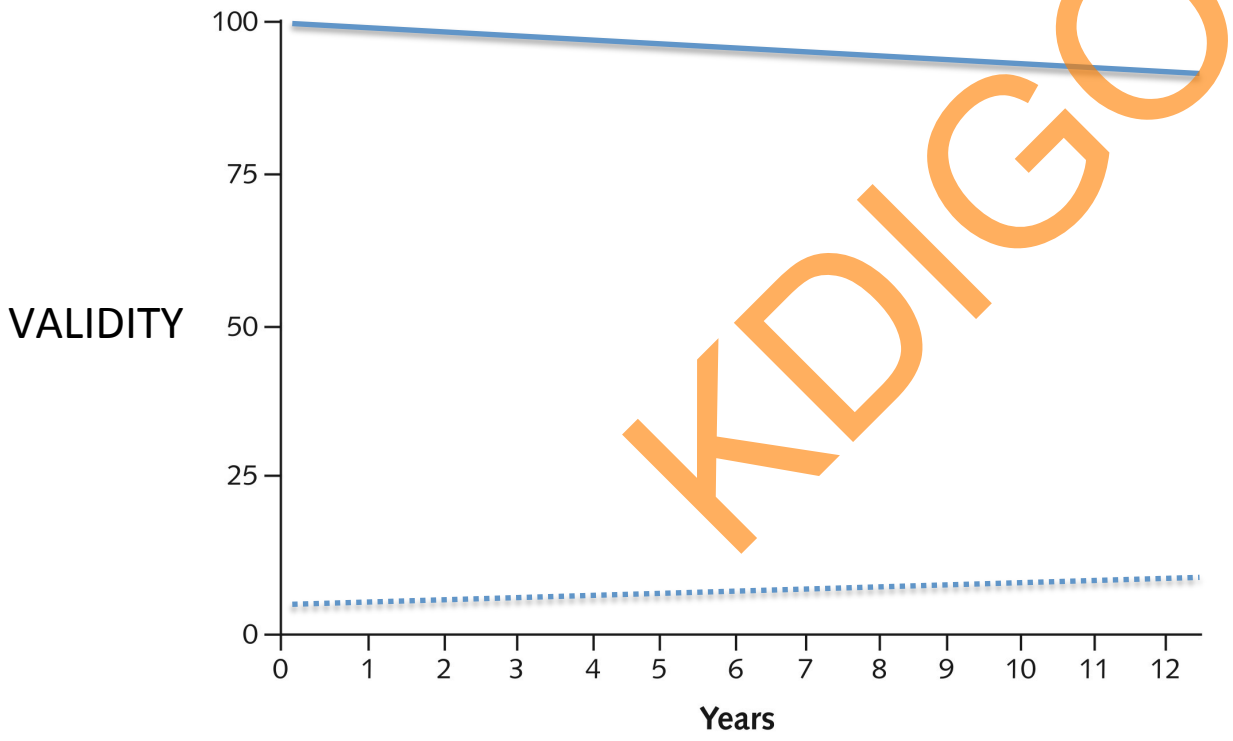
How long does it take before CPG are out of date?



survival appears shorter for broader guidelines
e.g evaluation and care of CHF vs management of otitis media with effusion

Shekelle, JAMA 2001

What about guidelines on nephrology topics?



optimist: our guidelines don't change quickly

pessimist: our guidelines weren't valid in the first place

When do CPG need updating?

special challenge for virtual organizations

Revising a recommendation simply because you don't agree with it is not really appropriate!

Shekelle, BMJ 2001

When do CPG need updating?

When there have been changes in:

- available interventions

These considerations imply a variable lifespan for CPG

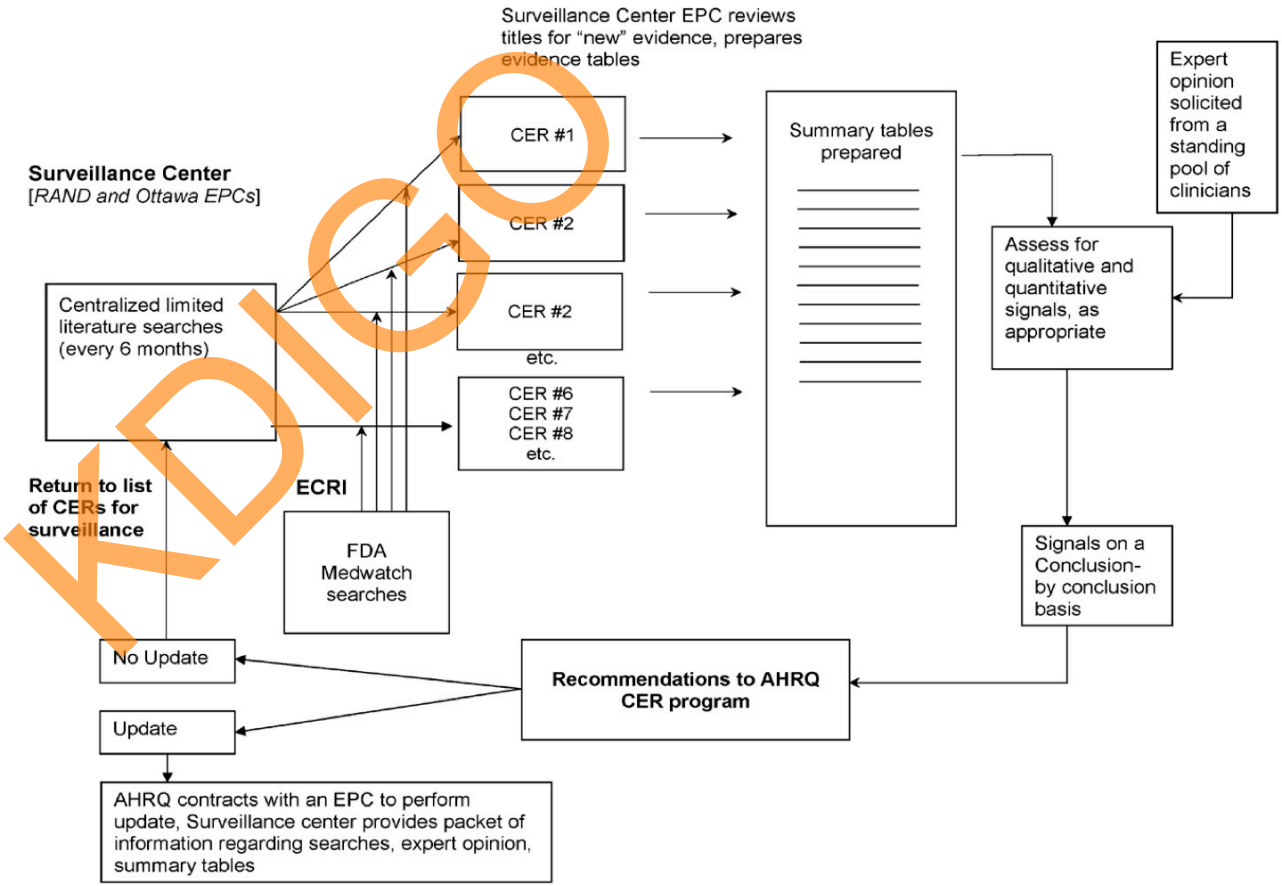
(some last longer than others)

- resources available for healthcare

Shekelle, BMJ 2001

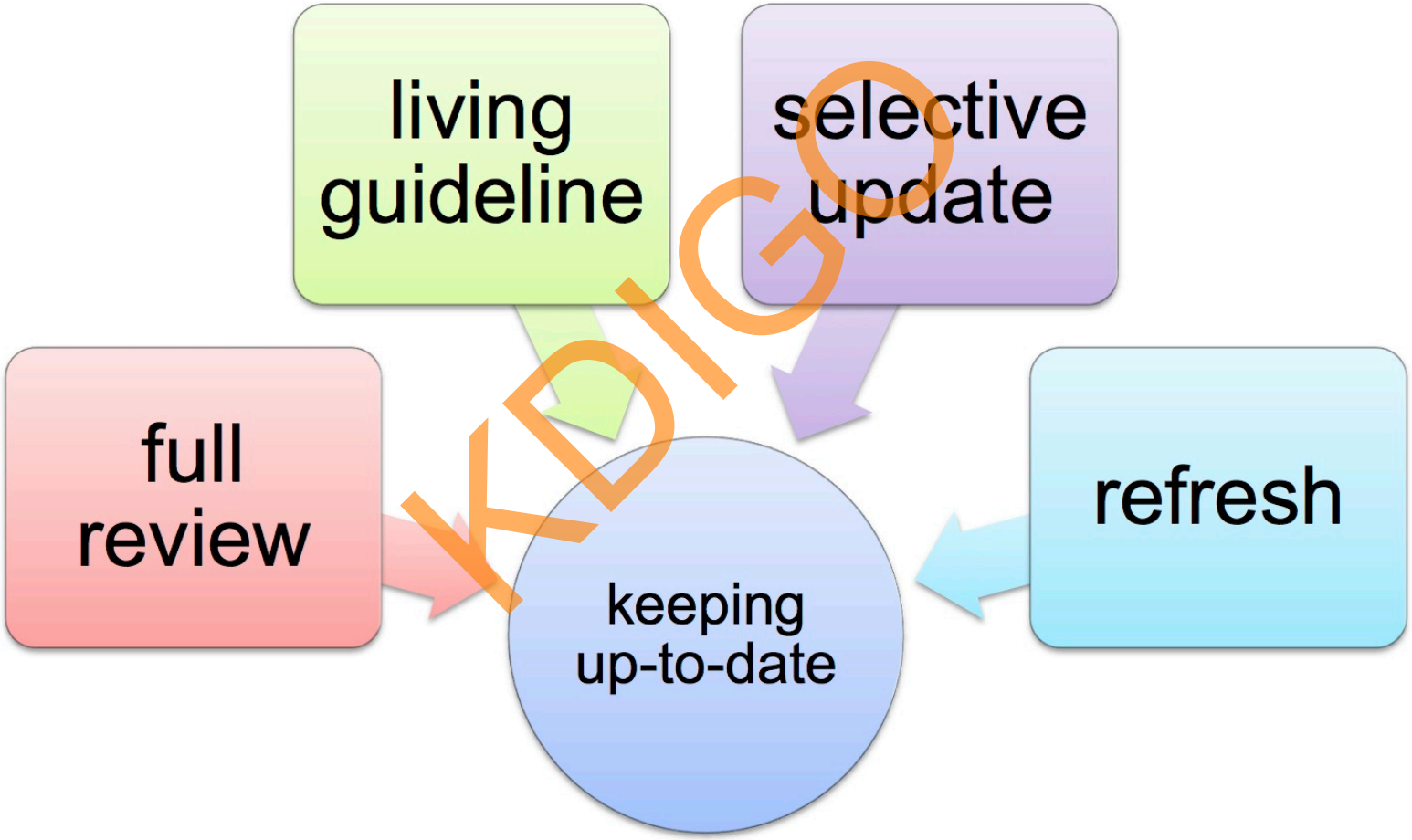
How do you know if a guideline needs updating?

- Scheduled rev
- Ongoing surve
  - (reasonable a
- Ad hoc revisio



Slide adapted from Paul Shekelle

What are the options for updating CPG?



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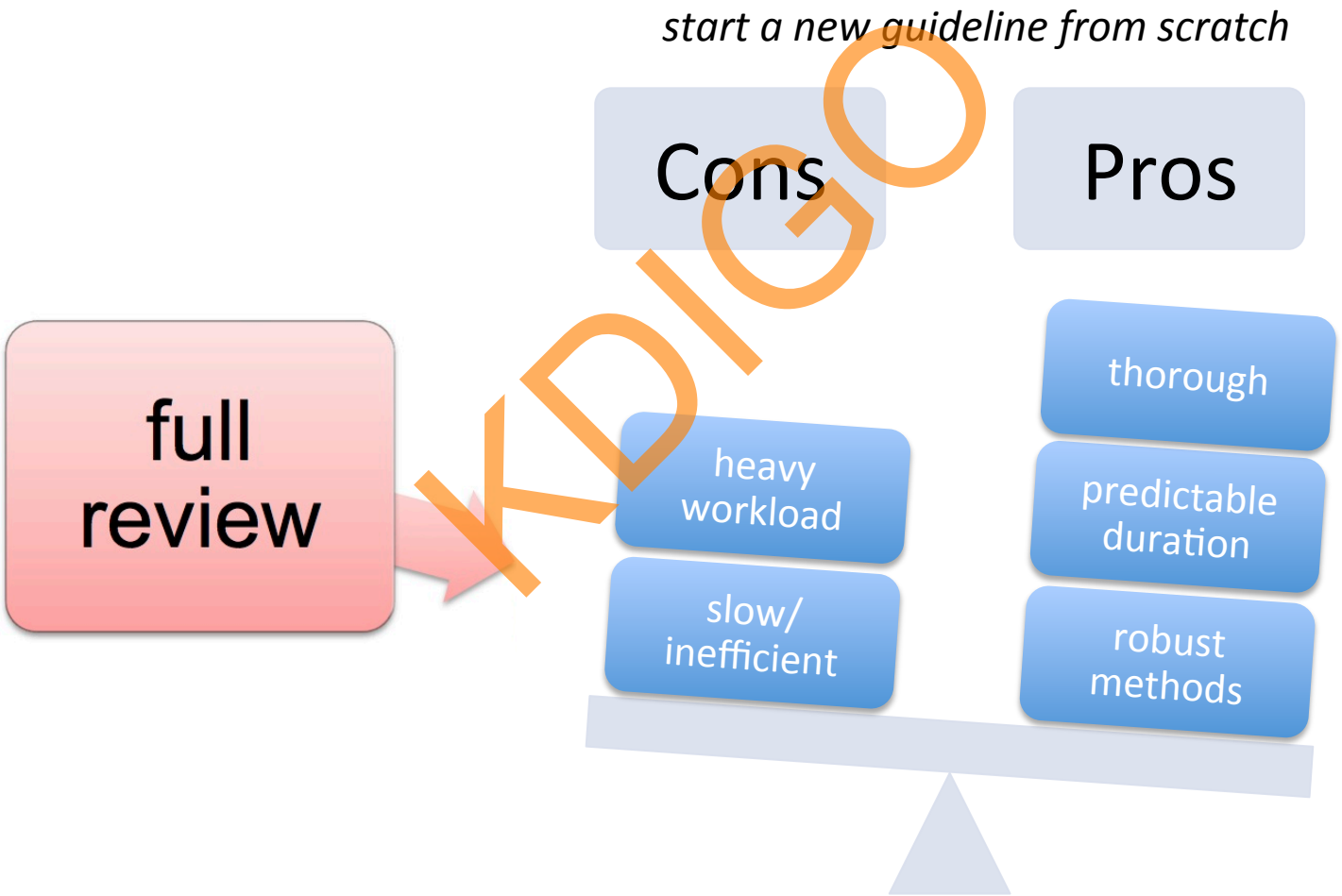

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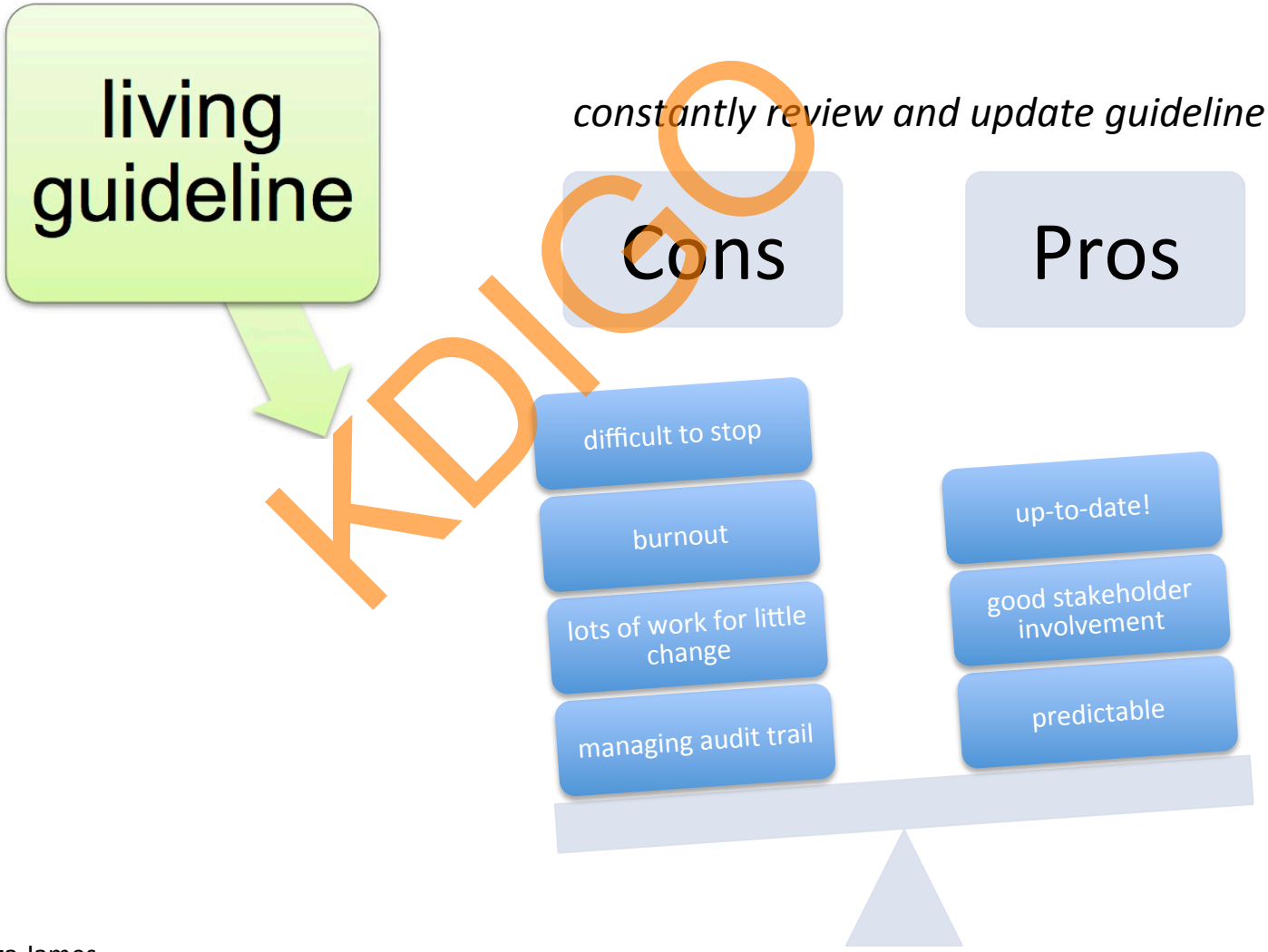
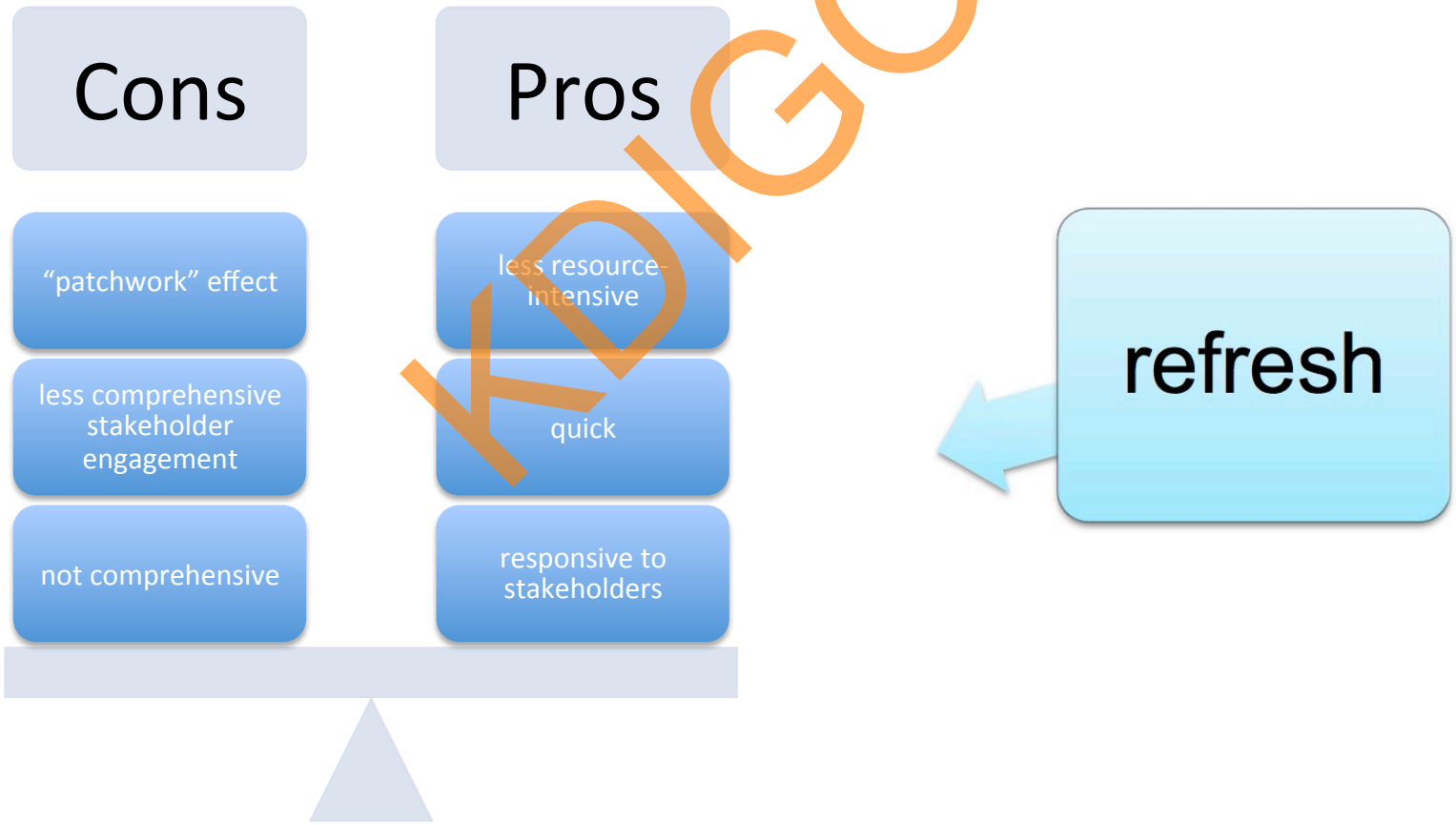


Slide adapted from Roberta James

What are the options for updating CPG?

quick update (within 6 months) for big ticket change

- new evidence affecting ≤2 key questions or
- policy/licensing change that affects entire CPG and
- small CPG group



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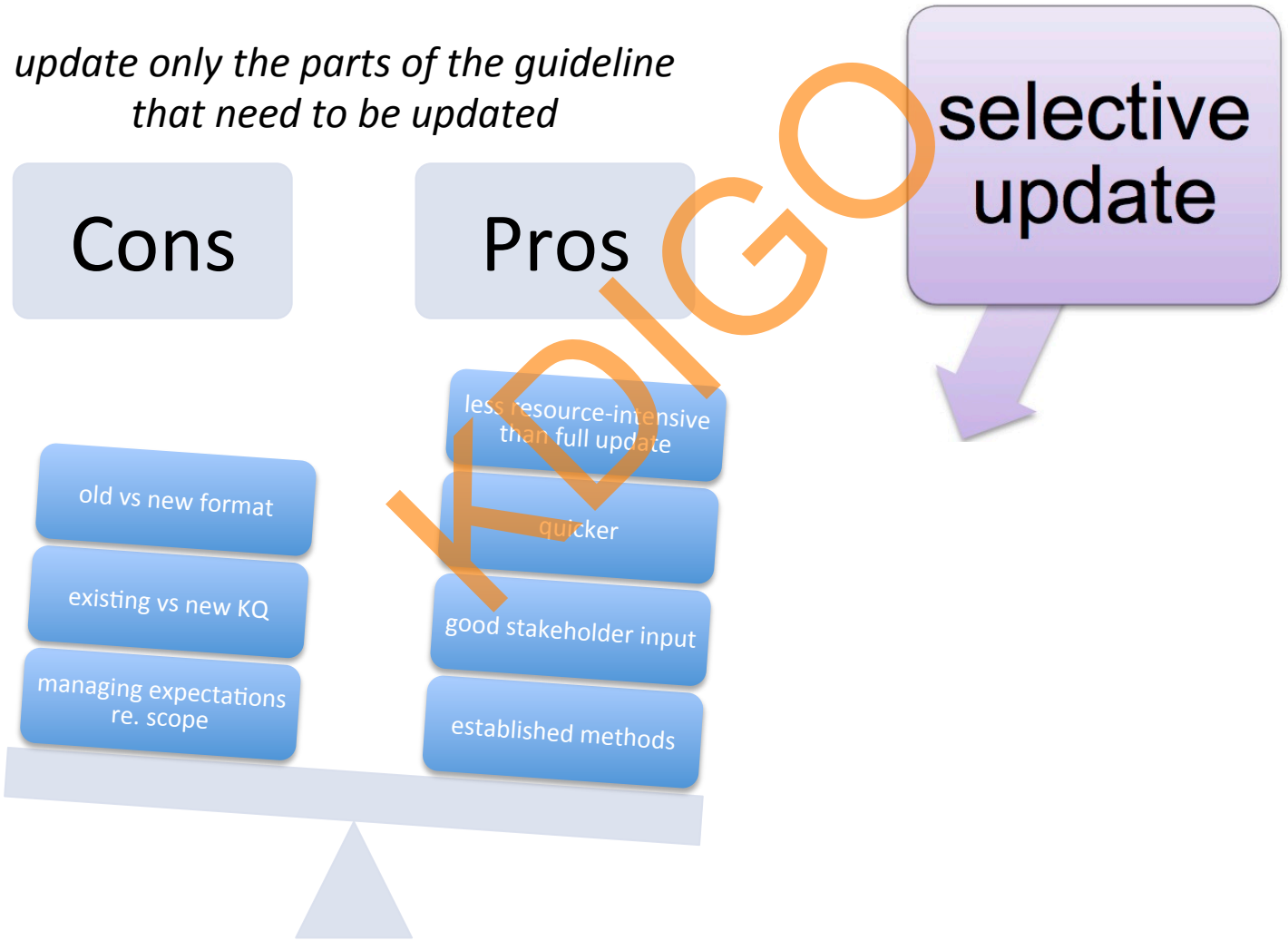

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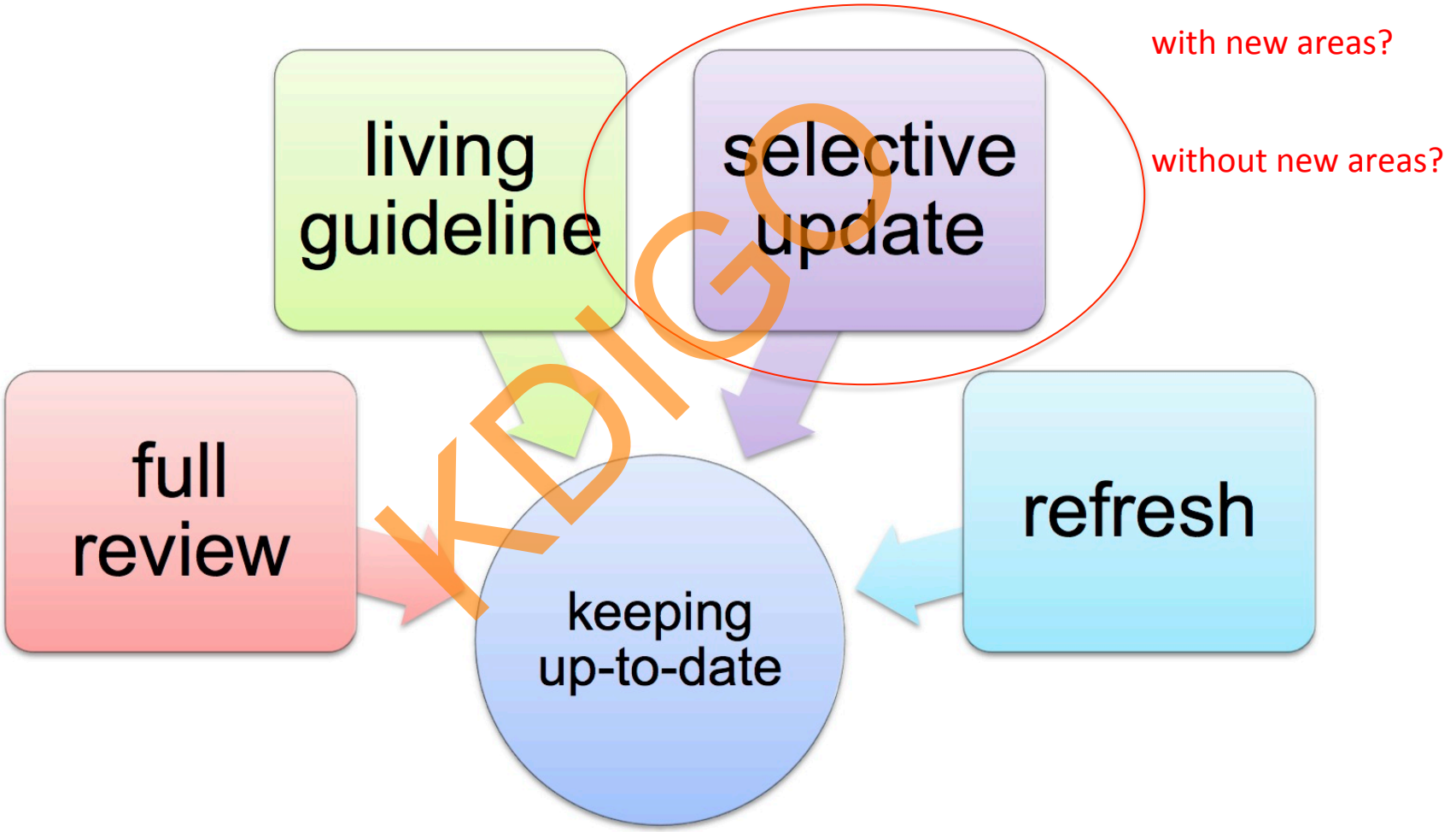


Slide adapted from Roberta James

Once you've decided which approach to take, what next?

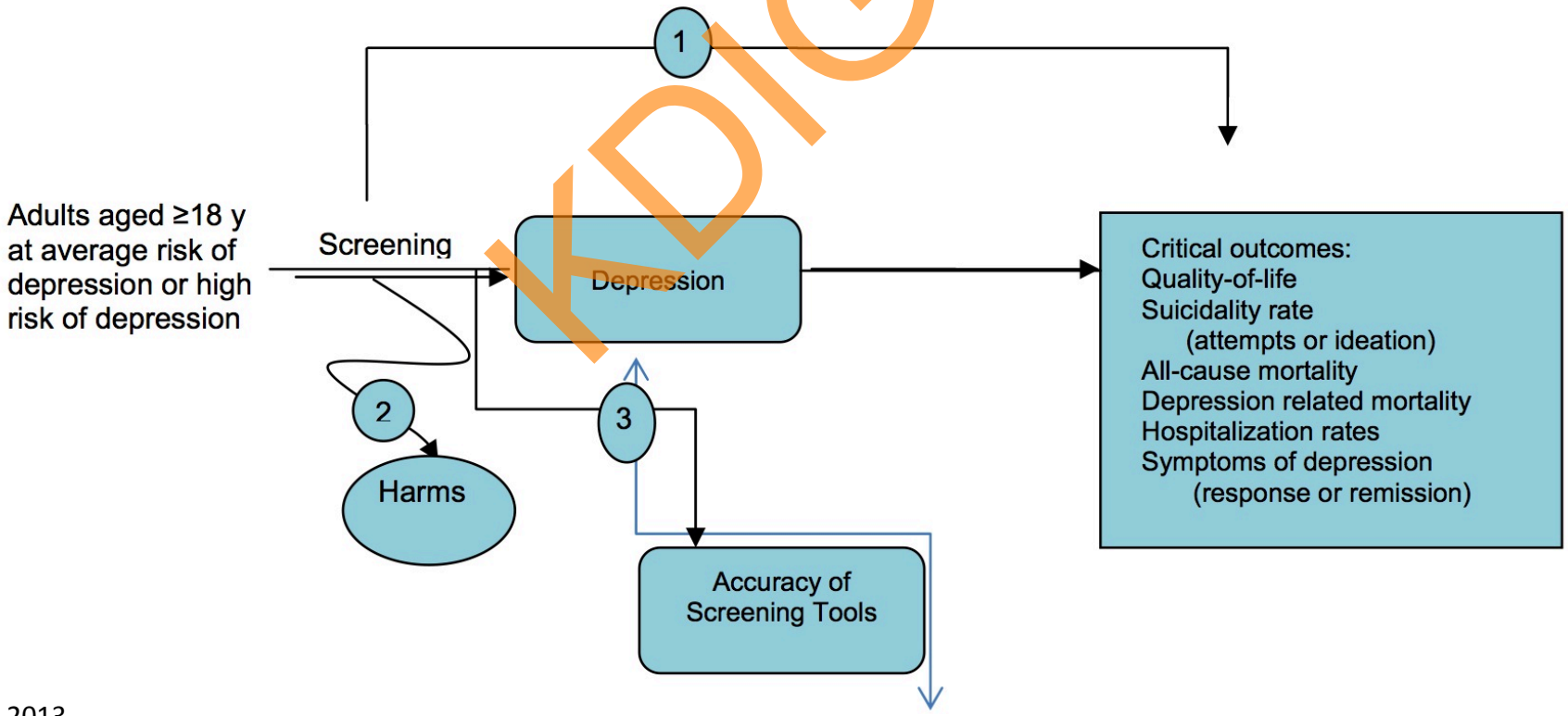
Analytical framework

KQ1a. What is the evidence for the benefit of screening for depression in asymptomatic adults 18 years of age or over from the general population not at high risk for depression in (i) primary care or (ii) other outpatient settings to improve critical outcomes?

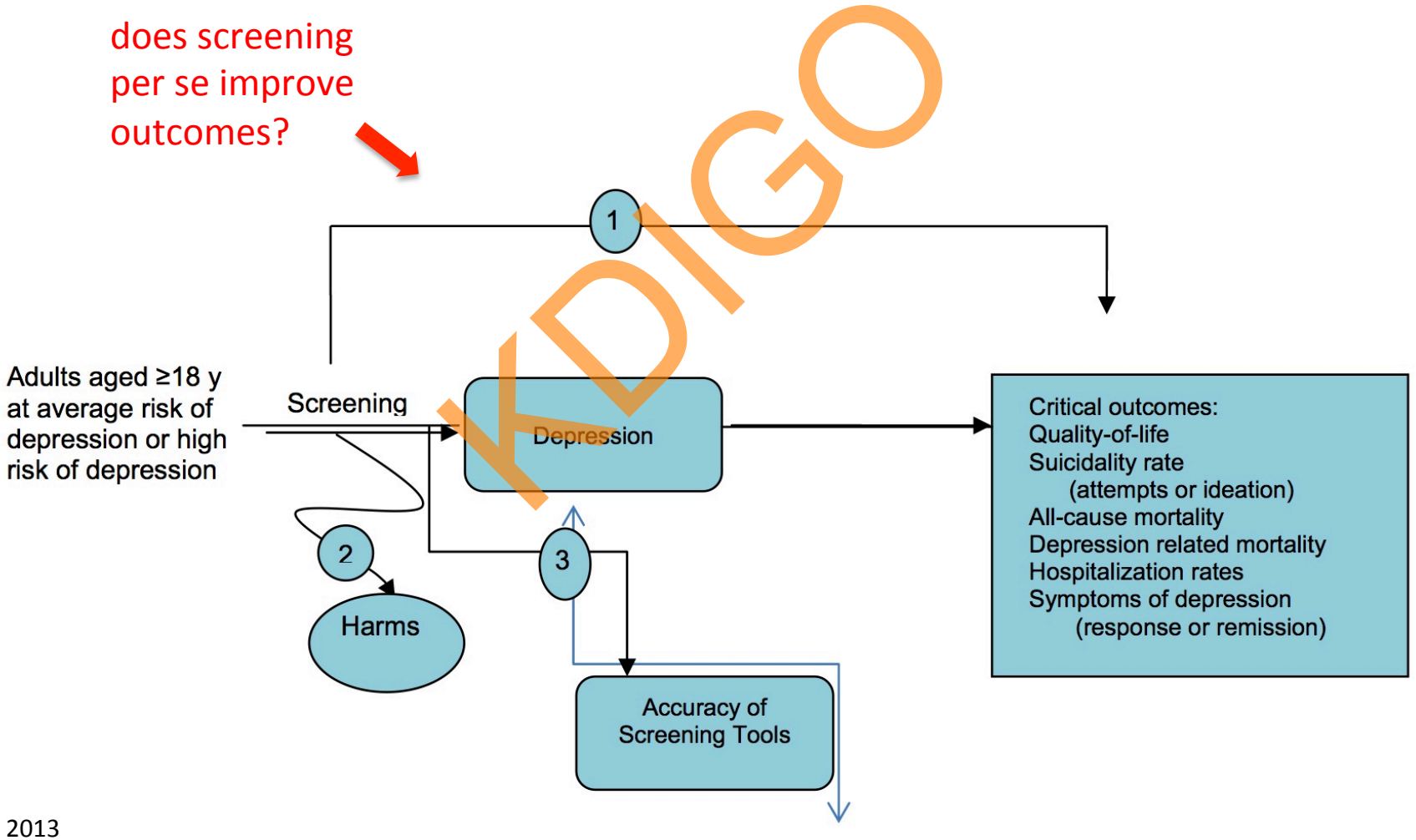
KQ1b. What is the evidence for the benefit of screening for depression in adults at high risk for depression in (i) primary care, (ii) other outpatient settings, or (iii) specialty clinic setting to improve critical outcomes?

KQ2a. What is the evidence for the harms of screening for depression in asymptomatic adults 18 years of age or over from the general population not at high risk for depression in (i) primary care or (ii) other outpatient settings?

KQ2b. What is the evidence for the harms of screening for depression in adults at high risk for depression in (i) primary care, (ii) other outpatient settings, or (iii) specialty clinics?



Analytical framework



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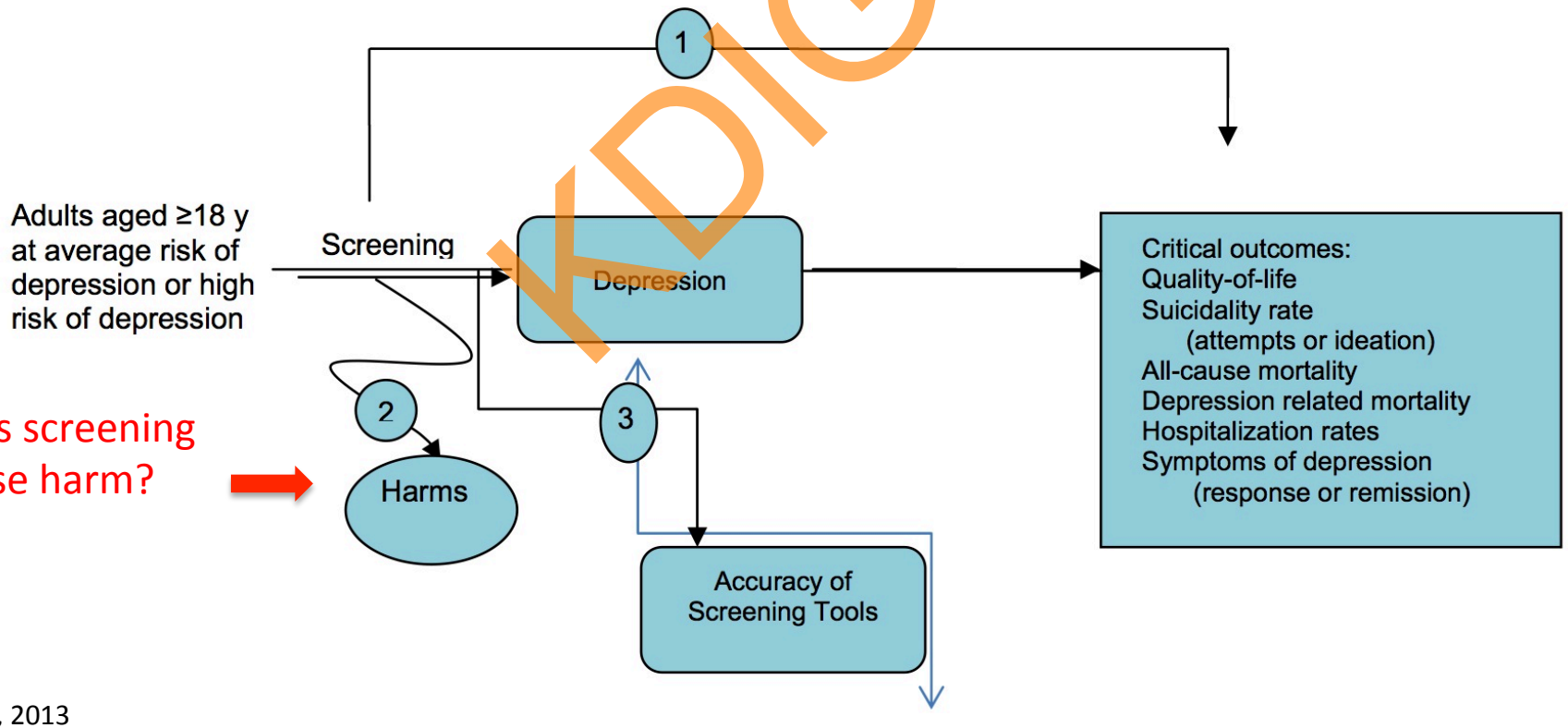
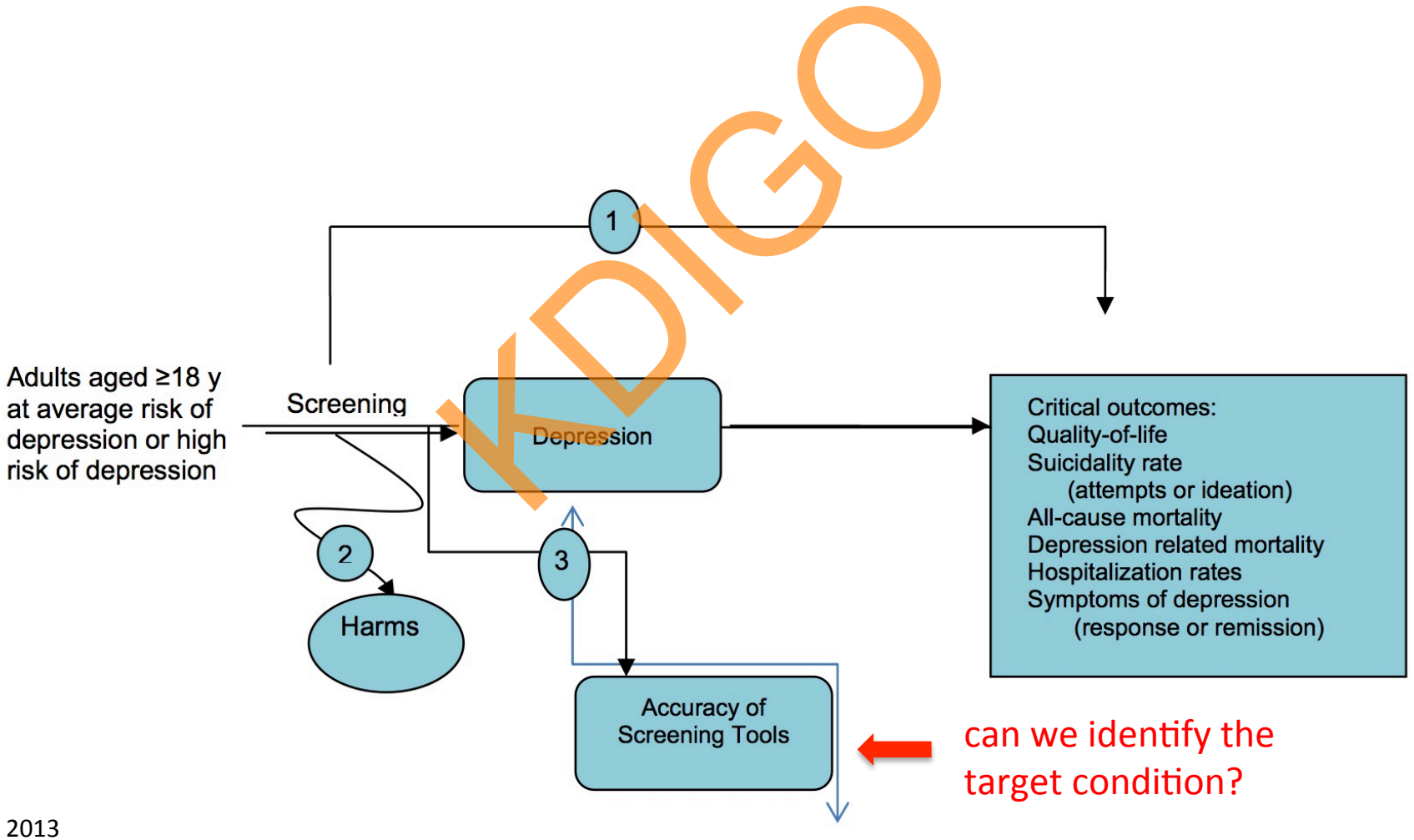


does screening cause harm?

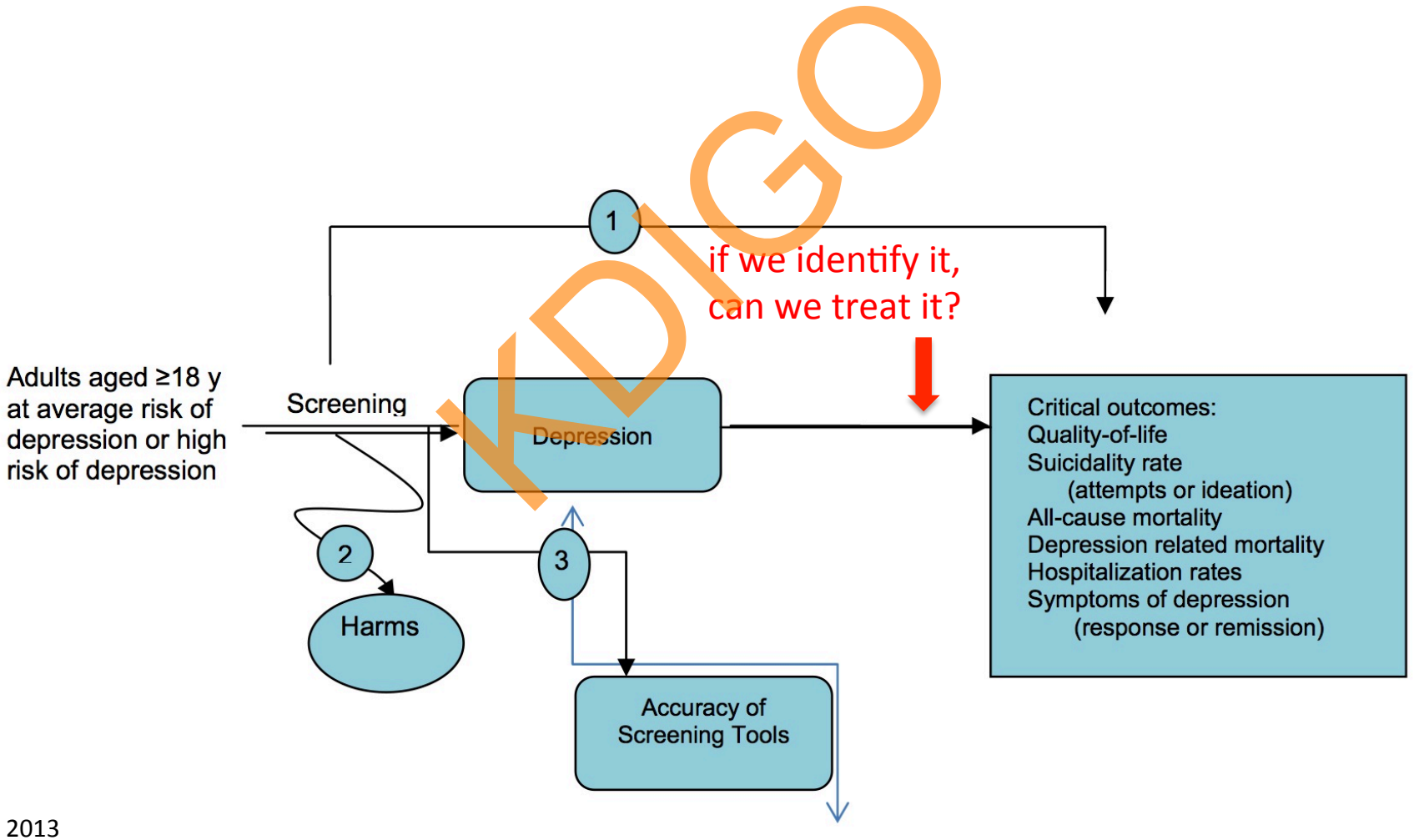
CTFPHC, 2013

Analytical framework



CTFPHC, 2013

Analytical framework



CTFPHC, 2013

The KDIGO approach: interventions

Intervention	Screening criteria	Articles in summary tables		
		CKD stages 3–5	CKD stage 5D	CKD stages 1–5T
Treatment targets	Treatment to different targets of phosphorus; or treatment to different targets of PTH CKD stages 3–5, 5D, or 1–5T RCTs[a] $N \geqslant 25$ per arm ($\geqslant 10$ per arm for bone biopsy) F/U $\geqslant 6$ months	0	0	0
Phosphate binders	Any P Binder vs placebo/active control (except Ca vs placebo)[b] CKD stages 3–5, 5D, or 1–5T RCTs[a] $N \geqslant 25$ per arm ($\geqslant 10$ per arm for bone biopsy) F/U $\geqslant 6$ months	1	19 reports of 11 studies	0
Vitamin D	Vitamin D, calcitriol, or vitamin D analogs vs placebo/active control CKD stages 3–5, 5D, or 1–5T RCTs[a,c] $N \geqslant 25$ per arm ($\geqslant 10$ per arm for bone biopsy) F/U $\geqslant 6$ months	7	3	5
Calcimimetics	Calcimimetics vs placebo/active control CKD stages 3–5, 5D, or 1–5T RCTs[a] $N \geqslant 25$ per arm ($\geqslant 10$ per arm for bone biopsy) F/U $\geqslant 6$ months	1	5 reports of 3 studies	0
Calcium supplementation	Calcium supplementation vs active or control medical treatment CKD stages 3–5 RCTs[a,c] $N \geqslant 25$ per arm ($\geqslant 10$ per arm for bone biopsy) F/U $\geqslant 6$ months	0	0	0
Bisphosphonates, calcitonin, estrogen, progesterone, SERMs, intermittent PTH	Treatment vs placebo/active control CKD stages 3–5, 5D, or 1–5T RCTs[a,c] $N \geqslant 25$ per arm ($\geqslant 10$ per arm for bone biopsy) F/U $\geqslant 6$ months	3 Bisphosphonates 1 Teriparatide	1 Raloxifene	3 Bisphosphonates
Diet	Dietary phosphate restriction vs standard diet (must quantify phosphate intake) CKD stages 3–5, 5D, or 1–5T RCTs[a] $N \geqslant 10$ per arm F/U $\geqslant 1$ month for biochemical $\geqslant 6$ months for bone outcomes	0	0	0

The KDIGO approach: topics not related to treatments

Topic	Question	Screening criteria
Natural history of bone and CVD abnormalities	What is the natural history of bone abnormalities, and vascular and valvular calcification in CKD, after transplantation and after PTx?	CKD stages 3–5D and T Prospective, longitudinal F/U ⩾6 months $N \geqslant 50$ Predictors: bone biopsy; DXA; qCT; Vascular/Valvular calcification by echo, EBCT, MSCT, qCT, carotid IMT, aortic X-ray Outcomes: change in predictor over time, with or without interim transplantation or PTx
	What is the association between calcium, phosphorus, CaXP, and PTH, and (a) morbidity and mortality, (b) bone abnormalities (histology, DXA, qCT), and (c) vascular and valvular calcification? How do these vary by CKD stage?	CKD stages 3–5D and T Prospective, longitudinal F/U ⩾6 months $N \geqslant 100$, for bone biopsy $N \geqslant 20$ Predictors: serum calcium (ionized, correct, total), serum phosphorus, CaXP, second, third generation or ratio PTH Outcomes: mortality, bone outcomes, CVD outcomes
Evaluation of biochemical markers	What is the association between additional biomarkers of bone turnover, and (a) morbidity and mortality, (b) bone abnormalities, and (c) vascular and valvular calcification?	CKD stages 3–5D and T Prospective, longitudinal F/U ⩾6 months $N \geqslant 100$, for bone biopsy $N \geqslant 20$ Predictors: total alkaline phosphatase, bone-specific alkaline phosphatase, TRAP, OC, OPG, C-terminal cross links Outcomes: mortality, bone outcomes, CVD outcomes
	What is the association between vitamin D (25(OH)D and $1,25(OH)_2D$), and (a) morbidity and mortality, (b) bone abnormalities, and (c) vascular and valvular calcification in individuals not treated with vitamin D replacement?	CKD stages 3–5D and T, naïve to treatment with vitamin D Prospective, longitudinal F/U ⩾6 months $N \geqslant 100$, for bone biopsy $N \geqslant 20$ Predictors: vitamin D, 25(OH)D for all, $1,25\ (OH)_2$ D for non-dialysis Outcomes: mortality, bone outcomes, CVD outcomes
Evaluation of bone	How do bone biopsy and DXA, and other bone imaging tests, including plain radiographs, qCT, and quantitative US predict (a) clinical outcomes and (b) surrogate outcomes for bone and CVD?	CKD stages 3–5D and T Prospective, longitudinal F/U ⩾1 year, ⩾6 months for transplant $N \geqslant 50$, for bone biopsy $N \geqslant 20$ Predictors: bone biopsy, DXA, DXA in combination with biochemical markers, change in DXA over 1 year, bone imaging by qCT (spine, wrist), qUS (heel) Outcomes: mortality, bone outcomes, CVD outcomes

Overview of selective update (1)

- Select the questions that the CPG will address
  - are any new questions needed?

Our task

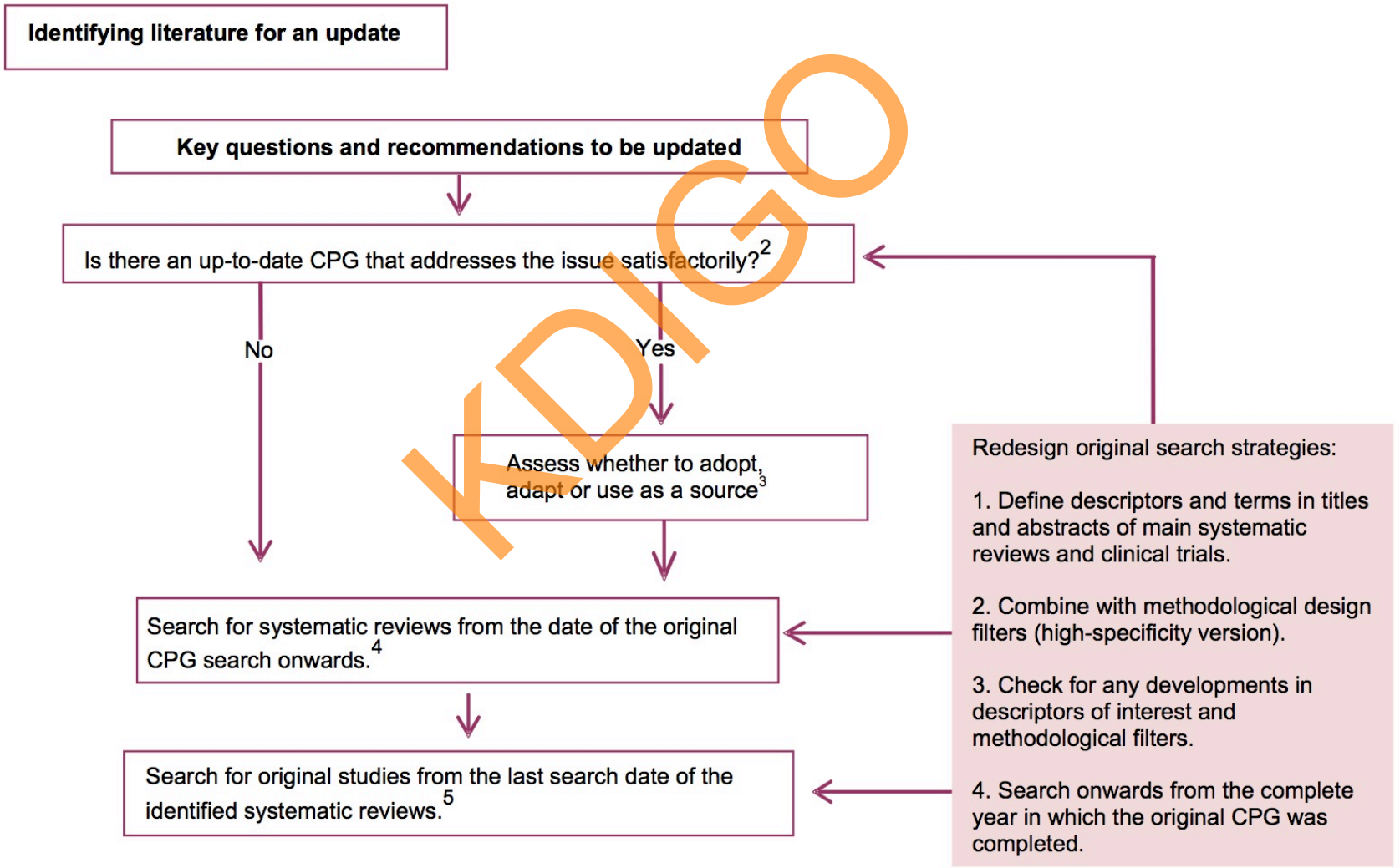
- Reuse prior questions if possible
  - reduces work of framing, searching, writing
  - makes knowledge translation (KT) easier

- Execute new searches
  - identify questions where there is new evidence

Overview of selective update (2)

- Review existing recommendations in light of new data
- Draft recommendations to address new questions
- Decide on KT implications

Existing CPG or SR can sometimes be used to speed up the literature search



Spanish MOH CPG manual

It's important to highlight new or revised recommendations in CPG

Recommendations for the Basque Health Service

18 Clinical Practice Guideline on Hypertension (2007 update)

2007	D	When AMPA is used to follow up hypertensive patients, a three-day minimum BP self-monitoring schedule is recommended, with three measurements every 12 hours in the week prior to consultation.
2007	B	When AMPA is used in suspected white coat hypertension, figures equal to or greater than 145/95 mmHg diagnose a patient as hypertensive, while lower figures require MAPA.
	D	Follow-up of white coat hypertension should include non-pharmacological measures and regular evaluation of cardiovascular risk and risk of involvement of target organs.

[Translated from Spanish]

Spanish MOH CPG manual

Goals of the current meeting

- Review and identify which recommendation statements need updating based on evidence published since 2008 (or 2007?)
- Provide rationale for updating or not
- Goal is NOT to draft new recommendations or reappraise specific quality level of evidence for each recommendation. Rather, the goal is provide a suggested roadmap for future Work Group to follow

Suggestion 1: each group should answer the following questions about each recommendation

1. Are there important and relevant new data?

   if no → no changes needed (unless to address implementability issues or changes in values placed on outcomes or available resources)

   if yes → proceed to next question

Suggestion 1: each group should answer the following questions about each recommendation

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relevant new data = data about the treatment of humans + low risk of bias

i.e. good quality RCTs or extremely strong, consistent observational data

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i.e. good quality RCTs or extremely strong, consistent observational data

not: weak RCTs, single observational studies, observational data with small effects

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   if yes → proceed to next question

relevant new data = data about the treatment of humans + low risk of bias

i.e. good quality RCTs or extremely strong, consistent observational data

not: weak RCTs, single observational studies, observational data with small effects

definitely not: experimental or animal studies

Suggestion 1: each group should answer the following questions about each recommendation

1. Are there important and relevant new data?

   if no → no changes needed (unless to address implementability issues or changes in values placed on outcomes or available resources)

   if yes → proceed to next question

2. Do the data suggest that the recommendation might/should change?

   if no → revised CPG would simply cite new studies

   if yes → proceed to next question

Suggestion 1: each group should answer the following questions about each recommendation

3. What are the factors that one should consider when deciding whether to revise or not?

- Change in magnitude or direction of net benefit/harm of Rx
- Change in quality of evidence
- Availability of new interventions, strategies or techniques
- Changes in any of the above for specific populations:

  –e.g elderly, pediatric, transplant, non-dialysis vs. dialysis/Tx, etc

Suggestion 2: each group to consider whether additional recommendations are needed

- What new topics should the updating Work Group consider?

- To assist the literature search, can the new question(s) be specified in PICOD format (Population, Intervention, Comparator, Outcome, Duration/Design)?

Suggestion 3: Final considerations

- Despite progress made since 2009, what are the existing controversial questions and how can future research or improved trial design better resolve them?

Breakout session #1

Answer the questions established by each WG

Is there any new evidence in adults, elderly, transplant recipients and children about:

- What are the best ways to measure calcium or phosphorus status, or how frequently should this be measured? (recommendations 3.1.1, 3.1.2, 3.1.5, 5.1 and 5.2). Factors to consider:
  - albumin binding: tCa vs iCa vs cCa
  - variation: intraindividual (diurnal), therapy (dialysis)-induced, inter-assay
  - diagnostic properties (Sn, Sp, PPV, NPV)
  - availability/cost
  - balance vs excretion vs serum levels
  - consider for G3-G5a, HD/PD and CKD-T separately

- What is the target range for serum phosphorus or calcium (recommendations 4.1.1 and 4.1.2)? Factors to consider:
  - different ranges for G3-G5a, HD/PD and Tx?
  - are there other clinical characteristics that should affect the target range?

Breakout session #2

Answer the more specific questions below for each recommendation:

- Change in magnitude or direction of net benefit/harm of Rx
- Change in quality of evidence
- Availability of new interventions, strategies or techniques
- Changes in any of the above for specific populations:

  –e.g elderly, pediatric, transplant, non-dialysis vs. dialysis/Tx, etc

should this recommendation be revised?

Discussion