The Canadian Cardiovascular Society's Guideline Methodology: A Critical Appraisal

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Background

- If CPGs are not developed in a scientific manner and without conflict of interest, their drug therapy recommendations may mislead clinicians and patients.
- In 2011, the IOM published standards that support the development of trustworthy CPGs.
- Analyses have found that the minority of CPGs reviewed met > 50% of IOMs standards & that 48% of ACC/AHA guideline recommendations were based on low levels of evidence or expert opinion[1,2].
- In 2010, the CCS stated they would adopt GRADE methodology and aim to have ≥ 51% of guideline committee members free of COI.

Table 1: Outcomes

Primary	Proportion of evaluable IOM standards for which there was Clear Adherence, Lack of Adherence or Unclear Adherence
	Number of guidelines that adhere to ≥ 50% of evaluable IOM standards
Secondary	Proportion of evaluable GRADE standards for which there was Clear Adherence, Lack of Adherence or Unclear Adherence
	Number of guidelines that adhere to ≥ 50% of evaluable GRADE standards
Tertiary	Proportion of recommendations distributed across ACC/AHA or GRADE classes of recommendations

Methods

- Critical appraisal of CCS guidelines with content that focused on drug therapies and were published between 2004 and 2014:
- Two reviewers independently appraised each guideline to determine:
  - Number recommendations in each ACC/AHA or GRADE category
  - Adherence to each IOM and/or GRADE standard using the following algorithm:

| Clear Adherence	Adequate evidence is provided in the guideline and/or supporting documents that the standard was met
Unclear Adherence	Inadequate evidence provided in the guideline and/or supporting documents to conclude that the standard was met
Lack of Adherence	Adequate evidence is provided in the guideline and/or supporting documents that the standard was not met
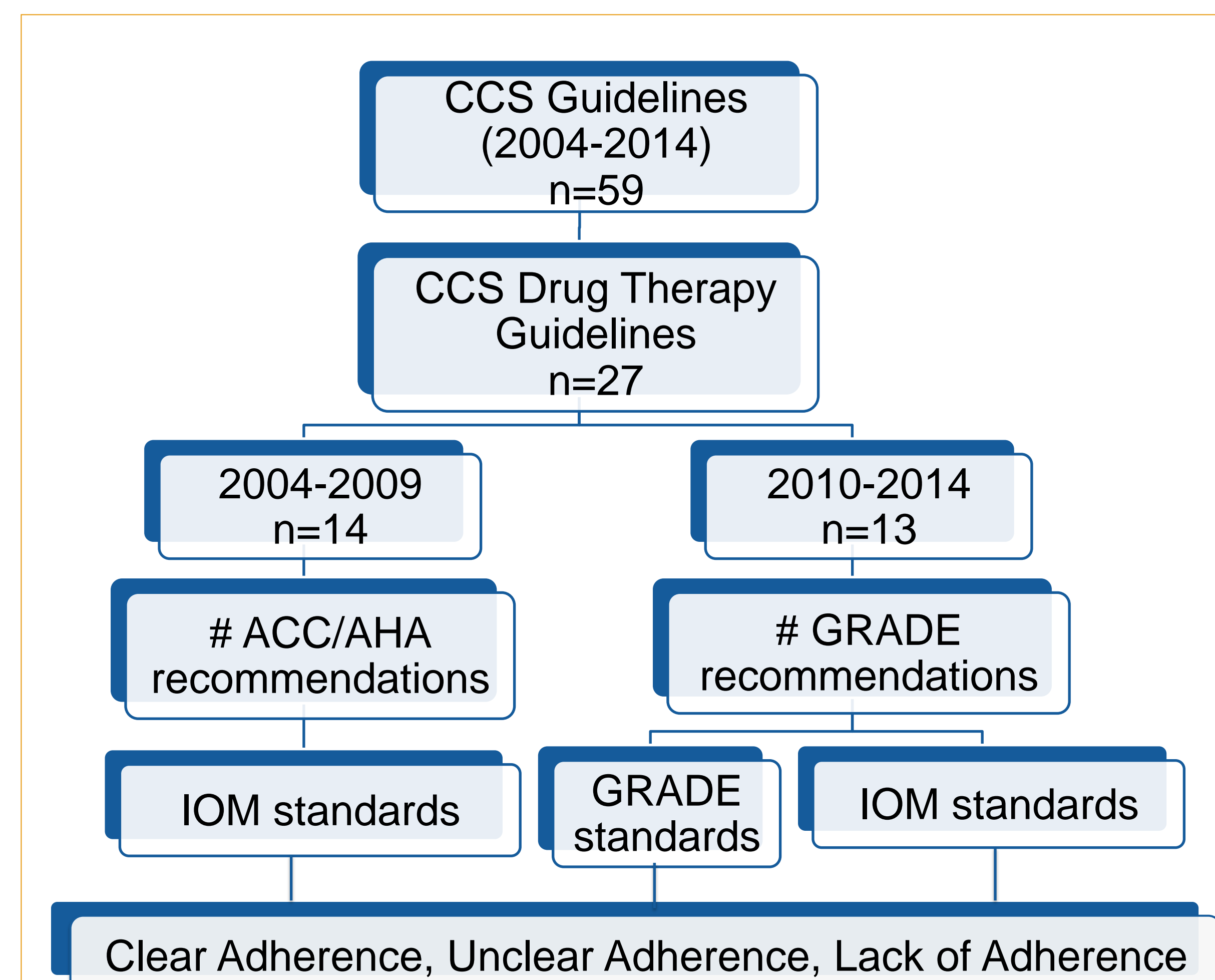
Figure 1: Flow of CPG data collection based on year of publication

IOM	GRADE
Use of systematic reviews	Quality of evidence assessed
Funding transparently reported	Important outcomes assessed
Multidisciplinary committee	Evidence summaries provided
Minority of committee members have COI	Approach for the assessment of recommendations
Quality of evidence & strength of recommendation assessed	Use of GRADE categories to classify all recommendations
	Decisions about the strength of recommendations reported
	> 50% of committee members free of COI

Table 3: Summary of GRADE and IOM standards assessed

Abbreviations

ACC/AHA: American College of Cardiology/American Heart Association
CCS: Canadian Cardiovascular Society
COI: Conflict of Interest
CPG: Clinical Practice Guideline
GRADE: Grading of Recommendations Assessment, Development and Evaluation
IOM: Institute of Medicine

Acknowledgements

Results

IOM Standards:
- Adherence Rate: 0.44 out of 5 standards/guideline
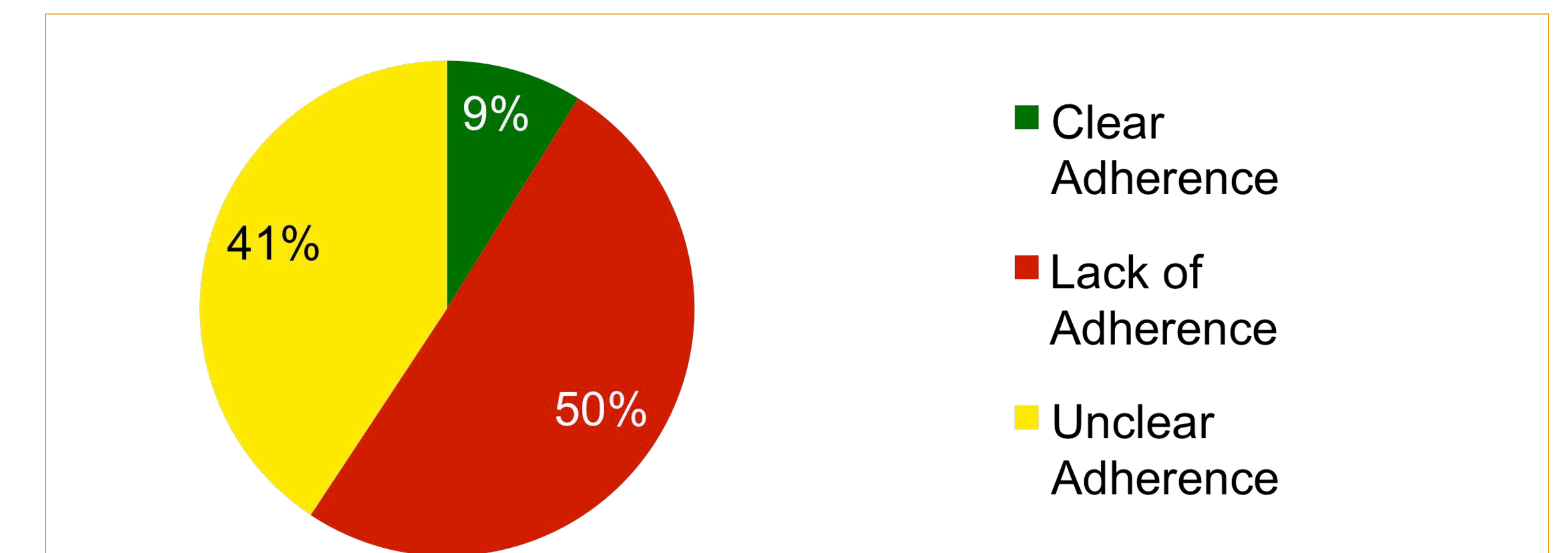- No Guidelines Adhere to > 50% of IOM Standards

Figure 2: Proportion of IOM standards across all guidelines

GRADE Standards:
- Adherence Rate: 0.85 out of 7 standards/guideline
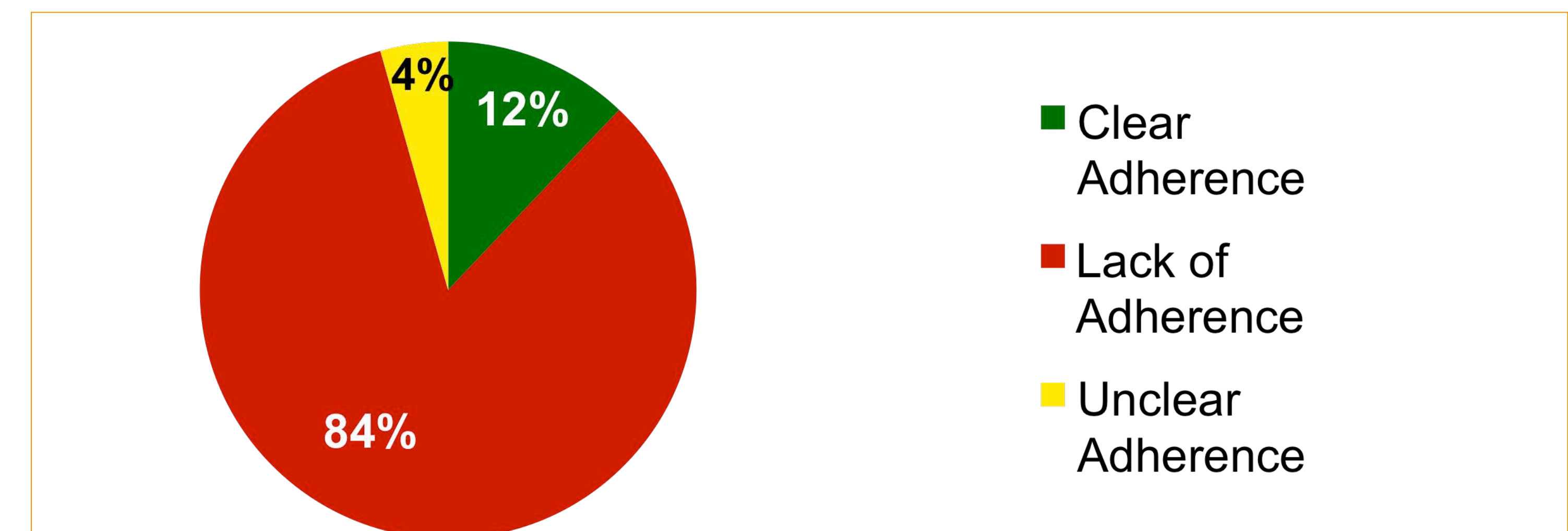- One Guideline Adheres to > 50% of GRADE Standards

Figure 3: Proportion of GRADE standards across all guidelines

Distribution of Recommendations:

ACC/AHA Recommendations	Unrated	43%
	Class I (Level A)	10%
GRADE Recommendations	Unrated	54%
	Strong Recommendation, High Quality Evidence (1A)	11%

Conclusions

- CCS guidelines published between 2004 and 2014 do not significantly adhere to evaluable IOM and GRADE standards
- No guidelines adhere to > 50% of evaluable IOM standards
- One guideline adheres to > 50% of GRADE standards
- A large portion of drug therapy recommendations were entirely unrated or ungraded