Table 1. Example of Different Proportions of Hand Hygiene Indications

	Study 1			Study 2		
Hand Hygiene Indication	Opportunity	Action	Compliance, %	Opportunity	Action	Compliance, %
Indication 1	300	180	60.0	200	130	65.0
Indication 2	100	35	35.0	600	240	40.0
Total	400	215	53.8	800	370	46.3

is small in each indication, the indirect method, based on the following relationship, is appropriate:

$$p' = P\frac{r}{\sum n_i P_i} \quad (2)$$

Here, P is defined as the overall hand hygiene compliance published in a reference study, and P_i is the reference compliance of each hand hygiene indication obtained from the same study. Hence, $n_i P_i$ is the expected action number of each hand hygiene indication.

In summary, a threat to meaningful hand hygiene compliance measurement is bias, which includes selection, observation, and confounding biases. If hand hygiene compliance is compared between healthcare settings or over time, homogeneity of measurement and standardization of results should be considered. Another essential component of meaningful hand hygiene compliance measurement is an appropriate sample size, as described in the WHO recommendations.[7]

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Assessing the methodological quality of studies included in systematic reviews: Interpretation of scores

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To the Editor—Assessing the methodological quality of and, thus, risk of bias within studies included in systematic reviews is important to place the conclusions of systematic reviews in context. The choice of appropriate tools to assess the risk of bias depends on the design of the individual study.[1] The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) statement[2] recommends the following: (1) to present quality assessments as scores for each component domain, (2) to restrict the primary analysis to studies judged to be at low risk of bias, (3) to stratify studies according to risk of bias using subgroup analysis or meta-regression, or (4) to adjust the result from each study in an attempt to remove the bias. Despite all available information and guidance, we feel that a step in this process is missing: the interpretation of the scores, that is, the classification of a study as being of low, medium, or high methodological quality. When only reporting scores without interpretation or threshold, it is impossible to select or stratify studies during analyses.

Possible approaches to classify the quality of included studies could be (1) to divide the assessed scores of included studies for each tool in thirds, (2) to divide the highest possible score for each tool in thirds, (3) to come up with your own scoring system, (4) to not interpret scores, or (5) to establish uniform thresholds that

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would be used by all authors. Choosing the first or third option will result in noncomparability of systematic review on the same or similar topics, especially if the quality assessment of the included studies is not publicly accessible. The second option does not take importance of certain domains into account. The fourth option does not allow for selection or stratification of studies based on quality scores. In systematic reviews recently published in the journal *Infection Control and Hospital Epidemiology*, assessment of risk of bias was either not reported,[3,4] an interpretation was not given and scores were reported for each individual study,[5] and/or the threshold was chosen by the authors.[6,7]

We feel that scores alone do not give enough guidance to properly estimate the quality of a study. Rather than reporting risk of bias as a separate and independent paragraph of the systematic review, classification of studies as low, medium, or high methodological quality is needed to incorporate the risk of bias in the analyses. We encourage the authors of future systematic reviews with or without meta-analysis to integrate the quality assessment throughout the results section, to perform subgroup analyses excluding studies of low methodological quality, and to see the quality assessment as an important part of the research and not just a mandatory paragraph. Additionally, we ask the authors of the PRISMA statement, Cochrane, and developers of quality assessment tools to add threshold scores for low, medium, or high quality to the agenda because, in our opinion, they are urgently needed.

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