

# The effectiveness of specific strategies to improve quality of care: A systematic review



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# How does this presentation fit in today's session?

- To improve quality of care, WHO encourages countries to develop national quality policy & strategy



- Choice of interventions should be based on global evidence (among other factors)
- This presentation summarizes global evidence on effectiveness of interventions to improve quality of care

# Source of evidence for this presentation

- Health Care Provider Performance Review: **systematic review of effect of any intervention to improve health worker (HW) performance in low- and middle-income countries (LMICs)**
- HWs: **Any facility- or community-based HW, pharmacists, shopkeepers who sell drugs, private sector**
- **Generally follows Cochrane methods**
- Includes: **controlled trials and interrupted time series**
- Literature search: **screened 216,477 citations (1960s–2016)**
- Outcomes: **HW practices (e.g., % of patients correctly treated)**
- Effect sizes: **absolute %-point change (e.g., 10 %-points, which means if 40% BL performance + 10 %-points, then F/U = 50%; also means intervention improves quality for 1 out of every 10 patients)**

# Overview of studies

- Analysis for this presentation included 337 studies with at least 1 HW practice outcome, which represented wide range of contexts in 64 countries
- 59% of studies had high risk of bias
- Studies often short: 2/3 had follow-up times <10 months
- Studies evaluated 118 unique interventions
- Interventions aimed to improve quality for variety of health conditions

# Effectiveness of interventions to improve practices of professional HWs

(generally facility-based HWs, e.g., physicians, nurses, and midwives)



# General findings

- Mean baseline was 40%
- Among all 101 interventions, median improvement = 12 %-pts  
(Typical scenario: 40% BL + 12 %-pt improvement = 52% F/U)



**Important:** even after intervention,  
usually much room to  
improve

# General findings

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- Among all 101 interventions, median improvement = 12 %-pts  
(Typical scenario: 40% BL + 12 %-pt improvement = 52% F/U)
- Most interventions (80%) tested by only 1 or 2 studies
  - Generalizability extremely limited
  - Presentation focuses on interventions tested by 3+ studies
- Effect sizes vary widely for most interventions
  - Ex. Train only, median effect: 10 %-pts (IQR: 6, 21; range: -20, 61)  
(N=78 studies)

# General findings

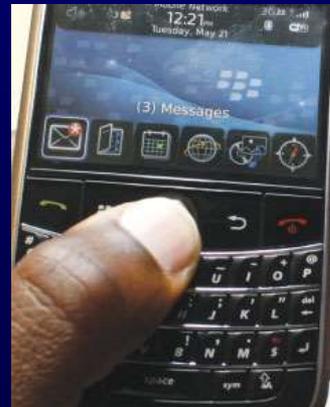
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Thus, ¼ of effects: <6 %-pts, and ¼ of effects: 21 to 61 %-pts
  - Demonstrates difficulty in predicting intervention's effect
  - Underscores importance of monitoring effect of any intervention

# Effectiveness of interventions tested by 3+ studies

Median effect size, %-pts

- Printed information or job aids for HWs only 1
- ICT for HWs as sole intervention (N = 4 studies) 1

Information and communication technology (e.g., text message reminders sent to HW phones)



# Effectiveness of interventions tested by 3+ studies

	Median effect size, %-pts
• Printed information or job aids for HWs only	1
• ICT for HWs as sole intervention (N = 4 studies)	1
– Broadened intervention definition (ICT +/- other intervention components, N = 28 studies)	8

**Goal:** analyze larger pool of studies with greater diversity of context and implementation approaches

# Effectiveness of interventions tested by 3+ studies

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• Training only	10

*Are some training approaches more effective?*

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*Training tended to be more effective when it...*

- Was at least partly conducted at HWs' routine work site, by 10 %-points
- Used clinical practice, by 7–8 %-points

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• Printed information or job aids for HWs only	1
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– Broadened intervention definition (ICT +/- other intervention components, N = 28 studies)	8
• Training only	10
• Supervision only	15
• Training + supervision	18

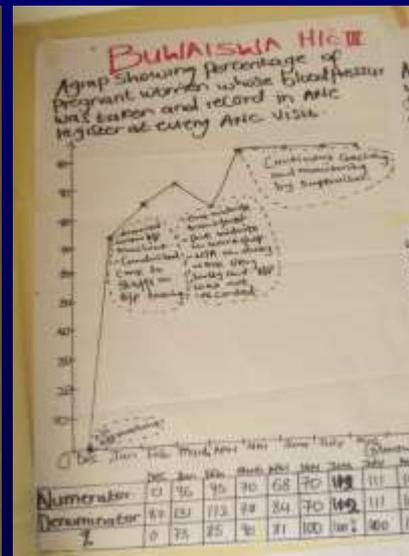
# Effectiveness of interventions tested by 3+ studies

Median effect size,  
%-pts (broadened  
definition)

- Group problem solving only

28 (12)

E.g., CQI or collaborative improvement



# Effectiveness of interventions tested by 3+ studies

	Median effect size, %-pts (broadened definition)
• Group problem solving only	28 (12)
• Group problem solving + training	56 (16)
• Strengthened infrastructure + supervision + other mgmt techniques + training	33 (29)

E.g., HW group process/meetings

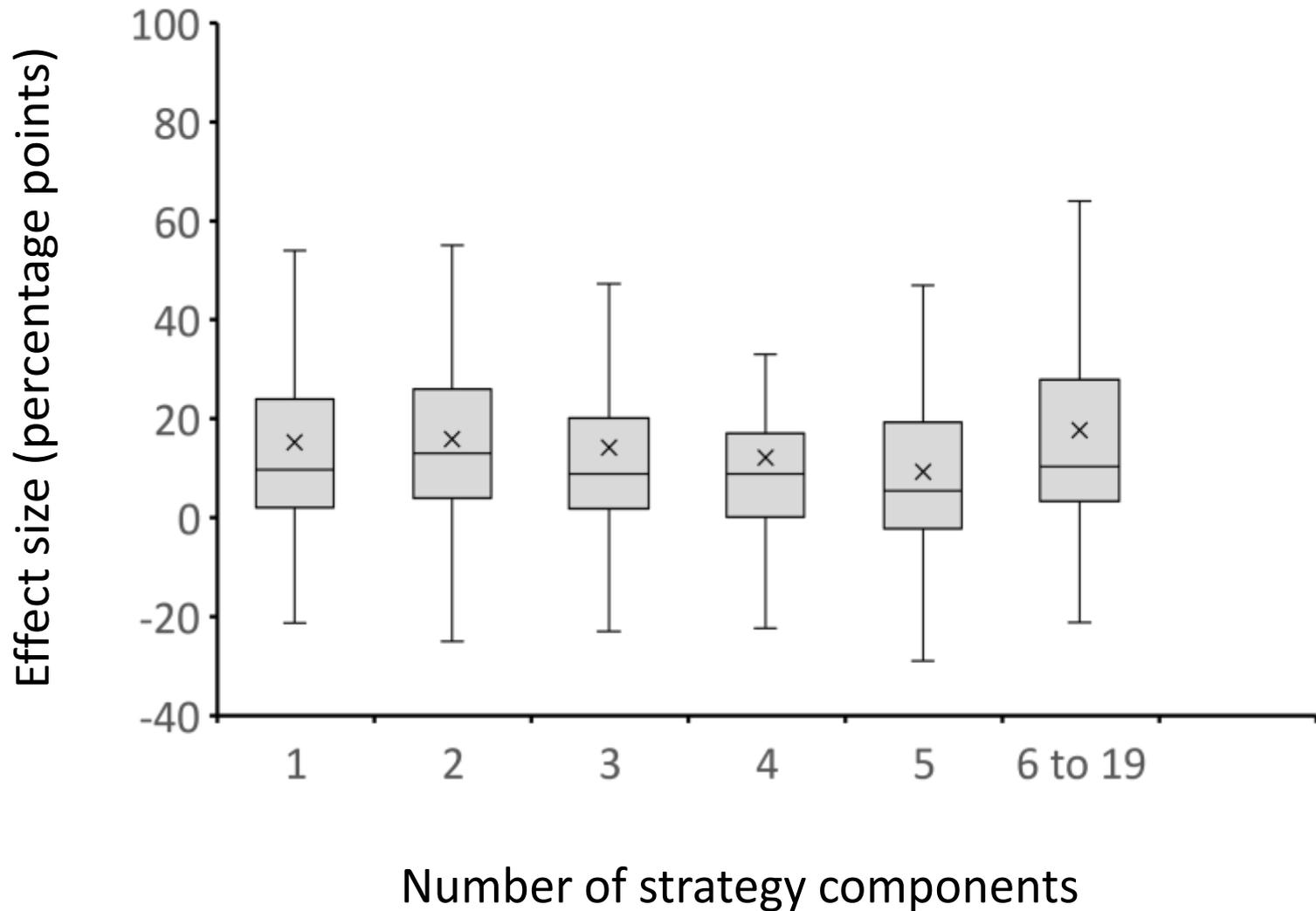
E.g., Provision of medicines

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• Strengthened infrastructure + supervision + other mgmt techniques + training	33 (29)
• Strengthened infrastructure + supervision + other mgmt techniques + training + financing	58 (33)

*Are multi-faceted interventions more effective than simpler ones?*

# Are multi-faceted interventions more effective than simpler ones?



# Effect of interventions to improve performance of lay or community health workers (CHWs)



Top image. World Vision. <https://www.worldvision.org/health-news-stories/malaria-burundi-half-country-sick>. Accessed May 16, 2018.

Lower image. Malaria Consortium. <https://www.malariaconsortium.org/blog/recognising-community-health-workers-this-world-health-day-and-world-health-workers-week-2/>. Accessed May 16, 2018

# Improving lay or CHW performance

- 18 studies, most with high or very high risk of bias
- 14 interventions, most tested by 1 or 2 studies each
- For training only (N = 4 studies), median effect = 2 %-points
- For interventions that included community support and training for CHWs, effects ranged from 8 to 56 %-points

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# Evidence-based guidance on improving HW practices in LMICs

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# General guidance on improving HW practices

- 1) Effect of any intervention should be monitored so managers can know how well it works. Monitoring data could be used to adapt interventions to local conditions and facilitate learning, with aim of increasing effect.
- 2) General approach
  - Initial intervention (based on research evidence and knowledge of local context)
  - Monitor HW practices
  - Address gaps (which should be expected) by modifying or abandoning intervention or layering on new one
  - Continue to monitor and modify as needed
- 3) Decision-makers should not assume multi-faceted interventions are more effective than simpler ones

# Guidance for professional HWs (i.e., not only CHWs)

- 1) **Printed information or job aids to HWs as sole intervention is unlikely to change performance**
- 2) **ICT typically has small-to-modest effects**
- 3) **Training or supervision generally have moderate effects. May be more effective to combine training with other interventions, such as supervision or group problem solving.**
  - To increase effect of training, it may be beneficial to conduct part of training on-site and to include clinical practice.
- 4) **Group problem solving typically has moderate effects**
- 5) **Multi-faceted interventions of infrastructure, supervision, management techniques, and training (+/- financing), and intervention of group problem solving + training tend to have large effects**

# Guidance for improving CHW performance

- 1) **Only training CHWs usually has small effects**
- 2) **Interventions that include community support plus training for CHWs might lead to large improvements, although evidence is limited**

# Limitations

- 1) Limitations of studies: lack of detail on intervention and context, lack of standard methods, difficulty in assessing study precision and strength of implementation, high risk of bias, short follow-up, and small scale
- 2) Overview analysis (much lumping). Designed to identify broad patterns across all studies. However, results do not reflect nuances, e.g., all countries combined.  
**Solution:** conduct context- and content-specific analyses with publicly-available HCPR databases.

HCPPR website:  
[www.hcpperformancereview.org](http://www.hcpperformancereview.org)

## Health Care Provider Performance Review

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The Health Care Provider Performance Review (HCPPR) is a systematic review of the effectiveness of strategies to improve health care provider performance in

Health workers in LMICs play a central role in preventing and treating illness; however, their performance is often inadequate. Many strategies, such as training, community-based interventions, exist to improve performance in LMICs. An understanding of the effectiveness of these strategies would be valuable for health programs, donors, and partners. The HCPPR systematically examines published and unpublished studies to characterize the effectiveness of all strategies to improve health care provider performance. All strategies were included for any type of health care provider (including hospital- and clinic-based health workers, community health workers, pharmacists, and staff nurses) and any health condition. Only studies with relatively robust evaluation designs were included (i.e., controlled trials and interrupted time series). The HCPPR includes more than 100 studies. You can perform rapid on-line analyses of HCPPR data, as well as download more detailed versions of the review's databases.

**For instructions on how to use this website, please view the video tutorials (click on the “Video Tutorials” tab, and select a video).**

Geography:

All

Strategy:

All

Setting:

All

Setting Ownership:

All

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## Healthcare Provider Performance Review

- 1) Use menus to select studies
- 2) Click on “Run analysis”

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Geography:

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**Geography:**

WHO African Region

WHO South-East Asia Region

WHO European Region

WHO Region of the Americas

WHO East Mediterranean Region

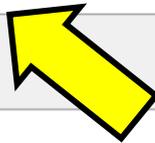
WHO Western Pacific Region

**Outcome Category:**

All

**Geography:**

× WHO African Region



**Setting:**

All

**Health Worker Type:**

All

**Outcome Category:**

All

**Income Level:**

All

**Lay or Community Health Workers (CHWs):**

- All studies (i.e., studies of lay/CHWs AND health facility-based health workers)
- Include only lay or CHW predominant studies
- Exclude lay or CHW predominant studies (i.e., only include health facility-based health worker studies)

**Random control:**

- All studies
- Include only randomized, controlled studies
- Exclude randomized, controlled studies

**Strategy:**

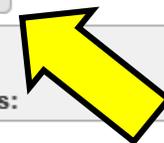
All

**Setting Ownership:**

All

**Health Condition:**

× Malaria



**Risk of Bias:**

All

Run analysis

Reset

**Geography:**

× WHO African Region

**Strategy:**

All

**Setting:**

All

**Setting Ownership:**

All

**Health Worker Type:**

All

**Health Condition:**

× Malaria

**Outcome Category:**

All

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All

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# Healthcare Provider Performance Review

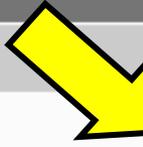
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## Analysis of Strategy Effectiveness

Strategy	Number of Study Comparisons in Analysis	Analysis of Median of MES Values
<b>Strategies tested</b>  <b>at least 3 study comparisons each:</b>		
Strengthening infrastructure + Health system financing and other incentives + management techniques + Training	3 	63.0
Supervision + Training	4	44.9
Training only	5 	10.9

# Conclusions: *what does this mean for DFID?*

- 1) Research has some important limitations, but results still useful to inform decision-making
- 2) Some interventions seem more effective than others (e.g., training + group problem solving, some multi-faceted strategies); consider using in appropriate context
- 3) May be ways to make training more effective
- 4) Avoid ineffective interventions (e.g., only printed info)
- 5) Important to monitor effectiveness for all interventions
- 6) High-quality research needed (e.g., on CHWs)
- 7) Use HCPPR website to find evidence tailored to your geography, health condition, and service delivery context