



November 2016 – SUPPORT Summary of a systematic review

## What are the impacts of healthcare settings and organisation on the provision of care for those living with HIV/AIDS?

There are substantial challenges to the provision of care for those living with HIV/AIDS. Several of the key issues involved relate to where care should be provided and how it should be organized.

### Key messages

#### Setting of care:

- Units dedicated to AIDS care and high volume institutions may reduce mortality among people living with HIV/AIDS.
- High volume institutions probably reduce the number of emergency department visits and the length of hospital stays among people living with HIV/AIDS.
- The effects of other interventions related to the setting of care, such as outreach or interventions to reduce travel time to providers, are uncertain.

#### Organisation of care:

- Case management may reduce mortality and the number of emergency department visits among people living with HIV/AIDS. Other effects of case management are uncertain.
- Computer prompts probably hasten initiation of recommended treatments for patients with HIV/AIDS. Other effects of computer prompts and information systems are uncertain.
- The effects of multidisciplinary or multifaceted interventions are uncertain.

All the studies reviewed were conducted in high-income countries.



### Who is this summary for?

People making decisions concerning setting and organisation of care for people living with HIV/AIDS

#### ! This summary includes:

- Key findings from research based on a systematic review
- Considerations about the relevance of this research for low-income countries

#### X Not included:

- Recommendations
- Additional evidence not included in the systematic review
- Detailed descriptions of interventions or their implementation

### This summary is based on the following systematic review:

Handford C, Tynan AM, Rackal JM, Glazier R. Setting and organization of care for persons living with HIV/AIDS. Cochrane Database of Systematic Reviews 2006, Issue 3. Art.No.: CD004348.

### What is a systematic review?

A summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise the relevant research, and to collect and analyse data from the included studies

**SUPPORT** was an international project to support the use of policy relevant reviews and trials to inform decisions about maternal and child health in low- and middle-income countries, funded by the European Commission (FP6) and the Canadian Institutes of Health Research.

**Glossary of terms used in this report:**  
[www.supportsummaries.org/glossary-of-terms](http://www.supportsummaries.org/glossary-of-terms)

**Background references on this topic:**  
See back page

# Background

The high burden of HIV/AIDS has placed greater demands on healthcare institutions and can present organisational challenges. Key health system issues include whether such care should be centralised or decentralised, the preferred type and mix of health workers, and which interventions and mix of programmes would best facilitate delivery of care. High volume centres (seeing high volume of patients), case management, and multidisciplinary care have been shown to be effective strategies for other chronic illnesses. However, whether these findings can be applied to the context of HIV/AIDS healthcare is less well understood.

## How this summary was prepared

After searching widely for systematic reviews that can help inform decisions about health systems, we have selected ones that provide information that is relevant to low-income countries. The methods used to assess the reliability of the review and to make judgements about its relevance are described here: [www.supportsummaries.org/how-support-summaries-are-prepared/](http://www.supportsummaries.org/how-support-summaries-are-prepared/)

## Knowing what's not known is important

A reliable review might not find any studies from low-income countries or might not find any well-designed studies. Although that is disappointing, it is important to know what is not known as well as what is known.

A lack of evidence does not mean a lack of effects. It means the effects are uncertain. When there is a lack of evidence, consideration should be given to monitoring and evaluating the effects of the intervention, if it is used.

## About the systematic review underlying this summary

**Review objective:** To determine the effects of the setting of care and the organisation of care on medical, immunological/virological, psychosocial and/or economic outcomes for persons living with HIV/AIDS

Types of	What the review authors searched for	What the review authors found
<b>Study designs &amp; Interventions</b>	Randomised trials, non-randomised trials, cohort studies, case control studies, cross-sectional studies, and controlled before-after studies that evaluated the settings and organisation of care	1 randomised trial, 1 non-randomised trial, 5 prospective cohort studies, and 21 retrospective cohort studies were included.
<b>Participants</b>	Persons (men, women and children) known to be infected with HIV/AIDS	39,776 HIV-positive participants were included.
<b>Settings</b>	All settings	Clinical trial settings; hospitals and clinics in high-income country settings
<b>Outcomes</b>	Medical outcomes, immunological or virological outcomes, psychosocial outcomes, economic outcomes	Mortality (12 studies), receipt of antiretrovirals or indicated prophylaxis as an outcome (10 studies), hospitalisation (5 studies), functional status (1 study), healthcare utilisation outcomes (16 studies)

**Date of most recent search:** December 2002

**Limitations:** This is a well-conducted systematic review with only minor limitations. However, it has not been updated since the last search in December 2002.

Handford C, Tynan AM, Rackal JM, Glazier R. Setting and organization of care for persons living with HIV/AIDS. Cochrane Database of Systematic Reviews 2006, Issue 3. Art.No.: CD004348.

# Summary of findings

Twenty-eight studies, all conducted in high-income countries, evaluating the setting and organisation of care were included. Interventions included the concentration of HIV/AIDS patients (1 study); clinic, hospital or hospital ward volumes (13); the conducting of clinical trials (4), the incorporation of trainees (3), and hours of service (3). Case management interventions were described in 3 studies, multidisciplinary or multi-faceted treatment interventions in 6 studies, and health information systems in three. No studies evaluated outreach or travel time to providers as an intervention.

## 1) Setting of care

Among people living with HIV/AIDS:

- Units dedicated to AIDS care and high volume institutions may reduce mortality. The certainty of this evidence is low.
- High volume institutions probably reduce the number of emergency department visits and the length of hospital stays. The certainty of this evidence is moderate.
- Units that participate in clinical trials may increase the proportion of patients taking antiretroviral drugs. The certainty of this evidence is low.
- No studies were found that evaluated outreach or interventions to reduce travel time to providers as an intervention. We are therefore uncertain of the effects of outreach or travel time on the provision of care for people with HIV/AIDS.

### About the certainty of the evidence (GRADE) \*

⊕⊕⊕⊕

**High:** This research provides a very good indication of the likely effect. The likelihood that the effect will be substantially different† is low.

⊕⊕⊕○

**Moderate:** This research provides a good indication of the likely effect. The likelihood that the effect will be substantially different† is moderate.

⊕⊕○○

**Low:** This research provides some indication of the likely effect. However, the likelihood that it will be substantially different† is high.

⊕○○○

**Very low:** This research does not provide a reliable indication of the likely effect. The likelihood that the effect will be substantially different† is very high.

\* This is sometimes referred to as 'quality of evidence' or 'confidence in the estimate'.

† Substantially different = a large enough difference that it might affect a decision

See last page for more information.

High volume institutions		
<b>People:</b> People with HIV/AIDS <b>Intervention:</b> High volume institutions <b>Comparison:</b> Lower volume institutions		
Outcomes	Impact	Certainty of the evidence (GRADE)
<b>30-day mortality</b>	Five studies reported reduced 30-day mortality in high volume institutions compared to lower volume institutions; 4 other studies were inconclusive.	⊕⊕○○ Low
<b>Length of hospital stays</b>	Two studies demonstrated longer hospital stays in facilities with higher HIV-volumes compared to low volume facilities and reported differences of 5.0 and 2.7 days respectively. Three studies reported differences of 2.0 days or less when comparing high volume with low volume facilities.	⊕⊕○○ Low
<b>Healthcare utilisation</b>	One study found fewer emergency department visits (ED) (31 vs. 43 visits, p=0.01) for patients randomised to a high-volume HIV infectious diseases practice (1,100 HIV-infected patients) compared to a low-volume general medicine practice (<50 HIV-infected patients). There was no difference reported between the groups in terms of the number of patient visits to the home clinic. Another study found that higher-volume institutions had fewer patients with 2 or more ED visits (aOR 0.56, CI 0.44 to 0.71) compared to patients from lower-volume institutions.	⊕⊕⊕○ Moderate

P: p-value; aOR: adjusted odds ratio; CI: confidence interval; GRADE: GRADE Working Group grades of evidence (see above and last page)

## 2) Organisation of care

### Among people living with HIV/AIDS:

- Case management may reduce mortality and the number of emergency department visits. The certainty of this evidence is low. Other effects of case management are uncertain.
- Computer prompts probably hastened initiation of recommended treatments for patients with HIV/AIDS. The certainty of this evidence is moderate. Other effects of computer prompts and information systems are uncertain.
- The effects of multidisciplinary or multifaceted interventions are uncertain.

Case management		
<b>People:</b> People with HIV/AIDS <b>Intervention:</b> Case management <b>Comparison:</b> No case management		
Outcomes	Impact	Certainty of the evidence (GRADE)
<b>30-day mortality</b>	Improved two-year survival period (86% vs. 64%, $p < .001$ ) for patients who were actively involved in an Early Intervention Program which included case management as compared to patients who were not actively involved in the Program.	⊕⊕○○ Low
<b>Receipt of antiretrovirals (ARVs) or indicated prophylaxis</b>	Contact with a case manager resulted in an increased number of patients receiving a protease inhibitor or a non-nucleotide reverse transcriptase inhibitor (aOR 1.29, CI 1.02-1.64). Sustained contact (i.e. contact both at baseline and at follow-up) with a case manager resulted in an even larger effect (aOR 1.53, CI 1.22-1.92) and also led to greater number of patients being given antibiotic prophylaxis (aOR 1.77, CI 1.28-2.46).	⊕⊕○○ Low
<b>Hospitalisation</b>	One study did not find a difference in hospitalisation rates (OR 1.11, CI 0.83-1.50).	⊕○○○ Very Low
<b>Healthcare utilisation</b>	One study found that a case manager trained in social services resulted in an increase in both the entry to (OR 3.3, $p < 0.05$ ) and continuity in (OR 2.9, $p < 0.01$ ) appropriate medical care. Another study demonstrated no association between case management and the number of emergency room visits.	⊕⊕○○ Low
p: p-value; aOR: adjusted odds ratio; CI: confidence interval; GRADE: GRADE Working Group grades of evidence (see above and last page)		

<b>Health information systems</b>		
<b>People:</b> People with HIV/AIDS <b>Intervention:</b> Health information systems <b>Comparison:</b> Usual care		
<b>Outcomes</b>	<b>Impact</b>	<b>Certainty of the evidence (GRADE)</b>
<b>30-day mortality</b>	A study of the use of computer alerts and reminders about immunisations, test results and prescribing for primary care providers was inconclusive (n=191) (a one-year survival rate of 91% in the intervention group vs. 88% in the control group, p=0.19).	⊕○○○ Very Low
<b>Receipt of antiretrovirals (ARVs) or indicated prophylaxis</b>	Computer prompts hastened initiation of recommended treatments for patients with HIV/AIDS. Treatments included initiating antiretroviral treatment (median of 7 days vs. 43 days, no p value provided) and initiating indicated Pneumocystis Carini Pneumonia prophylaxis treatment (median of 11 days vs. 122 days, p<0.0001).	⊕⊕⊕○ Moderate
<b>Hospitalisation</b>	The effect of computer prompts on hospital admissions compared with no computer prompts was uncertain (35% versus 44%, respectively, p=0.47).  Average length of hospital stay decreased over a two-year period in a group of HIV-positive patients whose general practitioners were given discharge information from, and 24/7 phone access to, an infectious diseases specialist. Mean length of hospital stay in the intervention group decreased from 16.6 days in 1992 to 8.0 days in 1994 (p=0.004). In the control group, a decrease of 17.1 days to 13.1 days was noted (p=0.79).	⊕○○○ Very Low
<b>Functional status</b>	A study comparing patients who were cared for in hospital with a computer-generated nursing pathway with patients who were cared for using a manually-generated nursing pathway was inconclusive	⊕○○○ Very Low
<b>Healthcare utilisation</b>	A study of the use of computer alerts and reminders about immunisations, test results and prescribing for primary care providers had inconclusive results for the number of physician visits p=0.29 and ED visits p=0.24.	⊕○○○ Very Low
ED: emergency department; p: p-value; GRADE: GRADE Working Group grades of evidence (see above and last page)		

## Multidisciplinary or multifaceted interventions

Six observational (retrospective cohort) studies examined associations between various multifaceted interventions and a variety of outcomes. The certainty of the evidence from these studies is very low.

# Relevance of the review for low-income countries

→ Findings	▷ Interpretation*
APPLICABILITY	
→ <b>None of the studies in this review were conducted in low-income countries.</b>	▷ <i>It may be difficult for policymakers to replicate the study settings or organisation of care in low-income countries.</i>
EQUITY	
→ <b>The included studies provided little data regarding the differential effects of the interventions on disadvantaged groups within the included populations.</b>	▷ <i>The effects of changes in the setting or organisation of care may vary in disadvantaged communities.</i>
ECONOMIC CONSIDERATIONS	
→ <b>Economic evaluations were not reported on in the review.</b>	▷ <i>Changes to the organisation of care may require training, human resources, the provision of necessary drugs and supplies, and have other associated costs. The cost-effectiveness and sustainability of such measures are uncertain.</i>
MONITORING & EVALUATION	
→ <b>Some interventions included in this review appeared promising, but the certainty of the evidence was mostly low or very low.</b>	▷ <i>Consideration should be given to evaluating the impact of the interventions described using robust methods before attempts are made to implement large-scale changes. Both intended outcomes and potential adverse effects should be evaluated and monitored.</i>

\*Judgements made by the authors of this summary, not necessarily those of the review authors, based on the findings of the review and consultation with researchers and policymakers in low-income countries. For additional details about how these judgements were made see: [www.supportsummaries.org/methods](http://www.supportsummaries.org/methods)

# Additional information

## Related literature

Ofman JJ, Badamgarav E, Henning JM, et al. Does disease management improve clinical and economic outcomes in patients with chronic diseases? A systematic review. *American Journal of Medicine* 2004; 117:182–92.

Oxman AD, Bjorndal A, Flottorp S, Lewin S, Lindahl AK: Integrated Health Care for People with Chronic Conditions. Oslo, Norwegian Knowledge Centre for the Health Services; 2008. <http://www.kunnskaps-senteret.no/en/publications/integrated-health-care-for-people-with-chronic-conditions.a-policy-brief>

Bemelmans M, Van Den Akker T, Ford N, et al. Providing universal access to antiretroviral therapy in Thyolo, Malawi through task shifting and decentralization of HIV/AIDS care. *Trop Med Int Health* 2010; 15(12):1413–20.

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## Conflict of interest

None declared. For details, see: [www.supportsummaries.org/coi](http://www.supportsummaries.org/coi)

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This summary has been peer reviewed by: Edward Mills, Anne-Marie Tynan, Simon Goudie, and Hanna Bergman.

## This review should be cited as

Handford C, Tynan AM, Rackal JM, Glazier R. Setting and organization of care for persons living with HIV/AIDS. *Cochrane Database of Systematic Reviews* 2006, Issue 3. Art.No.: CD004348.

## The summary should be cited as

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## About certainty of the evidence (GRADE)

The “certainty of the evidence” is an assessment of how good an indication the research provides of the likely effect; i.e. the likelihood that the effect will be substantially different from what the research found. By “substantially different” we mean a large enough difference that it might affect a decision. These judgements are made using the GRADE system, and are provided for each outcome. The judgements are based on the study design (randomised trials versus observational studies), factors that reduce the certainty (risk of bias, inconsistency, indirectness, imprecision, and publication bias) and factors that increase the certainty (a large effect, a dose response relationship, and plausible confounding). For each outcome, the certainty of the evidence is rated as high, moderate, low or very low using the definitions on page 3.

For more information about GRADE: [www.supportsummaries.org/grade](http://www.supportsummaries.org/grade)

## SUPPORT collaborators:

The **Cochrane Effective Practice and Organisation of Care Group (EPOC)** is part of the [Cochrane Collaboration](http://www.cochrane.org). The Norwegian EPOC satellite supports the production of Cochrane reviews relevant to health systems in low- and middle-income countries. [www.epocoslo.cochrane.org](http://www.epocoslo.cochrane.org)

The **Evidence-Informed Policy Network (EVIPONet)** is an initiative to promote the use of health research in policymaking in low- and middle-income countries. [www.evipnet.org](http://www.evipnet.org)

The **Alliance for Health Policy and Systems Research (HPSR)** is an international collaboration that promotes the generation and use of health policy and systems research in low- and middle-income countries. [www.who.int/alliance-hpsr](http://www.who.int/alliance-hpsr)

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The **Effective Health Care Research Consortium** is an international partnership that prepares Cochrane reviews relevant to low-income countries. [www.evidence4health.org](http://www.evidence4health.org)

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