Palliative care in Africa: a scoping review from 2005–16

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Since the last comprehensive review on the development of national palliative care in Africa was undertaken 12 years ago, in 2005, we did a scoping review of peer-reviewed, published articles on palliative care development between 2005–16 for each African country. The scoping review was conducted by assessing the medical literature and including local expert recommendations of suggested articles. We did a basic quality assessment of the articles using the journals' impact factor, journal quartile, and the number of citations as suitable metrics for quality consideration. Articles published in English, Spanish, Portuguese, and French that mentioned at least one dimension of WHO's palliative care public health strategy (implementation of services, education, policies, or medicine availability) and vitality (activity by professionals or advocates) were included. Of the 518 articles found, 49 met the inclusion criteria. Information on 26 (48%) of 54 African countries was found. Most services were concentrated in Kenya, South Africa, and Uganda, and 14 (26%) countries showed an increase in services during this timeframe. Stand-alone palliative care policies exist in Malawi, Mozambique, Rwanda, Swaziland, Tanzania, and Zimbabwe. Postgraduate diplomas in palliative care are available in Kenya, South Africa, Uganda, and Tanzania. Restricted access to opioids, prescriber restriction laws, and a low prevalence of morphine use remain common barriers to adequate palliative care provision. Although information on palliative care is unevenly distributed, the available information showed an increased development of palliative care services in a subset of African countries. Despite this growth, however, there is still minimal to no identified palliative care development in most African countries.

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Introduction

Although the reach of palliative care services is increasing worldwide, progress varies greatly by region.[1] There have been efforts to describe the development of palliative care services globally,[1,2] and several publications have reported on the state of palliative care by region, including in Latin America[3] and Europe.[4] However, information on the current state of palliative care development in other regions, such as Africa, are missing.

The last comprehensive overview of palliative care development focusing exclusively on Africa was a textbook published in 2006 by David Wright and Michael Clark.[5] Subsequently, global research has aimed to qualitatively and quantitatively measure the development of palliative care, including in Africa, using resources such as a world map of palliative care provision,[6] and an updated world map with a new categorisation of palliative care development.[1] Palliative care has developed substantially in several African countries since 2006, as evidenced by changes to the categories of palliative care achieved by these countries in the global atlas: from 2006 to 2013, 15 African countries moved to higher levels.[1,6] Another related resource is the Economist Intelligence Unit's 2015 Quality of Death Index.[2] This study measured 24 indicators across 80 countries globally, including 13 African countries, and focused on the quality and availability of palliative care services for adults. Domains included palliative and health-care environment, human resources, affordability of care, quality of care, and community engagement. Other scientific literature about global, comparative palliative care development in Africa is focused on opioid and medicine availability.[7]

Therefore, this scoping review aimed to improve the understanding of the progress of palliative care within Africa since the 2006 textbook publication, and to categorise its development in conjunction with WHO's palliative care public health strategy dimensions[8] (services, education, policies, and medicine availability) and the activities of professionals and advocates. We assessed this development by conducting a country-specific scoping review of peer-reviewed literature over the last 12 years.

Methods

Palliative care development refers to "processes, structures, policies, and resources that support the delivery of palliative care".[4,9] We categorised development[10] using the WHO palliative care public health strategy dimensions[8] and vitality[11,12] (the existence of a measurable critical mass of activists and professionals participating in specific palliative care activities and promoting key objectives). National-level development of palliative care across 54 countries was included in the analysis, based on the countries within the mission of the African Palliative Care Association (APCA).

The following methodology of the scoping review was structured on the basis of the recommendations by Hilary Arskey and Lisa O'Malley[13] and undertaken systematically. A scoping review was chosen to gain a broad overview of the medical literature regarding palliative care development in Africa and to provide an analysis of this literature alongside the WHO public health strategy dimensions.[14]

Search strategy

The search engines PubMed, CINAHL, and Embase were used in our search. These databases were recommended by the library at Icahn School of Medicine at Mount Sinai (New York, NY, USA) as the most appropriate sources for

the relevant subject matter from major medical and nursing literature. In PubMed, we used the following search terms to look for papers published from 2005–16: ("Palliative care"[MeSH] OR "palliative medicine"[MeSH] OR "hospice and palliative care nursing"[MeSH] OR "hospices"[MeSH] OR "hospice care"[MeSH] OR hospice*) AND ("Country"[MeSH]). In CINAHL, we used the following search terms to look for papers published in 2005–16: (MH "Country") AND (MH "Hospices") OR (MH "Hospice Care") OR (MH "Palliative Care") OR (MH "Hospice and Palliative Nursing") OR (MH "Hospice Patients"). Over the same time period, we used the following search terms in Embase: (palliative therapy) OR (palliative nursing) OR (cancer palliative therapy) OR (hospice care) OR (hospice) OR (hospice patient) OR (hospice nursing) AND (Country.mp). Additional articles were included by asking 76 experts in palliative care across 43 countries in Africa, who were chosen because of their experience in palliative care. The experts, many of whom were advocates working with the APCA or members of their respective national palliative care associations and who were identified by the Research Manager and the Executive Director of APCA and the CEO of the International Association for Hospice and Palliative Care, were asked to send articles that they felt were important to include and were omitted from the initial search findings. The choice of experts was overseen by the APCA. Each expert was contacted with the list of articles found in the scoping review for their respective country. The expert was then asked to provide any additional articles that they felt were missing from their list. The suggested articles were subject to the same inclusion and exclusion criteria as the articles identified by the database search.

See Online for appendix

Selection criteria

Articles were deemed eligible if they met all of the following inclusion criteria: they mentioned at least one dimension of the WHO palliative care public health strategy (education, policy, implementation of palliative care services, or medicine availability)[8] plus vitality;[12] provided country-level data; were published from Jan 1, 2005, to Dec 31, 2016; and, the study language was either English, French, Portuguese, or Spanish. Study formats included comparative studies, conference abstracts, conference presentations, letters to editors, and others, such as commentaries and editorials. Non-peer-reviewed publications, such as reports or website articles of organisations such as palliative care societies, were ineligible for inclusion. The search was restricted to the peer-reviewed literature to ensure that high-quality information was used in the analysis. Two investigators (JYR and EG) independently sorted the articles into the categories "excluded" and "included" on the basis of the title, abstract, and full text, according to the inclusion criteria listed above. Categorisation choices were compared and, where there was disagreement, the researchers discussed the content of the article until they agreed on a categorisation. For articles with no available abstract, categorisation based on the title alone was used. JYR and EG then independently assessed all abstracts that passed the inclusion criteria by full text. In the case of conference proceedings or abstracts without a full text, these documents were used as the full text and referenced accordingly.

Data extraction and quality assessment

We extracted information relevant to palliative care development by country based on the different elements of the WHO palliative care public health strategy and vitality. We then did a cross-country analysis using the extracted information, and organised the information by the dimensions of the WHO strategy[8] and vitality. The appendix shows a summary list of the final articles included, organised alphabetically by country. Single-country articles were granted the same importance as multiple-country articles. All information related to national-level palliative care development was extracted in the same manner regardless of whether the article covered one or several countries. A simple characterisation of the quality of the articles was performed through journal quartiles and the journal's 2016 impact factor using Web of Science and the number of citations in Google Scholar and Web of Science at the time of the search (Oct 12, 2016). If an impact factor was not listed in Web of Science, a manual Google search was conducted for that article's journal. In the rare cases in which the journal only had a quartile and impact factor for 2015 available, the 2015 numbers were used.

Findings

The scoping review yielded 662 articles (652 from database search, eight from expert recommendations), but this number was reduced to 518 after duplicates were removed (figure 1). On the basis of the title or abstract categorisation, 397 articles were removed. 121 articles were reviewed in-depth and were screened for eligibility, of which 49 publications (46 from the scoping review and three from expert recommendations) were screened and included in the final analysis. 28 (37%) of 76 local experts responded to the request for additional articles. There were no articles found for 28 (52%) of the 54 countries, most which were from non-Anglophone countries (appendix). The year with the highest number of articles included was 2014 (n=9), followed by 2016 (n=7), with 17 (35%) articles published in the last 3 years (2014–16).

Service provision and implementation

Information on service provision was only available for 19 countries, with Kenya, South Africa, Tanzania, Uganda, and Zimbabwe having the greatest number of palliative care services. As a result, the following analysis focuses mainly on these countries. Compared with the Wright and Clark study,[6] which gathered data from 2006–06, there has been an increase in the number of

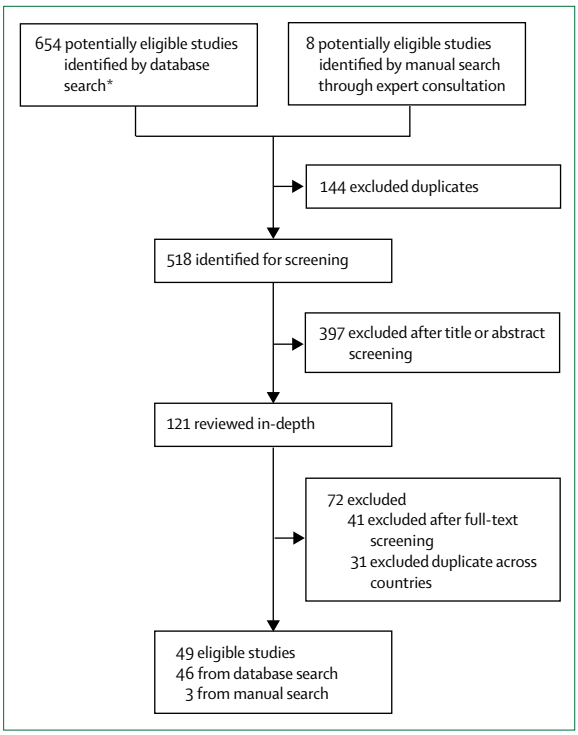

***Figure 1*: Study selection process of scoping review**
*From PubMed (n=242), Embase (n=211), and CINAHL (n=201).

	Wright et al[6] review, data from 2006	Scoping review
South Africa[1]	120	210*
Kenya[1]	8	44*
Uganda[1]	8	34*
Tanzania[1]	4	20*
Zimbabwe[1]	13	13
Malawi[1]	5	9*
Nigeria[1]	2	8*
Botswana[1]	3	4*
Egypt[1]	3	3
Namibia[1]	0	3*
Sudan[1]	0	2*
Morocco[15,16]	1	1
Ethiopia[17]	0	1*
The Gambia[17]	1	1
Lesotho[1]	0	1*
Sierra Leone[18]	1	1
Rwanda[19]	0	>1*
Côte d'Ivoire[20]	0	>1*
Libya[16]	0	>1*

Information from Wright et al, 2008, was collected in 2006. The scoping review was done with information available up to 2016, and the source of this information is indicated in the references after the country name. *Indicates that the number of services has increased.

***Table*: Changes to the total number of palliative care services in some African countries from 2005–16**

services in 14 (26%) countries over the past 12 years (table), of which South Africa, Kenya, Uganda, and Tanzania have had the greatest increase.

Botswana, Côte d'Ivoire, Egypt, Malawi, Namibia, and Nigeria also showed increases in the number of palliative care services. In 2011, Botswana had four hospice and palliative care services.[1] In Côte d'Ivoire, palliative care is provided in facilities providing specialised services and in religious organisations, coordinated by its national association against pain.[20] In Egypt, there were two free-standing palliative care units in 2009, one of which is a hospital unit, and one of which is a home care service, as well as an outpatient clinic.[21] Malawi has nine hospice and palliative care services,[1] with one hospital providing both hospital teams and home care services.[22,23] Namibia has three hospice and palliative care services,[1] and Nigeria has eight centres across the country[24] mainly based in hospitals or offering home visits,[17] with at least five formally qualified physicians and four formally qualified nurse specialists practising palliative care for the country.[1] The rest of the countries had few or no identifiable palliative care services (table; appendix). One country (Sudan) was identified as having two hospice and palliative care services,[1] whereas another six countries (Ethiopia,[17] The Gambia,[1] Lesotho,[1] Morocco,[15,16] Rwanda,[19] and Sierra Leone[18]) only had one each.

Kenya has 44 palliative care services,[1] and palliative care is available in 20 of Kenya's 47 counties.[25] Kenya offers many different types of services from palliative care teams in two mission hospitals,[26] six hospitals providing inpatient provision,[26] and 41 government hospitals, which have dramatically increased from the initial 11 total services available in 2011.[27] In 2016, 11 level-five (county referral) government and provincial hospitals across the country had palliative care units, serving 30 000 patients with more than 220 trained health professionals.[25]

In 2005, South Africa had 76 hospices and palliative care organisations[26] in 42 known branches (defined as service that has local ownership with a discernible local structure, local proactivity, and a local focal point[26]). There were few specialist services for children's palliative care in South Africa in 2005, and even fewer hospital-based and community-based programmes.[28] Palliative care services can be found in most hospital settings throughout the country.[26] The most recent published scientific data shows that there were about 69 hospices (which represent a proportion of the 120 total services in the table) at the end of 2005, with ten additional home-based palliative care services being planned to be in place by the end of 2006.[29]

Tanzania had 20 hospice and palliative care services by the end of 2011.[1] Rapid development of services was aided by a large grant in 2006 from the Foundation for Hospices

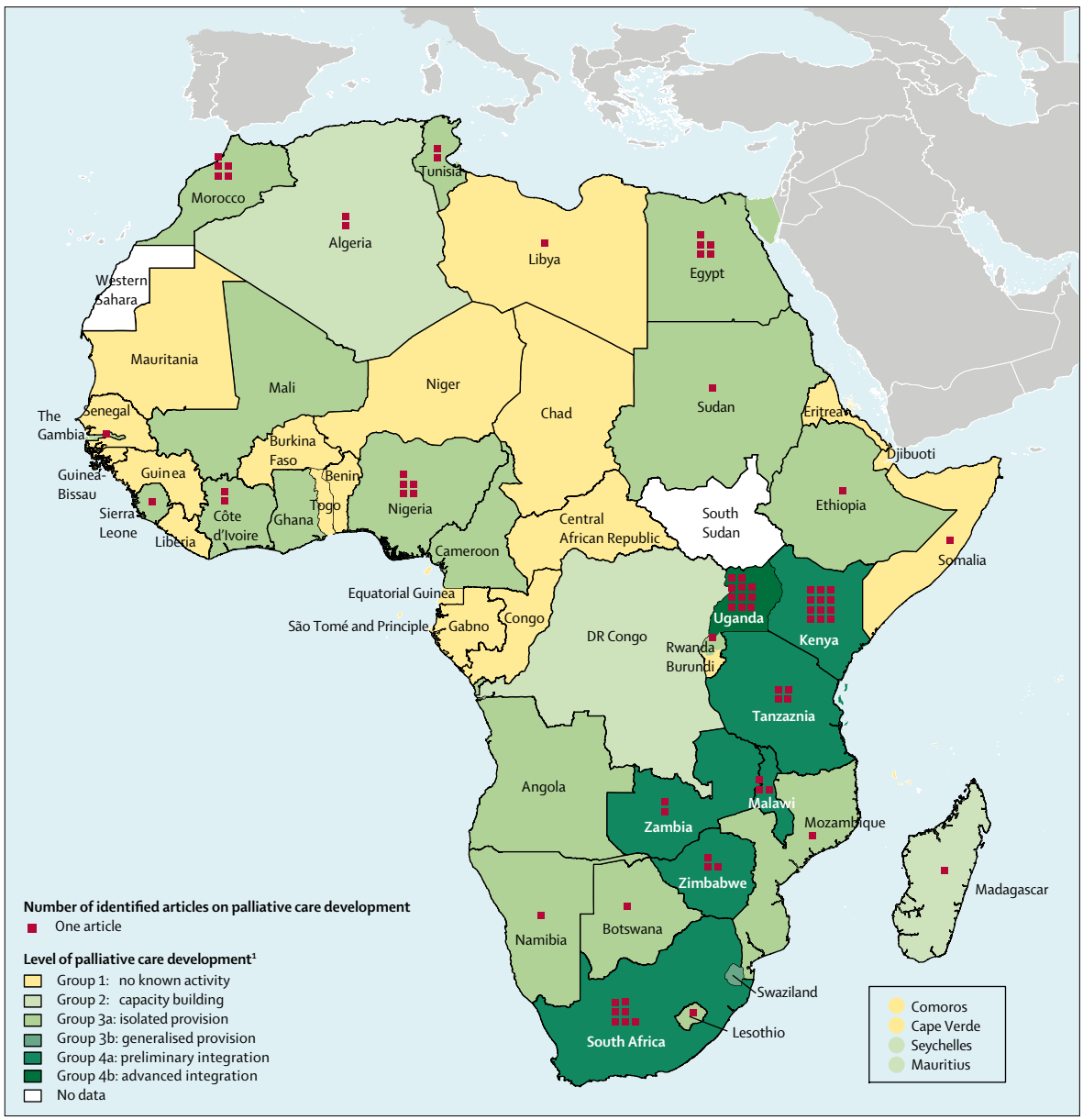

Figure 2: **Levels of PC development across Africa, according to the World Map,[1] and number of identified articles on PC development in these African countries**
PC=palliative care.

in sub-Saharan Africa that expanded palliative care services to many rural regions of Tanzania.[17]

Uganda is unique since it was the only African country that scored in the highest category for palliative care development in the updated world map (figure 2; ie, group 4b: advanced integration of palliative care into medical services).[1] Uganda provided inpatient palliative care services through two hospices and six hospitals in 2006, including seven home care services and six day care clinics.[26] However, Uganda is best known for one of the most successful hospice models, Hospice Africa Uganda, which has a centre in Kampala and three satellite hospices across the country, including a programme working with community volunteer workers who identify those in need of palliative care services in their villages.[30] In 2011, Uganda had a high palliative care service to population ratio at 1:962 000 with 34 services available.[1]

Zimbabwe has 13 hospice and palliative care services[1] through an affordable and sustainable community-based hospice and palliative care service model.[31] At the end of 2006, there were six hospitals providing inpatient palliative care service and four providing day care or clinic service.[26] Island Hospice Service, the first hospice in Africa, was founded in 1979 and comprises home-based

care and two hospices that provide inpatient services.[26] Zimbabwe's service provision has been greatly affected by the country's political volatility in the last decade but, through help from the APCA, the reach and availability of services have substantially increased in the past 5 years.[1]

Additionally, Kenya, Malawi, South Africa, Tanzania, Uganda, and Zimbabwe have specialist palliative care services for paediatrics.[32]

Medicine availability

Information on medicine availability was found for 18 countries. In general, availability of opioids in Africa is low; often, countries had strict limitations on opioid use and prescription, such as in Côte d'Ivoire,[1] Egypt,[33,34] Nigeria,[17] and Rwanda.[19] Some countries, such as Tanzania[35] and Ethiopia,[17] require specific licences to prescribe or administer morphine. However, advocacy has been directed towards eliminating unduly restrictive legal laws and regulations on prescribers of morphine in many countries, including Sierra Leone,[18] South Africa,[29] Uganda,[26] and Zambia.[36] South Africa had the highest consumption of morphine,[37] and Tunisia had the highest consumption of morphine per capita amongst non-Anglophone African countries.[7,38] Morphine powder is constituted nationally in Kenya,[39] Sierra Leone,[40] and Uganda.[37]

Policies

Information on palliative care policy was available for 14 countries. National palliative care guidelines were identified in Kenya,[41] Malawi,[22] and Uganda.[42] Côte d'Ivoire,[20] Kenya,[31] Rwanda,[19] South Africa,[31] and Tanzania[31] have integrated palliative care into health-care policy. Côte d'Ivoire has a national policy for palliative care developed in the context of the HIV/AIDS epidemic.[20] Malawi, Mozambique, Rwanda, Swaziland, Tanzania, and Zimbabwe have stand-alone national palliative care policies, and Botswana and Uganda have drafted national policies that are in the process of being adopted.[43]

Palliative care in Africa can be dependent on external donors and funds, such as in South Africa[26] and Nigeria,[17] and financial constraints are often major barriers to receiving palliative care, such as in Côte d'Ivoire[20] and Morocco.[44] The Government of Uganda has dedicated part of its national budget specifically to palliative care development.[26]

Education

Information on palliative care education was found for 13 countries. Postgraduate diplomas in palliative care are available in Kenya,[41,45] South Africa,[31,45,46] Uganda,[45] and Tanzania.[17] Of these countries, Uganda, Kenya, and Tanzania have postgraduate diplomas for paediatric palliative care,[45] and planning is underway to develop postgraduate courses in Botswana, Namibia, and Rwanda. Uganda and South Africa recognise palliative care as an examinable academic subject.[45]

Palliative care is included in the medical undergraduate curricula in Botswana,[32] Côte d'Ivoire,[44] Egypt,[33] Ethiopia,[17] Kenya,[32] Malawi,[32] Nigeria,[17,32] South Africa,[46] Uganda,[32] and Zambia,[32] and strategies for implementation are in development in Namibia, Botswana, Malawi, Tanzania, and Kenya.[45] In Côte d'Ivoire, the module on palliative care is mandatory in the undergraduate medical curricula.[44] Palliative care is also offered in the undergraduate nursing curricula in Botswana,[32] Kenya,[25,41] Malawi,[32] South Africa,[32] Uganda,[30,47,48] and Zambia.[32] Additionally, an undergraduate degree in palliative care is offered by Makerere University in Uganda, in partnership with Hospice Africa Uganda.[32]

Certificate-level training in palliative care is also available in Egypt,[33] Ethiopia,[17] Kenya,[26] Malawi,[22,25] Zambia,[45] Swaziland,[45] Botswana,[45] and Nigeria,[17] Uganda,[30] and South Africa.[46]

Vitality

Information on vitality was available for 14 countries. National palliative care organisations are essential in advocating for palliative care development in their countries. Organisations such as the Kenya Hospice and Palliative Care Association,[26] Hospice Uganda Africa,[26] the Palliative Care Association of Uganda,[32] the Palliative Care Association of Malawi,[22] the Mozambique Palliative Care Association,[32] the Centre for Palliative Care Nigeria,[17] the Hospice and Palliative Care Association of Nigeria,[32] the Palliative Care Association of Rwanda,[32] the Tanzania Palliative Care Association,[17] the Palliative Care Association of Zambia,[36] the Hospice and Palliative Care Association of South Africa,[29] the Hospice Association of Zimbabwe,[26] the Moroccan Society of Pain and Palliative Care,[15] and the Palliative Care Association of Côte d'Ivoire[32] have crucial roles in supporting projects, providing training, and working with governments to develop policies and guidelines at the national level. Additionally, there are national associations under development in the Democratic Republic of Congo, Egypt, Ghana, Sierra Leone, and Swaziland.[32]

The APCA is the umbrella organisation that provides advocacy, training, and support to palliative care services across Africa.[1,28] There are also other international organisations that provide support and training in countries in Africa such as the International Association for Hospice and Palliative Care,[45] the Worldwide Hospice and Palliative Care Alliance,[45] the Virtual University for Cancer Control,[45] the International Association for the Study of Pain,[49] and the International Pain and Policy Fellowship.[40]

The countries with the greatest number of articles were Kenya (n=12), Uganda (n=11), South Africa (n=7), Egypt (n=5), Morocco (n=5), and Nigeria (n=5; appendix).

Measures of quality

An analysis on quality measures was conducted for the 49 articles. Of the 49 articles, 21 (43%) were published in

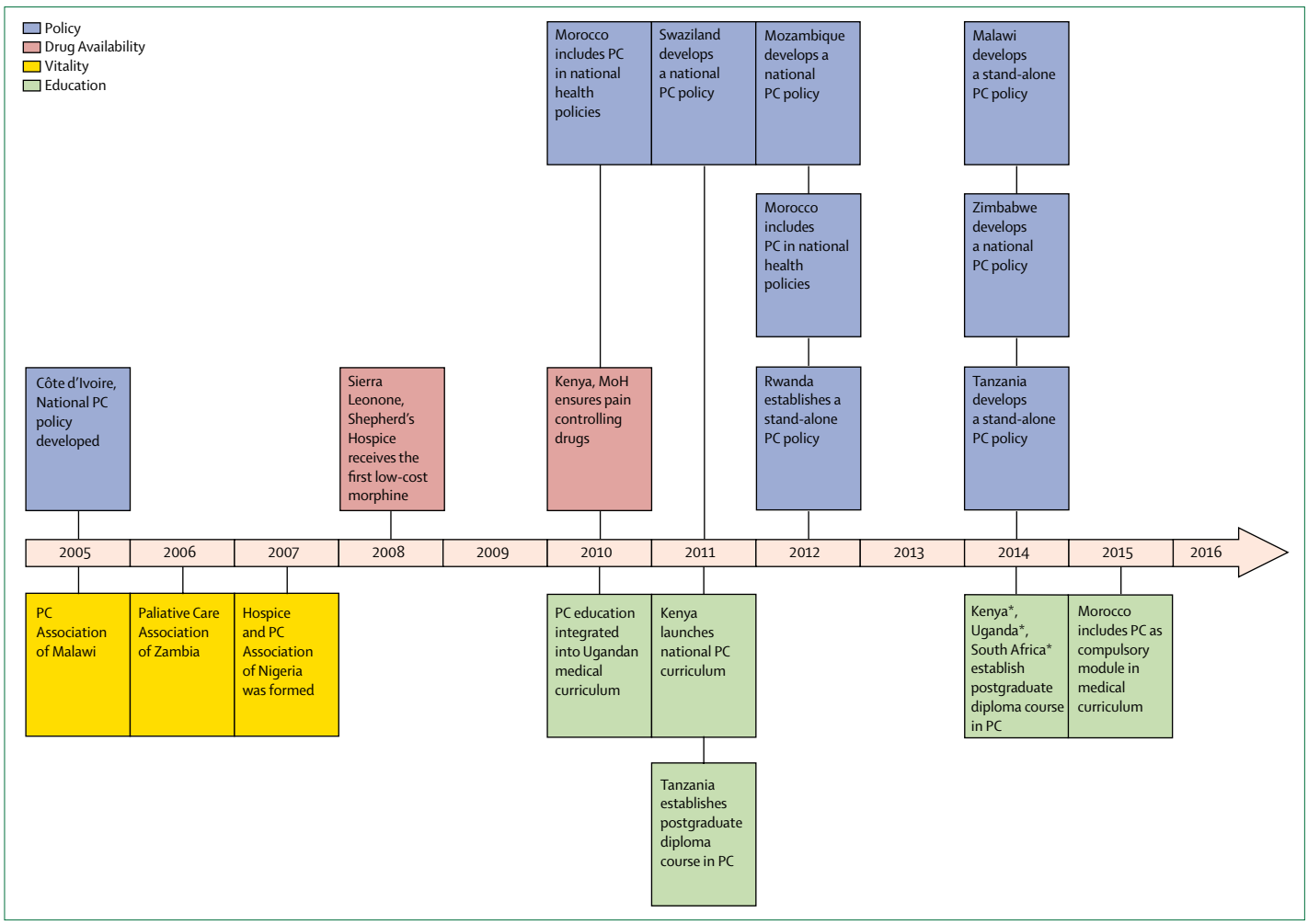

Figure 3: **Timeline of several major milestones that were observed in the scoping review**
PC=palliative care. MOH=Ministry of Health. *Exact dates of data unavailable, but known to be before 2014.

a quartile 1 (Q1) journal. Kenya had the highest number of articles on palliative care in Q1 journals (n=6).

Eight (16%) of the 49 identified articles were published in journals without a listed impact factor.

The article with the greatest number of citations in Google Scholar and Web of Science was from Wright and colleagues,[6] with 163 citations in Google Scholar and 61 citations in Web of Science at the time of the search.

Discussion

A total of 49 unique articles were identified that included aspects of palliative care development at the country level across 54 African countries. Most were published from Anglophone countries and were mainly from Kenya, Uganda, South Africa, and Tanzania. These countries also had the most information on palliative care development across all categories of the WHO palliative care public health strategy. For non-Anglophone countries, Morocco had the most information available on the development of palliative care. Service implementation and opioid availability were the most frequently covered topics. Notably, we could not identify studies on palliative care development at a national level in more than half of African countries.

However, our scoping review showed an increasing number of services in many African countries over the past 12 years, and showed that palliative care development is uneven across the continent and limited to a small subset of African countries. It is important to note that, since information on service provision came from several sources over many years, the analysis of service provision probably reflects a threshold level that facilitates the conducting of and reporting in research, rather than the exact number of services being provided within a country. Our Review also showed improvements in capacity-building milestones over the past 12 years, although these improvements were also limited to a small subset of countries (figure 3).

All of the articles were published in recognised peer-reviewed journals; about half of the articles were listed in

a Q1 journal across different specialties; and, the mean impact factor of the journals of the published articles was 3·9. However, across the different measures of quality, there were some articles that did not have information available in at least one indicator of the measures of quality. Of note, there has been an increase in publications on palliative care development: the years with the greatest number of publications regarding the progress of palliative care were 2014 and 2016, which seems to indicate a more recent growing body of literature on palliative care development in Africa.

This scoping review is, to our knowledge, the most comprehensive review of the literature on development of palliative care in Africa since Wright and Clark's textbook[5] in 2006, and the only scoping review available that reviews and analyses palliative care development in Africa. Our findings also assess the medical literature when palliative care is growing in African countries, as indicated by changes in world maps of the level of palliative care provision.[1,6] This Review adds to the growing body of literature assessing the development of palliative care in Africa, and describes a larger number of countries than other studies that assess palliative care development globally.[1,2,6]

The findings of our Review correlate well with other reports and publications[1,2,50] on global development of palliative care. Of the African countries in the global map of levels of palliative care, Uganda is listed in the highest level (4b: advanced integration), and Kenya, Malawi, South Africa, Tanzania, Zambia, and Zimbabwe are listed in the second highest category (4a: preliminary integration).[1] Our findings similarly showed Kenya, Uganda, South Africa, and Tanzania to be highly developed across the WHO palliative care public health strategy categories, and many of the countries with no information on palliative care development also corresponded with the lowest level in the world map (eg, Benin, Burkina Faso, Cape Verde;[1] figure 2). Similarly, the 2015 Quality of Death Index[2] lists the following African countries, in order of ranking, as the most developed in palliative care: South Africa, Uganda, Ghana, Morocco, and Tanzania, which, other than Ghana, also matches closely with what we found in our search. All countries that were included in the 2015 Quality of Death Index had at least one article with relevant information related to our search. In addition, most countries without any information on palliative care development were also not ranked in the 2015 Quality of Death Index.

A report by the All Ireland Institute of Hospice and Palliative Care, indicates that Uganda, Tanzania, South Africa, Kenya, Zambia, Swaziland, and Botswana are models for palliative care in Africa. Similarly, countries with more information on development (Uganda, Tanzania, South Africa, and Kenya) are congruent with the information provided in the All Ireland report.[50]

One notable finding is that, in the published medical literature, there is no information on palliative care provision for about half of African countries and, where data are available, these data pertain mostly to Anglophone African countries instead of non-Anglophone (particularly Francophone) African countries. This point is reflected in work by advocacy groups, such as Human Rights Watch, which states that Francophone African countries are lagging far behind in development compared with that of Anglophone countries.[51] This point is illustrated by the recent focus given to Francophone countries by the Department of International Programmes at Hospice Africa Uganda, which provides training in palliative care to health-care professionals across Africa.[52]

Our scoping review showed that availability of medicine remains a major issue across African countries, with access to morphine being a notable challenge. Although opioid availability is not the only aspect of palliative care development, previous work has shown that barriers to opioid availability are a key obstruction to further palliative care service development[53] because one of the crucial components of palliative care is pain management through opioid use. One study in Tanzania[54] showed that, although palliative care teams could address non-physical dimensions of pain, physical pain management was difficult when restrictions in opioid availability are present. Therefore, investigators iterated the importance of advocating for increased opioid availability in improving the provision of palliative care services.

There are several limitations to this scoping review. First, information was sourced only from articles published in scientific peer-reviewed journals. In Africa, relevant country-level information on palliative care might also be available in other forms, such as Ministries of Health reports, policies and plans, and reports or articles published on websites by national and international advocacy organisations, such as WHO, the APCA, or Human Rights Watch. For example, on the APCA website, the 2015–16 APCA Annual Report[55] provides current information on various aspects of the WHO public health strategy in countries where APCA has been providing technical support and outlines ways to improve service provision in nine countries. However, we did not include information from this report because it was not peer-reviewed. Although the report provides current information on services in various countries because its purpose is distinct (ie, to provide an overview of the work done by the APCA), the information does not necessarily contain an overview of palliative care provision in Africa as our scoping review attempts to do.

There is another (unpublished) report that reviews the state of palliative care development in ten southern African countries and provides a cross-country analysis on services, training, professional activity, and policy initiatives and frameworks that is not yet published in a peer-reviewed journal and, therefore, was omitted from our Review. Human Rights Watch also publishes on palliative care development in countries that they work

For the **APCA website** see http://www.africanpalliativecare.org

For a **review of the state of palliative care development in ten southern African countries** see: https://www.africanpalliativecare.org/images/stories/pdf/Review_of_the%20status_of_palliative_care_in_ten_Southern_African_countries_A_briefing_paper%20.pdf

in, such as Morocco.[56] The Economist Intelligence Unit's 2015 Quality of Death Index[2] did not appear in our search term, so we probably also missed other, similar reports that assess palliative care development in African countries.

Despite these omissions, we believe that our search strategy was comprehensive in reviewing the medical literature on palliative care development in Africa and addressed the initial aim of the study, which was to examine only peer-reviewed literature to retain scientific rigour. Furthermore, we believe that the status of the published literature in scientific peer-reviewed journals also reflects palliative care development, based on the premise that, with increasing development, there is also an increase in research, although these studies could potentially underestimate palliative care development in new and formative palliative care sites.

Relatedly, there are also often delays in scientific publication and, at times, a lack of translation from reports to scientific literature. This limitation is reflected in the report on the APCA website, which indicates that, of the ten southern African countries listed, seven countries have some form of national palliative care policies in place (whether stand-alone or integrated): Botswana, Malawi, Mozambique, Namibia, Swaziland, Zambia, and Zimbabwe (unpublished). However, our scoping review showed that Botswana, at the time of publication of the report in July 2016, only had a draft policy that has not yet officially been converted into a stand-alone palliative care policy.

A second limitation is that only three search engines plus a manual search were used, which might have resulted in important articles being missed from our search. For example, the global atlas[1] of palliative care was not listed in the search results of every one of our countries; this finding could have been because these data were not relevant in several countries, where the level of development is unknown according to the global atlas.

A third limitation is that impact factor, journal quartile, and number of citations for each article, were used to measure article quality. Although there are other ways of measuring quality, such as the GRADE approach;[57] published articles varied greatly in terms of methodology and type of study, which made it difficult to use the GRADE approach using this strategy. Therefore, impact factor, journal quartile, and number of citations were used to provide evidence of a minimal level of article quality.

Finally, a scoping review does not have the same rigorous quality standards as a systematic review. We chose to conduct a scoping review because palliative care development is narrative, and the information being searched for varied in format and structure, making a systematic review difficult to implement within this context. However, we have maintained quality measures by solely using peer-reviewed literature and rigorously applying the eligibility criteria for the methodology for the extraction of information, mirroring the quality requirements of a systematic review.

Conclusion

Our findings show that information is mostly concentrated in a small subset of countries. However, our findings also suggest that barriers and supporting factors to palliative care development in Africa are multi-factorial, and that palliative care development should not only focus on increasing the number of services or making essential medicines available, but also work simultaneously in improving health policies, education, and research. This scoping review indicates there has been a growing interest in palliative care by governments, as indicated through an increasing number of related policies, and that the work of palliative care advocates is finally progressing in education with the development of postgraduate diplomas, integration into undergraduate medical curricula, and the initiation of certificate or basic training programmes in several countries. Furthermore, our findings show an accelerated pace of palliative care development, with a growing body of research being published in the past few years. Therefore, these capacity-building aspects of the WHO public health strategy have caused an increase in number and quality of palliative care services in the past 12 years. This finding is also reflected in the world map of palliative care, in which level 2 palliative care provision requires capacity building, before being able to provide isolated provision of services (level 3). This finding is in stark contrast to the state of palliative care services in 2011, where many African countries were still considered to be at level 2.[1,6] Developments in policies, education, and research could help to support greater progress in the provision of palliative care services in Africa. We would also like to stress the importance of considering that there might be other capacity-building activities specific to the African context that are not reflected in the literature. We are working on an atlas to identify and measure indicators that are specific and important to the African context to better measure palliative care development. This atlas will provide the basis of a comprehensive and comparative analysis of the current state of palliative care development in Africa in accordance with the WHO palliative care public health strategy dimensions.

Future studies could include unpublished literature by reviewing national policies and plans, Ministry of Health reports of African countries, reports or website publications by advocacy organisations, and publications under review, to obtain more recent data on palliative care development, including cancer plans and HIV/AIDS plans, in which palliative care is often included as a component.[58] Future studies could also incorporate more in-depth quality indicators to evaluate the quality of the articles that resulted from our search. Additionally, further work can analyse whether the number of articles on palliative care development can act as a proxy to assess the quality of palliative care services in African countries.

Contributors
JYR, EG, and CC submitted work for ethical approval, carried out the study, and edited the manuscript. CT, SB, and IA collected the data. EN, EL, LdL, and RAP submitted work for ethical approval, designed the manual search, identified experts, and edited the manuscript. All authors contributed to study design, analysis of data, and the initial manuscript write-up.

Declaration of interests
We declare no competing interests.

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