AN INTERNATIONAL SYSTEMATIC AND SCOPING REVIEW OF THE ATTRIBUTES, BENEFITS, AND EFFECTIVENESS OF COMPREHENSIVE CANCER CENTRES

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BACKGROUND

- Comprehensive Cancer Centres (CCCs) are regarded as centres of excellence in multidisciplinary cancer care delivery that require substantial investment of resources.[1]
- Variation exists internationally in the scope, framework, defining characteristics, patient outcomes, and challenges facing CCCs.[2,3]

AIMS

To explore the core attributes and benefits of CCCs **(Scoping review (ScR))** and synthesize the literature reporting patient-relevant outcomes at CCCs compared to non-CCCs **(Systematic Review (SR))**

METHODS

Data Sources: PubMed, Cochrane CENTRAL, CINAHL, Epistemonikos and grey literature

Eligibility: Sources describing core attributes and benefits of CCCs (ScR); Studies comparing patient relevant outcomes at CCCs vs non-CCCs (SR)

Process: Articles screened, assessed and extracted by two independent reviewers

Appraisal: Studies assessed using JBI critical appraisal tools and GRADE used for certainty

Analysis: Results narratively synthesised and meta-analysis used as appropriate

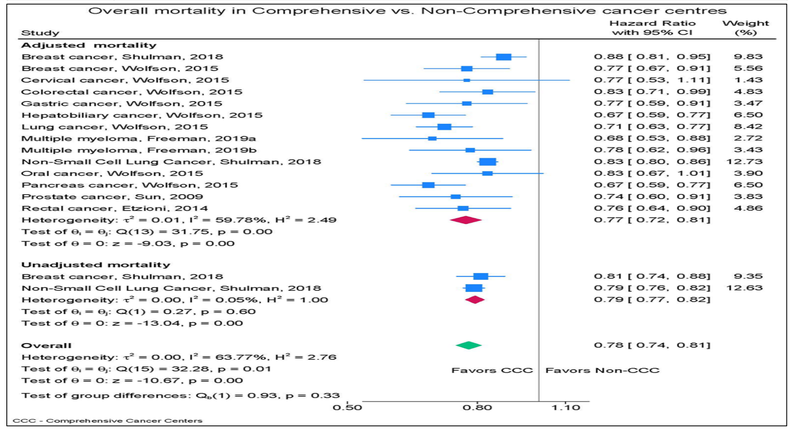
INCLUDED STUDIES

Systematic Review	Scoping Review
3,018 studies screened, 32 included	3,481 studies screened, 71 included
94% observational cohort studies	31% opinion pieces; 21% observational pilot or case studies
62% studies >1000 participants; 65% included multiple CCCs; 85% adults; 69% solid tumours	Described key characteristics and core services/activities
Compared patient-relevant outcomes in CCCs versus non CCCs	Provided practical guidance for CCC development
Majority USA CCCs (88%)	Majority from Europe (42%) and USA (27%)

SYSTEMATIC REVIEW RESULTS

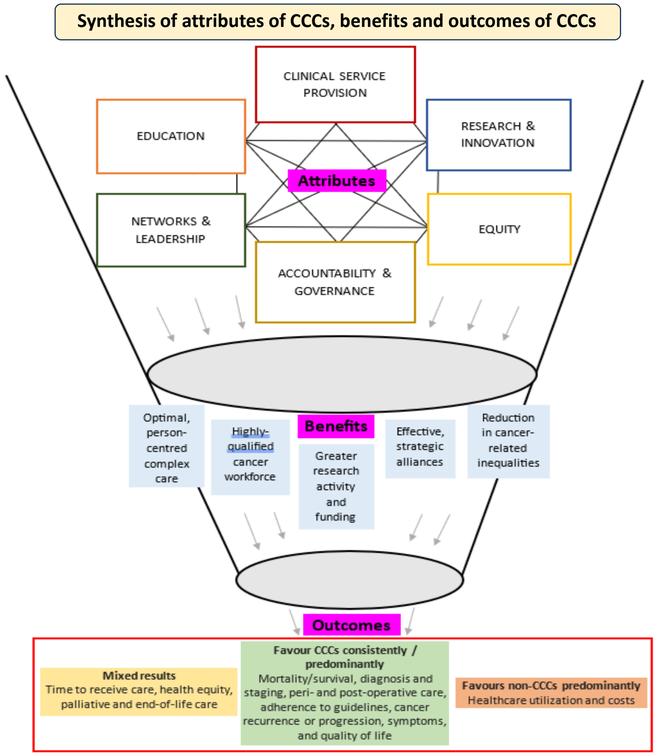
- A summary of subjective ratings of categorised outcomes per study, with sample size are displayed in the table below.
- In meta-analysis, the forest plot of random-effect model shows a significantly (22%) lower risk of overall all-cause mortality [HR: 0.78, 95%CI 0.74, 0.81 , p<0.001] at 5 years among cancer patients treated at CCC compared to Non-CCC.

Outcomes	Number of studies (sample size) – GREEN, favours CCC; YELLOW, neutral or mixed; ORANGE, favours non-CCC
Quality of care	
Diagnosis and staging	N=6,678 N=1,649 N=1,191
Time to receive care	N=242 N=604 N=330,346
Peri- and pos-operative practice	N=9,327 N=604 N=575 N=72
Adherence to guidelines	N=9,933 N=2,589
Palliative and end-of-life care	N=12,272 N=997 N=3,157 N=359
Mortality / survival	N=77,552 N=69,579 N=18,790 N=9,933 N=2,589 N=1,870 N=1,344 N=1,029 N=204 N=553 N=192
Health equity	N=9,877 N=1,870 N=1,334 N=69,579 N=29,337 N=242
Healthcare utilisation/costs	N=151,229 N=54,942 N=1,797 N=746 N=299
Recurrence / progression	N=575 N=204 N=242
Symptoms / quality of life	N=359 N=149



SCOPING REVIEW RESULTS

- Six core attributes characterising CCCs, and stated benefits of CCCs as reported in the literature are displayed in the figure below.



TAKE HOME MESSAGES

- Core attributes are reported to lead to a range of benefits, largely reported in opinion pieces.
- The evidence highlights superior outcomes for survival and mortality, symptoms management and quality of care. However, there are opportunities for CCCs to improve outcomes related to healthcare utilisation and costs, health equity and palliative and end-of-life care.
- The findings from this review can inform the future evolution of CCCs globally.

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