



疾病控制优先的演进及应用*

潘杰^{1,2}, 王秀丽^{1,3}, 王朝辉^{1,3}, 徐东^{4,5}, 邹锐^{6,7}, 李芹^{1,3Δ}

1. 四川大学华西公共卫生学院/四川大学华西第四医院 HEOA Group (成都 610041); 2. 四川大学中国南亚研究中心 (成都 610064);
3. 四川大学健康城市发展研究中心/西部农村卫生发展研究中心 (成都 610041);
4. 南方医科大学卫生管理学院 Acacia 实施科学实验室 (广州 510275); 5. 南方医科大学全球健康研究中心 (广州 510275);
6. 四川大学华西第二医院 药学部/循证药学中心 (成都 610041); 7. 国家药品监督管理局药物制剂体内外相关性技术研究重点实验室/出生缺陷与相关妇科疾病教育部重点实验室(四川大学) (成都 610041)

【摘要】 疾病控制优先(disease control priority, DCP)是一种重要的公共健康干预策略。该策略首先依据疾病负担严重程度、疾病防治技术有效性、现有卫生系统的防治能力等一系列标准筛选出应作为优先防控的疾病,然后就这些疾病的防控技术展开定性(如面对面访谈、专家咨询、研讨会等)和定量(如成本效益分析、多准则决策分析等)评估,最终确定应作为优先推进的公共卫生举措。从理念的产生,到概念的正式提出,再到实践的指导,DCP历经70多年,为提高发展中国家医疗卫生服务体系效率,促进人群健康做出了重要贡献。本研究系统梳理DCP产生背景、发展历程、实现方法和实践应用,旨在探讨DCP在卫生治理中的应用潜能,为全面推进健康中国建设提供技术支撑和决策参考。

【关键词】 疾病控制优先 卫生体系 发展中国家 健康中国

Evolution and Application of Disease Control Priorities PAN Jie^{1,2}, WANG Xiuli^{1,3}, WANG Chaohui^{1,3}, XU Dong^{4,5}, ZOU Kun^{6,7}, LI Qin^{1,3Δ}. 1. HEOA Group, West China School of Public Health and West China Fourth Hospital, Sichuan University, Chengdu 610041, China; 2. China Center for South Asian Studies, Sichuan University, Chengdu 610064, China; 3. Institute for Healthy Cities and West China Research Center for Rural Health Development, Sichuan University, Chengdu 610041, China; 4. Acacia Lab for Implementation Science, School of Health Management, Southern Medical University, Guangzhou 510275, China; 5. Institute for Global Health, Southern Medical University, Guangzhou 510275, China; 6. Department of Pharmacy/Evidence-Based Pharmacy, West China Second University Hospital, Sichuan University, Chengdu 610041, China; 7. National Medical Products Administration's Key Laboratory for Technical Research on Drug Products In Vitro and In Vivo Correlation/Key Laboratory of Birth Defects and Related Diseases of Women and Children of the Ministry of Education, Sichuan University, Chengdu 610041, China

Δ Corresponding author, E-mail: pengli_0922@163.com

【Abstract】 Disease control priority (DCP) is an important public health intervention strategy. Diseases that should be prioritized for prevention and control are first screened with a series of criteria, including the severity of the disease burden, the effectiveness of disease control technologies, the prevention and control capacity of the existing health system, etc. Then, the prevention and control technologies for these diseases undergo qualitative evaluation (eg, face-to-face interviews, expert consultation, workshops, etc) and quantitative evaluation (eg, cost-benefit analysis, multi-criteria decision analysis, etc). Finally, the public health initiatives that should be prioritized are identified. From the conception of the idea, to the formal proposition of the concept, to guidance for practice, DCP has gone through more than 70 years of development. Through DCP, significant contributions has been made to improving the efficiency of health care service systems and promoting the health of populations in developing countries. Herein, we systematically reviewed the background, development history, realization method, and practical applications of DCP, focusing on exploring the application potential of DCP in health governance and providing technical support and decision-making reference for the comprehensive promotion of the Healthy China Initiative.

【Key words】 Disease control priorities Health system Developing countries Healthy China Initiative

* 国家自然科学基金(No. 72374149, No. 72204175, No. 72104158, No. 42071379, No. 72204031), 四川省自然科学基金(No. 2022NSFSC0642), 瑞士发展与合作署全球合作部资助“优质卫生系统”项目(No. 81067392)和公共健康关键问题的对策研究项目(No. ccsas202204)资助

Δ 通信作者, E-mail: pengli_0922@163.com

出版日期: 2024-01-20

疾病控制优先(disease control priority, DCP)是促进人群健康的重要干预策略。为改善低经济水平、低卫生资源发展中国家的人群健康,1993年世界卫生组织(World Health Organization, WHO)和世界银行(World Bank, WB)等国际组织正式发布《发展中国家疾病控制优先事项(第一版)》(DCP1),疾病控制优先从理论层面转变为具体的疾病干预措施^[1]。在应用DCP1的过程中,不断更正和完善,形成了第二版(DCP2)和第三版(DCP3)^[2-3]。在疾病防控、卫生资源配置及卫生技术评估等领域,DCP的三个版本(后人统称为“DCP”)已被证实是一个指导决策的有效策略,通过筛选出一系列DCP事项的干预措施,指导发展中国家选择重要疾病进行优先控制^[4]。

然而,目前大多数发展中国家使用DCP,主要是简单地复制干预措施(即利用疾病优先干预措施排序的最终结果)做决策,而忽略了干预措施优先排序的过程(如本土的数据收集和数据分析等)^[5]。在社会和经济不断发展、疾病谱不断变化的背景下,这种“照搬”模式无法适应疾病优先次序动态变化的过程,导致DCP的政策效应得不到充分发挥。究其原因,可能是利益相关者对DCP认识不足^[6]。

因此,本研究通过深入阐述DCP这项健康干预策略的产生背景、演变历程及实现方法等内容,有助于利益相关者完善相关数据的收集和更新相关方法的应用,并评估DCP的地方适应性、可持续性和有效性,生成本土化的DCP。进而指导卫生决策,推进可持续发展目标(sustainable development goals, SDGs)和全民健康覆盖(universal health coverage, UHC)等全球目标的实现,最终全面提升人群健康水平。

1 DCP产生背景及演变历程

第二次世界大战给世界经济和人类健康造成了巨大损害。在此背景下,为了将高度紧张的医疗资源投入到严重影响人类健康的疾病中,国际卫生组织选择了一些疾病作为控制的优先事项,这些疾病包括20世纪50年代的疟疾、70年代的天花及90年代的艾滋病、结核病、疟疾和儿童疫苗可预防疾病等,一系列疾病在全球疾病议程中不断变化优先顺序,选择重要疾病进行优先控制的理念逐渐形成^[7]。

随着20世纪50-90年代疾病谱的快速转变,以及非传染性疾病种类日益多样化和复杂化,发展中国家获得众多疾病干预措施成本效益的需求日益增加。为了满足这一需求,20世纪80年代末,WB开始评估特定疾病干预措施的成本效益,并在《1993年世界发展报告:投资与健康》

中,提出了转变健康投入策略的建议,即从传染病防控转变到兼顾慢性非传染性疾病的三重防控,这一进程真正地推动了DCP在发展中国家由理念到干预策略的转变^[8]。

1993年,WHO和WB等国际组织为发展中国家出版了DCP1。DCP1的基本框架是根据特定疾病造成的过早死亡和残疾情况确定疾病负担,并评估针对这种疾病采取的干预措施的成本效益,解决“做什么”的需求。DCP1首次按年龄、性别和死亡原因分组对全球及不同区域的100多种疾病的负担进行了估计,确定了疾病负担排名。然后,通过模拟计算干预措施可以避免失去的残疾调整生命年(disability-adjusted life year, DALY),确定最有效的干预措施排名,得到DCP分析结果。DCP1回答了发展中国家主要疾病负担的来源问题,并表明了非传染性疾病的干预措施符合成本效益^[8]。

2006年,WHO和WB等国际组织为发展中国家出版了DCP2。由于干预措施通常不是作为独立的行为或活动提供的,而是通过不同级别的卫生系统以各种方式提供(如整合多种干预措施或分阶段提供预防和治疗措施的方式),不仅涉及干预措施的质量和效益,还涉及在整个卫生体系中对干预措施的管理^[7]。因而DCP2在DCP1的基础上,探讨了在卫生体系中选择和提供适当干预措施所必需的体制、组织、财政和研究能力等因素,更新和改进了疾病负担和成本效益的评估技术,其评估结果主要服务于卫生部门(指导决策)和财政、规划部门(平衡成本效益,合理配置资源)^[9]。

2014-2017年,WHO和WB等国际组织为发展中国家陆续出版了DCP3。为了选择有助于实现SDGs和UHC的措施,DCP3进一步扩大了优先事项讨论的框架,将一系列与健康相关的干预措施形成九项专卷,分别是《必要的手术》、《生殖、孕产妇、新生儿和儿童健康》、《癌症》、《精神、神经和物质使用障碍》、《心血管、呼吸和相关疾病》、《主要传染病》、《伤害预防与环境健康》、《儿童和青少年健康与发展》和《改善健康和减贫》。结合前期经验,通过确认基本的干预措施组合及对应的实施机构(包括卫生院、社区卫生服务中心和医疗机构等地点),并对不同卫生机构下不同干预措施组合进行成本效益评估,为每一专卷提供了有价值的科学研究证据。这些证据有助于政策决策者在有限的预算下合理配置卫生资源,解决各国卫生体系在不同发展阶段的不同需求,为实现UHC奠定了重要的基础^[10]。

总之,DCP1和DCP2以降低疾病负担为目标,提供了卫生干预措施成本效益的证据,有利于卫生资源的重新分配、卫生体系的重新设计。在DCP1和DCP2的基础上,

DCP3进一步考虑了卫生体系的财务风险,以减贫和改善健康为目标,注重对卫生干预措施的效率、质量、公平性和可持续性等的多维度评估。从DCP1到DCP3,尽管是从疾病-卫生体系-跨部门的扩展,但生成DCP始终基于3个标准,只是在不同阶段侧重不同^[7, 11]。这3个标准,一是疾病负担(评估健康影响,并评估干预措施的成本效益,确定政府在宣教、税收、监管及提供服务等方面具体

做什么);二是疾病防治能力(从干预措施的成本效益扩展到卫生系统防治能力,涉及卫生系统的人力、基础设施、药品等后勤保障,以及管理和筹资能力);三是卫生决策者对疾病的认知(认知来源于对前两个条件的充分了解,进而影响卫生决策者防治疾病的信心,以及政府和社会公众的参与防控的意愿等)。图1对生成DCP的3个基本标准进行简要概述。

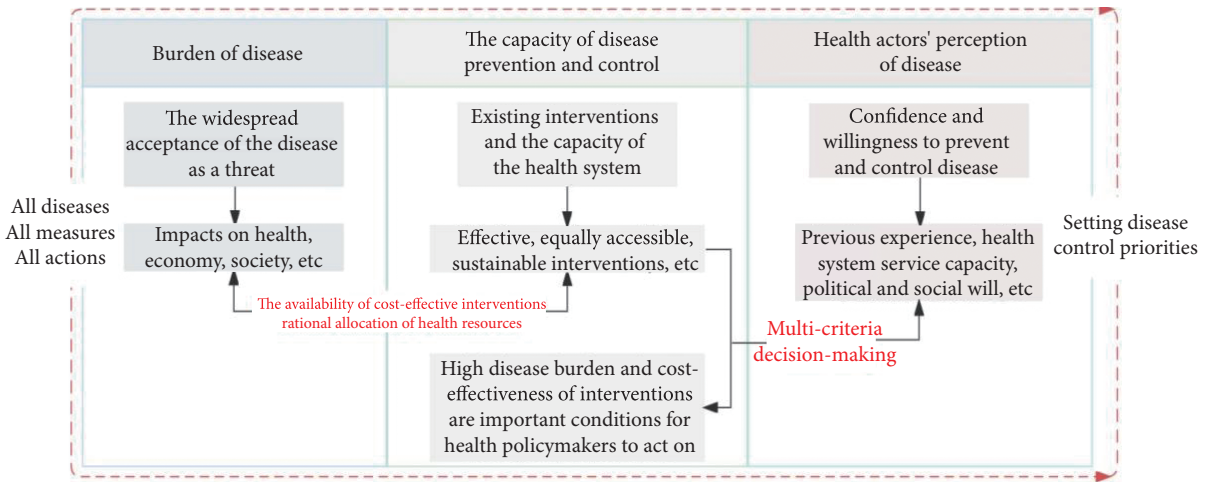


图 1 生成DCP的3个基本标准

Fig 1 Three basic criteria for generating disease control priorities

2 DCP方法发展

整体而言,DCP将经济学、流行病学、公共卫生、临床医学和管理学等学科的方法相结合,其方法经历了从单维度(疾病负担)向多维度(疾病负担、疾病防治能力、卫生决策者对疾病的认知等)发展的过程^[12-14]。DCP1和DCP2侧重于卫生干预措施的经济价值,常用方法包括成本-效果分析(cost-effectiveness analysis, CEA)、成本-效用分析(cost-utility analysis, CUA)、成本-效益分析(cost-benefit analysis, CBA)及增量成本效果比(incremental cost effectiveness ratio, ICER)^[15-16]。DCP3在经济价值的基础上,兼顾效率、公平、质量、安全、可持续性等多种准则。为了将多个标准纳入多标准决策矩阵,学者们提出了多准则决策分析(multi-criteria decision analysis, MCDA)。MCDA通常的做法是首先明确决策问题(如令人关切的健康问题及社会、经济和医疗决定因素,涉及供方、需方和支付方等利益相关者),选择和构建准则、找出标准(数据收集过程),测定各属性的权重并进行重要性排序[technique for order preference by similarity to ideal solution (TOPSIS) and analytic hierarchy process (AHP)等],建立多准则决策分析的框架,最终确定优先执行的政策

方案^[17-19]。

但是,值得注意的是,MCDA作为一个在决策过程中整合不同观点的方法,所选择的利益相关者的类型和数量会影响到MCDA的决策结果。此外,该方法的多样性、复杂性,使得理解和较好地使用MCDA变得更加困难,如何将MCDA更好地应用在DCP中是未来需要关注的方向^[20-21]。表1对生成DCP的方法进行了简要概述。

3 DCP的应用及贡献

DCP作为服务于政策决策的有效策略,从宏观层面,贯穿疾病预防(如疫苗接种实现健康保护)、疾病治疗(如药物治疗实现健康保护)及疾病管理(如康复疗养实现健康促进)全过程^[26-29]。从微观层面,伴随着病因模型的发展,人类逐渐认识到病因与疾病之间的复杂关系(包括协同作用、主次关系、远近关系等),进而认识到更深层次、更有效的卫生干预措施,并不断扩大干预范围^[30]。

DCP1侧重传染病(具有明确的病原体或致病因素)干预措施的评估^[8]。DCP2在DCP1的基础上,加强了对非传染性疾病(病因具有多元化特点)的关注,对由近因到远因不断扩大到整个卫生体系的干预措施评价^[9]。DCP3将诸多疾病分类,并对每一类疾病的干预措施所产生的

表 1 生成DCP的方法
Table 1 Methods of generating disease control priority

Factors	Objects	Specific methods	Data/Indicators
Burden of disease	Understanding disease severity at the biometric level	① Data collection: routine surveillance data (GBD and DHS); official reporting data; survey data, etc. ② Analytical methods: description (percentage; ratio, etc) ③ Operating software: One Health Tool; LiST, etc.	Incidence; prevalence; mortality; morbidity; the average annual rates of decline; averted deaths, etc.
Disease burden & capacity of disease prevention and control	Measuring the direct health impact of health interventions	① Data collection: routine surveillance data (GBD and DHS); survey data, etc. ② Analytical methods: CEA ③ Operating software: One Health Tool; LiST, etc.	The average annual rates of decline; averted deaths; changes of intermediate indicators (blood pressure and glucose), etc.
	Measuring the direct and indirect health impact of health interventions	① Data collection methods: routine surveillance data (GBD and DHS); scales (EQ-5D5L; SF-36, etc), etc. ② Analytical methods: CUA; ICER ③ Operating software: One Health Tool; LiST, etc.	Health indicators: QALY averted; DALY averted; financial risk protection afforded (poverty cases averted). Cost data: WTP; per capita GDP of a region/country; the cost of the intervention, etc.
	Measuring outcomes of health interventions and economic output (Net cost and net benefit)	① Data collection methods: routine surveillance data (GBD and DHS); scales (EQ-5D5L; SF-36, etc), etc. ② Analytical methods: CBA ③ Operating software: One Health Tool; LiST, etc.	Cost data: willingness to pay (WTP); per capita GDP of a region/country; cost of the intervention, etc.
Disease burden & capacity of disease prevention and control & health actors' perception of disease	Measuring the effectiveness, equity, safety, sustainability, affordability of health interventions	① Data collection methods: routine surveillance data (GBD and DHS); official reporting data; survey data; scales (EQ-5D5L; SF-36, etc); expert consultation; interview, etc. ② Analytical methods: MCDA (TOPSIS; AHP, etc.)	All data and indicators above.

GBD: global burden of disease (<https://ghdx.healthdata.org>^[22]); OneHealth (<https://www.who.int/tools/onehealth>^[23]); DHS: demographic and health surveys (<https://dhsprogram.com/data/>^[24]); LiST: the lives saved tool (<https://www.livessavedtool.org>^[25]); TOPSIS: technique for order preference by similarity to ideal solution; AHP: analytic hierarchy process; WTP: willingness to pay; GDP: gross domestic product.

影响,从个人健康层面到卫生体系再到跨部门协作(卫生部门、财政部门、交通部门、环保部门等)进行了更加全面、系统地评价^[10]。

然而,尽管DCP可以提供有效的决策,但发展中国家,尤其是撒哈拉以南的非洲国家(Sub-Saharan Africa countries, SSAs)由于缺乏本地的数据,在妇幼健康、环境健康、伤害预防等领域中实现本土化的DCP较为困难,导致本土化成果较少,DCP的应用受到限制^[31-34]。表2对DCP应用领域及贡献进行了简要概述。

4 结论

在卫生资源和卫生预算有限的环境下,DCP干预策略为WHO和WB等国际组织(投资方)在发展中国家(尤其是撒哈拉以南、东亚和南亚等地区)优先投资的健康干预措施提供了重要的决策依据。从最初传染病的流行病学监测,到卫生规划逐步扩展到改变行为和改善环境的策略,以及综合考虑卫生体系应对能力的决策,推动了实现千年发展目标(millennium development goals, MDGs)和SDGs的进程。在如何生成疾病优先事项这一关键问题上,DCP方法逐步形成了多准则决策体系,这些准则包

括疾病负担、干预措施的成本效益,以及卫生体系其他因素(包括对社会公平和正义的影响;伦理、政治、社会和文化的可接受性;人力资源、财务和设施的可达性等)。

然而,DCP的发展也是在不断的质疑中弥补不足。这些不足包括:①早期的DCP过度强调卫生干预措施的经济效益,而忽略了健康公平;②DCP未能协调好国家和地方层面的卫生保健需求,数据的收集和使用未能满足当地卫生政策的需求,忽略了当地的能力、价值观和文化背景等问题;③DCP提出的全民健康覆盖计划更多的是强调临床治疗服务,而许多非常有效的健康干预措施(如征收烟草税、社区分发长效驱蚊蚊帐、实施清洁空气条例和促进健康生活方式等)和许多高度优先的预防性临床服务(如计划生育服务、孕前保健服务和产后保健服务等)均被排除在治疗服务外。

未来,DCP在全球经济一体化和全球健康的背景下,依然是发展机遇与风险挑战并存。就机遇而言,一是疾病的全球化呼吁公共卫生干预的全球化,多学科发展及广泛的政治和公众参与,提升了利益相关者对DCP的认识和重视,有助于提高应用DCP的能力;二是一些公共卫生体系薄弱,卫生筹资能力有限的发展中国家能从国际

表 2 DCP应用领域及主要贡献

Table 2 Applications and contributions of disease control priority

Programmes	Focus objectives	Areas of application	Major contributions
DCP1	Guiding developing countries on “what to do-what to intervene” in terms of disease prevention and treatment services with the aim of prolonging life and improving quality of life.	The main focus is on infectious diseases and acute diseases. Chronic diseases and injuries are seen as a auxiliary. See DCP1 for details ^[8] .	DCP1 provides the first global and regional estimates of the number of deaths and the burden (including the burden of disability) caused by more than 100 specific diseases and conditions, disaggregated by age, sex, and cause.
DCP2	Update and extend DCP1 to analyze outcomes and assess the effectiveness of interventions, including direct health improvement and indirect impacts on health systems, and guide the rational allocation of resources to ultimately improve health of population.	Under the ecological model of determinants of health, disease, and the risk factors and health behaviours that influence disease, as well as health system capacity, are assessed. See DCP2 for details ^[9] .	DCP2 provides up-to-date knowledge, technical information, international experience, as well as expert analyzed evidence on a wide range of health-related topics.
DCP3	Building on DCP1 and DCP2, the focus is on achieving equity, contributing to poverty reduction and improving health by expanding access to health services.	Following the theory of cross-sectoral synergies, disease prevention and control is achieved through the integration of multilevel interventions and the formation of separate lists of these interventions based on disease categories. Evaluation of different combinations of interventions on different platforms was performed. See DCP3 for details ^[10] .	DCP3 in many ways responds to earlier criticisms and broadens the framework for health policy and priority discussions by addressing the different needs of countries at different stages of their health system development.

和国家层面获得援助, 加强国家层面和地区层面的联系, 有利于实现本土化的DCP; 三是信息技术的发展为数据的收集、存储带来了便利, 为DCP方法的实现及获得更准确、可靠的证据提供了海量的数据支撑。就挑战而言, 经济一体化、工业化、城市化、人口迁徙、社会分化、环境退化乃至气候变暖等错综复杂地交织在一起, 使全球面临各种各样的公共卫生风险(包括人口的国际流动、病毒的全球化、人口老龄化和慢性疾病的威胁等)。这些风险从近因和远因两个端口威胁着人类健康, 涉及更广泛的利益相关者和决策者(包括卫生部门、财政部门、交通部门、环境部门、人力资源部门及人民群众等), 使得设定健康优先级的决定更加复杂。除了设定DCP的3个基本条件(疾病负担、疾病防治能力、卫生行为者对疾病的认知)外, 还有哪些重要因素需要被优先关注? 在疾病类型或公共卫生病因复杂的情况下, 全球负担和具有成本效益的干预措施对于优先事项的选择具有多大的解释力度? 这些在DCP应用领域值得持续探讨。

因此, 在以实施循证干预措施的需求下, 为持续推进DCP应用和提高DCP应用能力, 从令人关切的健康问题及其社会、经济和健康决定因素的视角出发, 依据WHO制定的健康服务优先设定指南, 关注多方利益相关者, 以国家战略计划为框架, 将DCP应用以来形成的证据和经验形成规范, 并作为确定优先事项的基本框架。此外, 对于基本框架进行动态的再评价, 以全球-国家-地区不同层次的健康需求为导向, 落实干预措施、数据收集等方面的本土化转化, 充分发挥DCP提供证据的能力, 保障健康服务的效率、公平, 最终实现全民健康覆盖和高质量推进健康中国建设。

* * *

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Author Contribution PAN Jie is responsible for conceptualization, funding acquisition, project administration, writing--original draft, and writing--review and editing. WANG Xiuli is responsible for methodology, writing--original draft, and writing--review and editing. WANG Chaohui is responsible for writing--original draft and writing--review and editing. XU Dong is responsible for funding acquisition and project administration. ZOU Kun is responsible for methodology. LI Qin is responsible for conceptualization, methodology, writing--original draft, and writing--review and editing. All authors consented to the submission of the article to the Journal. All authors approved the final version to be published and agreed to take responsibility for all aspects of the work.

利益冲突 所有作者均声明不存在利益冲突

Declaration of Conflicting Interests All authors declare no competing interests.

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(2023-05-11 收稿, 2023-10-12 修回)

编辑 刘华



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