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Implementation of *DCP3 Essential Surgery*: Cross-National Experiences

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ABSTRACT

Most of the world's population, almost all in low- and middle-income countries (LMICs), lacks timely access to affordable surgical care. The first three editions of *Disease Control Priorities (DCP)* included surgery-relevant policy recommendations intended to address this gap, and the third edition *(DCP3)* devoted an entire volume to essential surgery. To better understand the extent to which recommendations from the *DCP* series informed national policy design and implementation, we conducted a two-step review, using a structured survey of DCP stakeholders complemented by an in-depth case study of the recent revision of the National Vision for Surgical Care 2020–2025 in Pakistan. Twenty individuals working across 25 countries responded to the survey and described the incorporation of *Essential Surgery* recommendations in national and global policy efforts. The most influential examples of uptake were of "wholesale" approaches to knowledge exchange, where *DCP3* informed academic or technical multicountry initiatives, which then filtered into national surgical, obstetric, and anesthesia plans, such as was seen in Ethiopia's Saving Lives through Safe Surgery initiative. In Pakistan, the package of 44 interventions included in *Essential Surgery* served as the starting point for surgical care included in the revised Essential Package of Health Services. However, the adaptation of *DCP3* for the Pakistan health system revealed several challenges, notably *DCP3*'s lack of policy implementation guidance, a mismatch between the *DCP3* conceptualization of health system platform levels and the reality in practice, and insufficient consideration of the distribution of specialty surgery providers across the platforms. Addressing these limitations in future iterations of *DCP* can improve the usefulness of *DCP* products to country-level policy makers and maximize the potential impact of recommendations.

INTRODUCTION

Surgical care is increasingly recognized as a vital component of overall health care. In the past, the broader fields of public health and global health neglected surgical care, considering it too expensive and complex. However, those viewpoints have been changing, with increasing recognition of the cost-effectiveness of surgery and its role in population health. Key milestones in that recognition include the Lancet Commission on Global Surgery (Meara et al. 2016) and the findings of the *Disease Control Priorities,* third edition (*DCP3*) volume on *Essential Surgery* (Debas et al. 2015). The Lancet Commission pointed out that conditions requiring surgical care as part of their management (for example, injuries and complications of pregnancy) accounted for 33 percent of all deaths worldwide. The commission also estimated that most (5 billion) of the world's population, almost all in low- and middle-income countries (LMICs), lacked timely access to affordable surgical care when they needed it. Even modest investments in surgical systems and improved access to emergency surgical care have the potential to translate into significant impacts in increased surgical procedures and health outcomes.

The *DCP3* volume *Essential Surgery* focused on components of surgical care that should be the highest priority to implement globally. They include surgical care that addresses health conditions that pose a large health burden and for which there are surgical procedures that are highly cost-effective and feasible to promote globally. *DCP3* undertook extensive economic analysis, showing that numerous surgical procedures are very cost-effective, with many costing US$10–US$100 per disability-adjusted life year averted—in the same cost-effectiveness range as immunizations, bed nets for prevention of malaria, antiretrovirals for HIV/AIDS, and other established interventions that have been the focus of major global implementation efforts.

In order to promote uptake of the most cost-effective aspects of surgical care, the 80 authors and editors of *DCP3 Essential Surgery* went on to define a set of 44 procedures (or sets of procedures) using the criteria of high disease burden, cost-effectiveness, and feasibility. Those procedures address conditions such as injuries, complications of pregnancy, surgical emergencies (for example, appendicitis), and several congenital anomalies (for example, cleft lip). *DCP3* estimated that increasing coverage of such procedures could avert 1.5 million deaths per year. The major conclusions and recommendations of *DCP3 Essential Surgery* were for more widespread access to that set of 44 procedures, with the goal of building capacity at first-level facilities to perform routine and less complex procedures safely, and to recognize and refer complex cases for tertiary care. To facilitate increased access, *DCP3 Essential Surgery* included recommendations on platforms and policies, including quality improvement programs, workforce innovations (such as task sharing), and use of specialized surgical platforms (such as mobile teams).

As with any set of health recommendations, implementation requires an active process. This chapter presents results of a structured review undertaken to better understand what has transpired with usage and implementation of the *DCP3 Essential Surgery* recommendations. The review sought to document examples of the

usage and implementation of *DCP3 Essential Surgery* and related recommendations, as well as to understand how various pathways of impact compare to expected uptake of *DCP3* in policy (Bullock et al. 2021). Understanding what characteristics of *DCP3 Essential Surgery* have facilitated and hindered use should inform the creation of global recommendations that are more applicable to policy processes, especially in LMICs.

METHODS

To gain insight into the uptake of DCP publications on surgery programs and policies in LMICs, the review used a sequential, two-step approach, starting with a structured survey in REDCap. That survey was sent to 176 individuals who were authors of surgery-related chapters published in the first, second, and third editions of *Disease Control Priorities* (Debas et al. 2015; Jamison et al. 1993; Jamison et al. 2006) or selected experts on global surgery policy, primarily members of the Lancet Commission on Global Surgery (Meara et al. 2016). The survey included Likert and free-response questions on examples of DCP recommendations implemented in countries where the respondents have worked; whether, and how, respondents have used DCP recommendations in their own work; their evaluation of government commitment to increase surgery availability in the countries where they have worked; perceived challenges hindering the uptake of DCP recommendations; and their recommendations for addressing those challenges.

The second step involved an in-depth case study on the influence of DCP publications on essential surgery policy in Pakistan, using a combination of key informant interviews and desk review of policy agenda–setting documentation (for example, policy documents, statements of public officials, and national program data). Pakistan was selected as an illustrative example because of information collected through survey responses and the study team's prior knowledge of efforts to implement DCP recommendations. This chapter presents the case study to provide insight into the determinants of successful uptake of *DCP3* recommendations in national or subnational health programming and policy. For in-depth interviews, key informants with experience developing national surgery and health policy experts in Pakistan were approached. Interviews were conducted remotely via videoconferencing software (Zoom) between August and December 2021. The interviews also probed for qualitative data to understand features that detracted from *DCP3*'s utility as a policy guidance tool.

Analysis of quantitative survey data used basic descriptive statistics. Open-ended questions were summarized into common themes, such as *DCP3* influence and impact. Participant responses were triangulated with a review of published documents, when available. For the case study, a single data analyst coded interview data using a directed content analysis approach and integrated data from the desk review of documentation to confirm or disconfirm key themes from the interview findings. The study protocol was submitted to the University of Washington Institutional Review Boad for determination and was considered exempt.

SURVEY RESULTS AND FINDINGS

Twenty individuals working across 25 countries responded to the survey. The primary outcome of interest was the uptake of DCP *Essential Surgery* recommendations. Slightly more people (11 versus 9) said they were not aware of examples of DCP recommendations having been used to inform health policy and planning.

The survey asked respondents to give details of the examples of DCP recommendations that they knew were used in health policies or planning of health services. Although the researchers envisioned that respondents would report uptake of DCP in both policies and practice, the cited examples provided by respondents suggest that use in influencing practice is uncommon. The survey asked about all three editions of DCP broadly, but examples exclusively focused on recommendations from *DCP3*'s *Essential Surgery* volume. At the country level, respondents noted the use of *Essential Surgery*'s recommendations in national surgical, obstetric, and anesthesia plans (NSOAPs) in Ethiopia, Malawi, and Rwanda. *DCP3* was a key contributor to the consolidation of surgery and anesthesia in the global health policy agenda in 2015 that in turn led to the creation of NSOAPs across LMICs (Truché et al. 2020).

The use of *Essential Surgery* recommendations in NSOAPs offers an informative case study of one channel of influence of DCP publications on national health policy. The NSOAPs result from the collaboration between ministries of health and the Program in Global Surgery and Social Change, an initiative based at Harvard University that focuses on strengthening surgical systems and improving surgery-specific leadership capacity in low-resource settings. In Ethiopia, that goal has manifested in the Saving Lives through Safe Surgery (SaLTS) initiative, which sits within the Directorate of Health Services Quality (Burssa et al. 2017; Iverson et al. 2020). The SaLTS Strategic Plan 2016–2020 makes multiple references to *DCP3 Essential Surgery* findings as justification for increased political commitment to surgical care. Further, the 44 essential surgical procedures recommended by *DCP3* are noted as the foundation for SaLTS to make available a package of essential surgical and anesthesia care, with a focus on strengthening delivery at the primary care level. That path of influence, most likely flowing from *DCP3* authors at US institutions through existing collaborations with national health leaders in a low-income country to inclusion in policy documentation, presents an example of the "wholesale" approach to knowledge exchange that global priority-setting publications such as *DCP3* are well positioned to leverage.

Respondents also mentioned *Essential Surgery* as a reference point for two global policy efforts. The volume informed the outline of minimum necessary services for primary health care delivery, funding, and management of the Primary Health Care Performance Initiative, a joint initiative of Ariadne Labs, the Bill & Melinda Gates Foundation, the United Nations Children's Fund, the World Bank, and the World Health Organization (Veillard et al. 2017). Additionally, Essential Surgery was influential in the Optimal Resources for Children's Surgery document developed by the Global Initiative for Children's Surgery and used in multiple countries (GICS 2019a). Specifically, the Optimal Resources for Children's Surgery recommendations

adopted *DCP3*'s approach to capturing interventions by health system platform level, along with the platform definitions themselves (GICS 2019b).

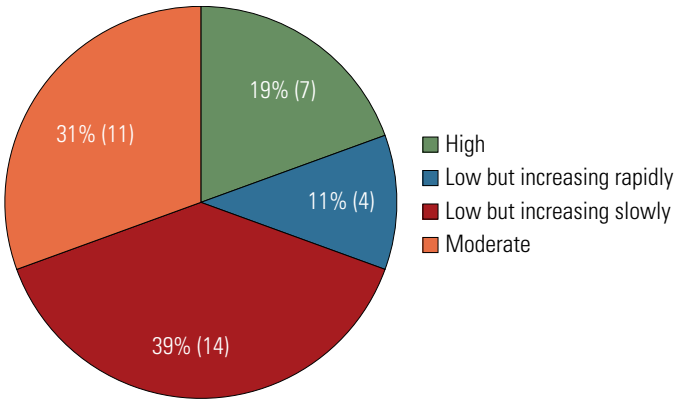
On the use of *DCP Essential Surgery* recommendations in actual practice, respondents mentioned that the recommendations influenced the increased investments in burn care with improved referrals and reduced time to presentation in Malawi. Respondents also reported that *DCP3 Essential Surgery*'s recommendation on surgical task sharing was used in the implementation of training programs in hernia repair in Ghana. One respondent also noted that Ghana is embarking on a plan to construct new hospitals in all districts to improve access to health care, including surgery. Some respondents have also used the DCP recommendations to advocate for more availability of surgical services. Respondents indicated that, in India, the current estimates of population-based requirement of surgeries, their nature, and necessary government funding were based on DCP3 in conjunction with Global Burden of Disease 2017 estimates.

The survey also asked about locations or policy processes in which the respondents expected to see use of *DCP3 Essential Surgery* recommendations but did not see such use. Most of the respondents (14 out of 20) said there were no such places.

Country Commitments to Essential Surgery

The survey asked respondents if they have used *DCP3 Essential Surgery* recommendations in their own work. Over 70 percent of respondents reported using the recommendations. After asking respondents to identify up to three countries where they have worked, the survey then asked them to rate each country's commitment to increasing availability of essential surgery. Almost 40 percent of the ratings indicated low commitment that is increasing only slowly, 31 percent indicated moderate commitment, and 19 percent indicated high commitment (figure 21.1).

Figure 21.1 Survey Respondents' Ratings of Government Commitment to Increase Availability of Surgery in Countries Where They Have Worked



Source: Original figure for this publication.

The review also looked at ratings by region (Africa, Asia, and South America) and reasons given for the ratings, grouping the ratings into two categories for expository simplicity—low commitment and moderate or high commitment. Overall, Africa had a substantially high share of ratings classified as moderate or high commitment (70 percent) compared to Asia (25 percent) and South America (33 percent)—table 21.1. Respondents said they gave a rating of moderate to high commitment for Africa mainly because of strong commitment on the surgery policy front rather than on implementation. Across all regions, the cited reasons for providing low ratings include inadequate specialists and no appropriate training programs, inadequate infrastructure, limited efforts in providing services in rural/remote areas, and low prioritization and funding of health care with surgery viewed as too expensive (and not a disease).

Finally, the survey asked respondents to point out some of the challenges hindering adoption of *DCP3 Essential Surgery* recommendations in the countries where respondents have worked and what solutions they would propose. Table 21.2 shows their responses.

Table 21.1 Respondents' Evaluation of Country Commitment to Increasing Surgery Availability, Selected Regions

Region	Number of countries rated by authors	Share of ratings classified moderate to high commitment (versus low commitment)	Reasons
Africa	10	70%	***Moderate to high commitment:*** 1. Surgery plans and guidelines developed, but with weak implementation or action 2. Presence of surgical societies dedicated to building capacity for essential surgery 3. One country highlighted as having implemented initiatives for surgery training and procurement of equipment. ***Low commitment:*** 1. Inadequate or absence of specialists with no commitment to training programs for important surgical specialties 2. Limited efforts in reaching remote or rural places where in some countries as much as 80% of the population resides 3. Low prioritization and limited funding 4. Limited investment in surgical infrastructure.

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Table 21.1 Respondents' Evaluation of Country Commitment to Increasing Surgery Availability, Selected Regions (continued)

Region	Number of countries rated by authors	Share of ratings classified moderate to high commitment (versus low commitment)	Reasons
Asia	8	25%	***Moderate to high commitment:*** 1. Substantial efforts in some countries to increase access to eye surgery. ***Low commitment:*** 1. Limited efforts in improving access to surgical and anesthesia capacity beyond big cities 2. Low prioritization with wide perception that surgery is expensive and is not a disease, like malaria, making advocacy difficult 3. Too much focus or private provision of health care and low prioritization of surgery in private provision 4. Limited investment in surgical infrastructure.
South America	6	33%	***Moderate to high commitment:*** 1. In one country: implementation of surgical checklists, programs targeted at reaching out to rural areas, and restricting educational system to prioritize surgical capacity. ***Low commitment:*** 1. Systematic violence and weak social security systems that render health care low on the priority list 2. Limited efforts in expanding access to remote areas and reducing waiting times.

Source: Responses to open-ended survey questions sent to authors of previous *Disease Control Priorities* volumes.

Table 21.2 Challenges Hindering Adoption of DCP's *Essential Surgery* Recommendations and Proposed Solutions

Challenge	Proposed solution
Lack of political will, leadership, and governance	1. Systematically and proactively disseminate *DCP3 Essential Surgery* recommendations, leading to concrete action plans at the national level or a collective of institutions. 2. To change the perception of surgery as expensive, use simple infographics (rather than a bulky and hard-to-read *DCP4* full report) to promote the cost-effectiveness of surgery. 3. Hold dissemination workshops for stakeholders. 4. Align global surgery with public health and show the cost benefits of investments in surgery. 5. Disseminate case studies showing successful scaling capacity for essential surgery. 6. Present focused training topics on public health incorporating the importance of surgical care and anesthesia.

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Table 21.2 Challenges Hindering Adoption of DCP Surgery Recommendations and Proposed Solutions (continued)

Challenge	Proposed solution
Lack of WHO and World Bank leadership	1. International institutions: establish funds, independent of national budgets, for supporting sustainable policies and implementation of DCP. 2. International donors: make a stronger commitment. 3. WHO: provide stronger recommendations. 4. Start by focusing on standardized metrics that countries are expected to collect and present, with action plans (and funding mechanisms) for how to close gaps in care noted when they identify issues.
Major funders not supporting efforts outlined in *DCP3*	None proposed
Poor dissemination to health authorities and lack of awareness	1. Partner with ministries of health and local academic bodies for dissemination. 2. More support to *DCP* authors as well as economists and surgeons for advocacy 3. Link with active researchers in Europe, the United States, and priority countries who are training economists and surgeons at the country level.
Financing	1. Make more specific recommendations for financing essential surgery. 2. Provide better guidance on how to spend funds most cost-effectively.
Human resources challenges	1. Expand the training of highly qualified surgical specialists and equip general doctors with surgical skills. 2. Upgrade health facilities for safe surgery. 3. Shift tasks.
Language too technical	1. Use more practical metrics than the DALY, which are easy to understand. 2. Bridge the clinical-policy divide by bringing clinicians together with policy makers in countries and regions. 3. Ensure that *DCP3* terms for elements of the health system directly correspond to those used by WHO (such as "district hospital" and "first-level hospital"). 4. Use more practical examples of implemented programs and their results rather than heavy use of modeling GBD data. 5. Make clearer connections with SDG targets, somehow including the voices/perspectives of patients and communities affected by surgical conditions. Do not rely overly on national surgical plans to wait for action. 6. Support in-country teams to advocate for policy change, helping them develop road maps and prioritize starting points among their many competing challenges. 7. Ensure better integration of anesthesia and nursing care and community health workers. 8. Work with policy makers to create concrete action plans. 9. Get political commitment from donor organizations and secure funding to implement policies and programs.
Limited involvement of professional surgical and anesthesia societies	None provided

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Table 21.2 Challenges Hindering Adoption of DCP Surgery Recommendations and Proposed Solutions (continued)

Challenge	Proposed solution
Service delivery	1. Integrate surgical care more clearly with existing programs in NCDs (for example, oncology), trauma, emergency care, and infectious diseases.
Urgent problems such as COVID-19	1. Complete global COVID-19 vaccination.
DCP content	1. Provide more specific guidance on implementation and financial milestones. 2. Start by focusing on standardized metrics that countries are expected to collect and present, with action plans (and funding mechanisms) for how to close gaps in care noted when they identify issues.

Source: Responses to open-ended survey questions sent to authors of previous *Disease Control Priorities* volumes.

Note: DALY = disability-adjusted life year; DCP = Disease Control Priorities; *DCP1 = Disease Control Priorities,* first edition; *DCP2 = Disease Control Priorities*, second edition; *DCP3 = Disease Control Priorities*, third edition; GBD = Global Burden of Disease; NCDs = noncommunicable diseases; SDG = Sustainable Development Goal; WHO = World Health Organization.

PAKISTAN: THE UNIVERSAL HEALTH COVERAGE, SURGERY, AND DCP AGENDAS CONVERGE

The experience of Pakistan provides an illuminating example of the convergence of timing in overcoming the challenges listed in the previous section to facilitate DCP's influence on a policy process. This case study of Pakistan is based on an integrated analysis of qualitative data, including interviews with key technical leaders in the policy development process, a review of policy documents, and results from the survey.

Toward a Unified National Approach to Surgery

Although many Pakistani surgical leaders have been working for decades to increase access to specific types of surgical care, the emergence of surgery in the national policy agenda and development of concrete strategy documents coincided with momentum provided by relevant global initiatives. Several key champions of the national surgical agenda in Pakistan participated in the Lancet Commission, as well as in DCP2 and DCP3 publications. Despite support for the value of those publications, interviewees remained skeptical of their potential applicability to Pakistan. As one individual noted, "a lot of the things that get trotted out for the LMIC world haven't been tried outside of Africa. There are certain generalizations that are possible in LMICs in an Africa context, but a lot of things mandated globally are not applicable to Pakistan at all."

Beginning in 2018, technical advisers and providers engaged with the Federal Ministry of National Health Services, Regulation and Coordination as well as with the provincial departments of health to bring up for debate Pakistan's National Vision for Surgical Care 2020–2025 (Fatima et al. 2020; MoNHSR&C 2021). That vision for surgical care, finalized in 2019 and launched in July 2021, acts as an addendum document to the National Health Vision 2025 (Fatima et al. 2020). Simultaneously, work had begun in parallel to revise the national essential package of health services (EPHS), also called the Universal Health Services Benefits Package. The DCP3 recommendations were distilled into a list of 218 interventions across six clusters; through a subsequent national consultative process, the 218 interventions were reviewed and adapted to Pakistan's health needs and priorities. The EPHS included 44 surgical interventions, which were then costed on the basis of technical requirements provided by surgical and anesthesia experts from Pakistan. For the first time, 19 surgical procedures were costed separately for adults and children (for example, neonatal colostomy versus adult colostomy and laparotomy in children versus in adults), establishing the difference in resources (surgical and anesthesia expertise, equipment, and neonatal care) required for newborns, infants, and children. Moreover, those surgical interventions form part of three clusters—health services (33); reproductive, maternal, newborn, and child health (6); and noncommunicable diseases and injury (5)—reemphasizing the fundamentally cross-cutting nature of surgical care. The EPHS revision process identified several concrete examples of areas needing further specification when applying the DCP recommendations to the context of Pakistan:

- While doing the costing workshop, contributors highlighted a real need to understand health system resource needs by age group (for example, a neonatal laparotomy cannot be done in a first-level hospital).
- Because not all district hospitals in Pakistan are the same, using a uniform label for "first level" as a synonymous category is insufficient for operationalizing intervention recommendations.
- All DCP recommended interventions need to be rationalized to the local context—for example, voluntary male medical circumcisions are not a priority in a Muslim majority country, so early infant circumcision at the primary level was included.

The adaptations speak to the value of DCP3 as a starting point but also to the need for an organized, resourced process for customizing DCP3 before it can effectively inform policy development.

Contextualizing Implementation

The implementation of EPHS in Pakistan has faced significant challenges because of a combination of factors, including political uncertainty, funding limitations, and delays due to the COVID-19 pandemic. Although the DCP3 recommendations

provided the evidence that informed the development of the EPHS, the DCP3 volumes have no inherent structured policy guidelines. Importantly, however, *DCP3 Essential Surgery* was a key reference source for the Lancet Commission on Global Surgery, which in turn developed the NSOAP framework as a policy guide to strengthening surgical systems.

In the design phase of EPHS (and by extrapolation, the DCP3 recommendations), the following challenges became apparent:

- The first-level platform in *DCP3* does not correspond to a single level in Pakistan's health structure. A broad range of facilities exists between the primary and tertiary care levels—from Rural Health Centers to Tehsil Headquarter hospitals to District Headquarter hospitals. Even within the District Headquarter category, the service offering can range from outpatient clinics to comprehensive care that falls just short of the tertiary and teaching hospital capacity. Therefore, adapting the *DCP3* recommendations for platform of services does not easily translate into a practical service package.
- Recruitment and retention of qualified staff present a huge challenge, especially in rural facilities, with positions remaining chronically unfilled. Surgical care relies on a functioning ecosystem to deliver the end product—that is, a surgical procedure. The absence of any one essential component of the ecosystem leads to an inability to perform surgeries, with a resulting waste of resources. Moreover, the procedures recommended by *DCP3 for* the first-level platform can, in theory, be performed by a well-trained, generalist surgeon. In practice, because Pakistan does not have a training track for the "district" or "rural" surgeon, District Headquarter hospitals are staffed by specialists who are very difficult to recruit and retain. Moreover, the *DCP3*-recommended surgical procedures are performed by different specialist surgeons (for example OB/GYNs, orthopedic surgeons, and pediatric surgeons), bringing into serious question the cost-effectiveness of this model.
- Placing a surgical procedure in a particular level (primary, secondary, or tertiary care) detracts from the importance of training staff at all levels on the recognition and timely transfer or provision of care at the appropriate facility level. Informed and resource-appropriate bidirectional referral at all levels of the health care system is the key to effective surgical care provision. It is important to recognize that efficient referral does not just happen from the beginning: it requires investment in resources, systems to develop and sustain links, and level-appropriate sustained service components.

LIMITATIONS

The work presented in this chapter has several important limitations. First, as with most email-based surveys, the survey had a low response rate (11 percent). The chance of selection bias exists—that is, those who responded could have been more motivated or felt more strongly about issues. Responses showed varied perspectives, however, indicating a broad spectrum of views. Second, the findings could be

skewed to the views of authors from specific regions. Although the survey did not collect specific demographic data, contact information provided by respondents indicates that they were more likely to be employed at US institutions (10 out of 20 respondents) and working in academic settings, regardless of country (11 out of 20); and only 6 out of 20 were from LMICs. Therefore, the data could be skewed toward activities and initiatives that have partnerships with those two organization types, and that thus may have more resources for implementation and evaluation. For the country case study, the researchers tried to address that risk in part by supplementing the survey data with qualitative data collected from individuals who participated in the policy development process. The findings should not be generalized, but instead viewed as likely transferable to areas with similar features. The findings should be understood as illustrative examples of the barriers and facilitators to uptake of DCP recommendations within a set of countries with a specific type of connection with the Essential Surgery volume—that is, a chapter author or volume editor with ongoing engagements there.

CONCLUSIONS

Efforts to trace the uptake of surgery-specific recommendations from DCP publications over time suggests that existing initiatives offer the most effective wholesale channel for DCP recommendations to influence policy that affects commitment to surgical care in LMICs. For example, the NSOAPs and the Primary Health Care Performance Initiative cited DCP documentation. Although limited, examples of direct use of DCP publications to inform global surgery at a national level do exist. When it was evident that such retail influence had occurred, its impact focused on guidelines informing provision of or access to specific surgical procedures (such as hernia repair) or subspecialties.

Pakistan presents a rich example of the ways countries can use *DCP3*'s recommended essential package of surgical interventions broadly to facilitate the development of a wide-ranging national-level surgical policy. The timing of the country's push for a national surgery strategy—which occurred at the same time as the effort by key *DCP3* collaborators to facilitate a review of Pakistan's health benefits package—was instrumental in providing an avenue for realizing the impact of DCP. However, the Pakistan experience also reveals that the *DCP3* recommendations, although firmly grounded in evidence, have not translated into practical on-the-ground learnings in a real-world setting. It follows that *DCP3* recommendations revised using feedback from the field can take the impact of that body of work to the next level. Overall, future efforts to better promote uptake of the recommendations of *DCP3 Essential Surgery* could include development of more concrete policy recommendations, especially those focused on specific platforms of care delivery (such as first-level hospitals), and more specific recommendations for financing essential surgical care.

Although not broadly generalizable, the findings presented in this chapter suggest that country commitment to increasing availability of essential surgery remains low

despite the compelling investment case presented in *DCP3 Essential Surgery*. Experts involved in programs to advance surgical care in LMICs point to the need to use language that policy makers can better understand and to partner with in-country organizations and champions in disseminating findings. Greater dissemination of the information in *DCP3 Essential Surgery* to several audiences (for example, policy makers, academics, and professional communities) is also needed. Development of advocacy tools, such as simple infographics, could help with that goal. Finally, as with the Pakistan case study, working with country governments during the development of concrete action plans, including supporting the identification of metrics to monitor policy implementation progress, presents an opportunity to directly link DCP recommendations to national needs.

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