

# Research Synthesis: Pooled procurement

*v1.0 researched and written by Elise Erickson, edited by Suerie Moon, last updated June 2018*

## Introduction

The literature around pooled procurement is thin\*, and there appears to be no recent literature (in the last five years) on the topic.

## Search terms

Pooled procurement, joint procurement, group procurement, group purchasing, collective bargaining

## Synthesis of the literature

The literature tends to focus on the key features and reported achievements and obstacles of different regional pooled procurement agencies such as the Pan American Health Organization (PAHO) EPI Revolving Fund, and the Gulf Cooperation Council (GCC) Group Purchasing Program, the Eastern Caribbean Drug Service (ECDS), or other institutions such as the Global Drug Facility (GDF). Huff- Rouselle (2012) provides an informative overview of the purpose, benefits, and design aspects of various pooled procurement models (including price reduction, quality assurance, reduction in corruption, standardization, administrative burden, funding, etc.). A WHO meeting report outlined experiences, successes and challenges of several different agencies including GCC, PAHO, GDF, South African Development Community (SADC), etc., and also identified the key components for supporting pooled procurement such as shared political will; it also listed priority areas for collaboration (World Health Organization (WHO) 2007b).

Many agencies reported lower prices and increased drug quality with pooled procurement, but a study by Waning et al. (2009) found that bulk purchasing did not necessarily reduce antiretroviral prices.

While some studies reviewed an agency on its own (Arinaminpathy et al. 2015; Huff-Rousselle and Burnett 1996; Kumaresan et al. 2004; Khoja and Bawazir 2005; Lunte, Cordier-Lassalle, and Keravec 2015), others compared two or more agencies (Huff-Rousselle 2012; DeRoeck et al. 2006). For instance, DeRoeck et al. (2006) concluded that PAHO's 'central contracting' model may be better suited for countries with less contracting and procurement capabilities, whereas GCC's 'group contracting' model may be more suitable for countries with more developed capabilities.

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Although the focus tends to be on regional agencies, some (although fewer) studies focused on national or sub-national pooled systems such as the pooled procurement system set-up as a result of Delhi's 1994 Drug Policy in India (Roy Chaudhury et al. 2005); a study comparing pooled procurement models in Bihar and Tamil Nadu, India (Chokshi et al. 2015); Jordan's public health sector joint procurement of pharmaceuticals (Al-Abbadī et al. 2009); New Zealand's pooled procurement under the National Hospital Pharmaceutical Strategy (2002-2003) (Tordoff, Norris, and Reith 2005); or Thailand's provincial collective bargaining system (Songkhla, Wibulpolprasert, and Prakongsai 1998). Examining the theory behind pooled procurement, Barbosa and Fiuza (2012) showed that public bodies in Brazil benefited from lower prices with pooled procurement, and also that the reputation of the actors in the pool mattered—that is, when a buyer in good standing is joined by a buyer with a poor reputation, the prices paid increased as a result of credit risk effects.

Some studies focused solely on vaccine procurement. For instance, Kaddar et al. (2013) examined MIC's use of UN-pooled procurement systems for vaccines, including a graphical overview (see figure 8 in Kaddar et al. 2013), and a table listing all MIC vaccine procurement methods.

There are also a handful of feasibility studies and situational analyses for pooled procurement in various regions that outline specific considerations for pooled procurement (World Health Organization (WHO) 2007a; Southern African Development Community (SADC) 2012).

## Research gaps

- Additional empirical studies on the impact, benefit and transaction cost of pooled procurement on drug prices, including mechanisms at international, regional and national levels, particularly in developing countries
- Better understanding of the conditions under which pooled procurement is most effective
- Further research to understand the specific needs of middle-income countries (MICs) in pooled procurement mechanisms
- Data to compare quality, quantity and prices of drugs supplied inside vs. outside of pooled procurement institutions (e.g. Global Fund and Global Drug Facility - GDF).

## Cited papers with abstracts

Al-Abbadī, Ibrahim, Abdelraouf Qawwas, Mahmoud Jaafreh, Taher Abosamen, and Maisa Saket. 2009. "One-Year Assessment of Joint Procurement of Pharmaceuticals in the Public Health Sector in Jordan." *Clinical Therapeutics* 31 (6): 1335–44. <https://doi.org/10.1016/j.clinthera.2009.05.021>.

Abstract: Background: About 10% of the gross domestic product in Jordan is spent on health care, and almost one third of that is spent on pharmaceuticals. The public health sector in Jordan has 4 main governmental parties that purchase medicines independently through annual tenders (ie, the process of bidding, being awarded, ordering, paying for, and receiving drugs) issued in the generic (or scientific) name of the medicines or therapeutic groups. Double

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purchasing is a problem that leads to higher spending on drugs and poor availability of medicines throughout the year. To remedy this problem, a joint procurement process was established in Jordan in 2004 and went into practice in 2006.

**Objective:** The aim of this research was to assess the first year of purchasing pharmaceuticals in the public health sector in Jordan through the joint procurement process for the 4 participating parties in comparison with purchasing pharmaceuticals independently before the institution of joint procurement.

**Methods:** The first tender under the joint procurement process was issued in 2007 for antibiotics, anti- HIV medications, and antituberculosis agents, which represent 15% of the annual pharmaceutical public-sector purchases in Jordan. A research committee solicited lists of purchased quantities and final purchase prices of these pharmaceuticals obtained in 2006 by each participating group and in 2007 through the joint procurement process. The quantity-comparison method was used to compare the costs of drugs purchased in 2006 and 2007, and estimated cost savings were calculated for each product for each party for 2006 and 2007 under the assumption that the same quantities purchased by each participating party in 2006 would be purchased through joint procurement (prices of 2007).

**Results:** Purchasing through the joint procurement process achieved an estimated savings of 2.4%. This savings increased to 8.9% after excluding 1 item (a cephalosporin), the raw material price of which increased markedly in 2007 compared with 2006 because of an international shortage of raw materials.

**Conclusion:** Based on these initial findings, applying a joint procurement system for pharmaceuticals in the public health sector in Jordan has potential to reduce expenditures for the purchase of medicines and provide treatment continuously throughout the year.

**Link:** <https://www.sciencedirect.com/science/article/pii/S0149291809001672>

Arinaminpathy, Nimalan, Thierry Cordier-Lassalle, Kaspars Lunte, and Christopher Dye. 2015. "The Global Drug Facility as an Intervention in the Market for Tuberculosis Drugs." *Bulletin of the World Health Organization* 93 (4): 237–248A. <https://doi.org/10.2471/BLT.14.147256>.

**Abstract:** OBJECTIVE: To investigate funding for the Global Drug Facility since 2001 and to analyse the facility's influence on the price of high-quality tuberculosis drugs.

**METHODS:** Data on the price of tuberculosis drugs were obtained from the Global Drug Facility for 2001 to 2012 and, for the private sector in 15 countries, from IMS Health for 2002 to 2012. Data on funding of the facility were also collected.

**FINDINGS:** Quality-assured tuberculosis drugs supplied by the Global Drug Facility were generally priced lower than drugs purchased in the private sector. In 2012, just three manufacturers accounted for 29.9 million United States dollars (US\$) of US\$ 44.5 million by value of first-line drugs supplied. The Global Fund to Fight AIDS, Tuberculosis and Malaria provided 73% (US\$ 32.5 million of US\$44.5 million) and 89% (US\$ 57.8 million of US \$65.2 million) of funds for first- and second-line drugs, respectively. Between 2010 and 2012, the facility's market share

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of second-line tuberculosis drugs increased from 26.1% to 42.9%, while prices decreased by as much as 24% (from US\$ 1231 to US\$ 939). Conversely, the facility's market share of first-line drugs fell from 37.2% to 19.2% during this time, while prices increased from US\$ 9.53 to US\$ 10.2.

**CONCLUSION:** The price of tuberculosis drugs supplied through the facility was generally less than that on the private market. However, to realize its full potential and meet the needs of more tuberculosis patients, the facility requires more diverse and stable public funding and greater flexibility to participate in the private market.

Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4431561/pdf/BLT.14.147256.pdf>

Barbosa, Klênio, and Eduardo Pedral Sampaio Fiuza. 2012. "Demand Aggregation and Credit Risk Effects in Pooled Procurement: Evidence from the Brazilian Public Purchases of Pharmaceuticals and Medical Supplies." Working Paper. <http://bibliotecadigital.fgv.br/dspace/handle/10438/10009>.

**Abstract:** Pooled procurement has an important role in reducing acquisition prices of goods. A pool of buyers, which aggregates demand for its members, increases bargaining power and allows suppliers to achieve economies of scale and scope in the production. Such aggregation demand effect lowers prices paid for buyers. However, when a buyer with a good reputation for paying suppliers in a timely manner is joined in the pool by a buyer with bad reputation may have its price paid increased due to the credit risk effect on prices. This will happen because prices paid in a pooled procurement should reflect the (higher) average buyers' credit risk. Using a data set on Brazilian public purchases of pharmaceuticals and medical supplies, we find evidence supporting both effects. We show that the prices paid by public bodies in Brazil are lower when they buy through pooled procurement than individually. On the other hand, federal agencies (i.e. good buyers) pay higher prices for products when they are joined by state agencies (i.e. bad buyers) in a pool. Such evidence suggests that pooled procurement should be carefully designed to avoid that prices paid increase for its members.

Link: <https://bibliotecadigital.fgv.br/dspace/handle/10438/10009>

Chokshi, Maulik, Habib Hasan Farooqui, Sakthivel Selvaraj, and Preeti Kumar. 2015. "A Cross-Sectional Survey of the Models in Bihar and Tamil Nadu, India for Pooled Procurement of Medicines." WHO South-East Asia Journal of Public Health 4 (1): 78. <https://doi.org/10.4103/2224-3151.206625>.

**Abstract:** Background: In India, access to medicine in the public sector is significantly affected by the efficiency of the drug procurement system and allied processes and policies. This study was conducted in two socioeconomically different states: Bihar and Tamil Nadu. Both have a pooled procurement system for drugs but follow different models. In Bihar, the volumes of medicines required are pooled at the state level and rate contracted (an open tender process invites bidders to quote for the lowest rate for the list of medicines), while actual invoicing and payment are done at district level. In Tamil Nadu, medicine quantities are also pooled at state level but payments are also processed at state level upon receipt of laboratory quality-assurance reports on the medicines.

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**Methods:** In this cross-sectional survey, a range of financial and non-financial data related to procurement and distribution of medicine, such as budget documents, annual reports, tender documents, details of orders issued, passbook details and policy and guidelines for procurement were analysed. In addition, a so-called ABC analysis of the procurement data was done to identify high- value medicines.

**Results:** It was observed that Tamil Nadu had suppliers for 100% of the drugs on their procurement list at the end of the procurement processes in 2006, 2007 and 2008, whereas Bihar's procurement agency was only able to get suppliers for 56%, 59% and 38% of drugs during the same period. Further, it was observed that Bihar's system was fuelling irrational procurement; for example, fluconazole (antifungal) alone was consuming 23.4% of the state's drug budget and was being procured by around 34% of the districts during 2008-2009. Also, the ratios of procurement prices for Bihar compared with Tamil Nadu were in the range of 1.01 to 22.50. For 50% of the analysed drugs, the price ratio was more than 2, that is, Bihar's procurement system was procuring the same medicines at more than twice the prices paid by Tamil Nadu.

**Conclusion:** Centralized, automated pooled procurement models like that of Tamil Nadu are key to achieving the best procurement prices and highest possible access to medicines.

Link: <http://www.who-seajph.org/article.asp?issn=2224-3151;year=2015;volume=4;issue=1;page=78;epage=85;aulast=Chokshi>

DeRoeck, Denise, Saleh A. Bawazir, Peter Carrasco, Miloud Kaddar, Alan Brooks, John Fitzsimmons, and Jon Andrus. 2006. "Regional Group Purchasing of Vaccines: Review of the Pan American Health Organization EPI Revolving Fund and the Gulf Cooperation Council Group Purchasing Program." *The International Journal of Health Planning and Management* 21 (1): 23–43. <https://doi.org/10.1002/hpm.822>.

**Abstract:** This paper reviews the key design features, accomplishments of and lessons learned from two regional group procurement mechanisms dealing with vaccines that have been in operation for more than 25 years. The Pan American Health Organization (PAHO) EPI Revolving Fund purchases vaccines and immunization supplies on behalf of more than 35 countries in the Latin American and Caribbean region. Based on a 'central contracting' model, the program handles most aspects of procurement—from tendering to contracting with and paying producers—using a common fund to pay producers before being reimbursed by countries once goods are received in-country. The Gulf Cooperation Council (GCC) Group Purchasing Program among seven Persian Gulf States issues joint tenders for vaccines, as well as drugs and other medical goods. Through this 'group contracting' program, countries are responsible for contracting with and paying producers on their own, once the group has selected winning bids. Both programs have experienced substantial growth in the past two decades and are considered to have contributed to or accelerated achievements of immunization programs in both regions, including the introduction of new vaccines. The paper identifies several features of both programs—both those designed to attract country participation and those designed to ensure the programs' financial viability—which help explain their success and longevity.

Link: <http://onlinelibrary.wiley.com/doi/10.1002/hpm.822/abstract>

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Huff-Rousselle, Maggie. 2012. "The Logical Underpinnings and Benefits of Pooled Pharmaceutical Procurement: A Pragmatic Role for Our Public Institutions?" *Social Science & Medicine* 75 (9): 1572– 80. <https://doi.org/10.1016/j.socscimed.2012.05.044>.

**Abstract:** Multi-national pharmaceutical companies have long operated across national boundaries, and exercised significant leverage because of the breadth and depth of their market control. The goals of public health can be better served by redressing the imbalance in market leverage between supply and demand. Consolidation of purchasing power across borders, as well as within countries across organizational entities, is one means to addressing this imbalance. In those existing pooled procurement models that consolidate purchasing across national boundaries, benefits have included: 1) reductions in unit purchase prices; 2) improved quality assurance; 3) reduction or elimination of procurement corruption; 4) rationalized choice through better-informed selection and standardization; 5) reduction of operating costs and administrative burden; 6) increased equity between members; 7) augmented practical utility in the role of the host institutions (regional or international) administering the system; and finally, 8) increased access to essential medical products within each participating country. Many barriers to implementation of a multi-country pooled procurement system are eliminated when the mechanism is established within a regional or international institution, especially where participating countries are viewed (and view themselves) as clients/members of the institution, so that they have some sense of ownership over the procurement mechanism. This review article is based on two literature reviews, conducted between 2007 and 2009 (including publications from 1996 through 2009), and interviews with key informants.

Link: <https://www.sciencedirect.com/science/article/pii/S0277953612005102#bib21>

Huff-Rousselle, Maggie, and Francis Burnett. 1996. "Cost Containment Through Pharmaceutical Procurement: A Caribbean Case Study." *The International Journal of Health Planning and Management* 11 (2): 135–57. [https://doi.org/10.1002/\(SICI\)1099-1751\(199604\)11:2<135::AID-HPM422>3.0.CO;2-1](https://doi.org/10.1002/(SICI)1099-1751(199604)11:2<135::AID-HPM422>3.0.CO;2-1).

**Abstract:** This article discusses the potential for health sector cost containment in developing countries through improved pharmaceutical procurement. By describing the specific example of the Eastern Caribbean Drug Service (ECDS), which provides a pooled procurement service to nine ministries of health in the small island nations of the Caribbean, it examines the elements of the procurement operation that allowed ECDS to reduce unit costs for pharmaceuticals by over 50 per cent during its first procurement cycle. The analysis of ECDS considers: (1) political will, institutional alliances, and the creation of a public sector monopsony; (2) pooling demand; (3) restricted international tendering and the pharmaceutical industry; (4) estimating demand and supplier guarantees; (5) reducing variety and increasing volume through standardizing pack sizes, dosage forms and strengths; (6) generic bidding and therapeutic alternative bidding; (7) mode of transport from foreign suppliers; (8) financing mechanisms, including choice of currency, foreign exchange, and terms of payment; (9) market conditions and crafting and enforcing supplier contracts; and, (10) the adjudication process, including consideration of suppliers' past performance, precision requirements in the manufacturing process, number of products awarded to suppliers, and issues of judgment. The authors consider the relevance of this agency's experience to other developing countries by providing a blueprint that can be adopted or modified to suit other situations.

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Kaddar, Miloud, Sarah Schmitt, Marty Makinen, and Julie Milstien. 2013. "Global Support for New Vaccine Implementation in Middle-Income Countries." *Vaccine, Decade of Vaccines*, 31 (April): B81– 96. <https://doi.org/10.1016/j.vaccine.2012.11.085>.

**Abstract:** Middle-income countries (MICs) as a group are not only characterized by a wide range of gross national income (GNI) per capita (US \$1026 to \$12,475), but also by diversity in size, geography, governance, and infrastructure. They include the largest and smallest countries of the world—including 16 landlocked developing countries, 27 small island developing states, and 17 least developed countries—and have a significant diversity in burden of vaccine-preventable diseases. Given the growth in the number of MICs and their considerable domestic income disparities, they are now home to the greatest proportion of the world's poor, having more inhabitants below the poverty line than low-income countries (LICs). However, they have little or no access to external funding for the implementation of new vaccines, nor are they benefiting from an enabling global environment. The MICs are thus not sustainably introducing new life-saving vaccines at the same rate as donor-funded LICs or wealthier countries. The global community, through World Health Assembly resolutions and the inclusion of MIC issues in several recent studies and important documents—including the Global Vaccine Action Plan (GVAP) for the Decade of Vaccines—has acknowledged the sub-optimal situations in some MICs and is actively seeking to enhance the situation by expanding support to these countries. This report documents some of the activities already going on in a subset of MICs, including strengthening of national regulatory authorities and national immunization technical advisory groups, and development of comprehensive multi-year plans. However, some additional tools developed for LICs could prove useful to MICs and thus should be adapted for use by them. In addition, new approaches need to be developed to support MIC-specific needs. It is clear that no one solution will address the needs of this diverse group. We suggest tailored interventions in the four categories of evidence and capacity-building, policy and advocacy, financing, and procurement and supply chain. For MICs to have comparable rates of introduction as other wealthier countries and to contribute to the global fight against vaccine-preventable diseases, global partners must implement a coordinated and pragmatic intervention strategy in accord with their competitive advantage. This will require political will, joint planning, and additional modest funding.

Link: <https://www.sciencedirect.com/science/article/pii/S0264410X12017367?via%3Dihub>

Khoja, T. a. M., and S. A. Bawazir. 2005. "Group Purchasing of Pharmaceuticals and Medical Supplies by the Gulf Cooperation Council States." *Eastern Mediterranean Health Journal = La Revue De Sante De La Mediterranee Orientale = Al-Majallah Al-Sihhiyah Li-Sharq Al-Mutawassit* 11 (1–2): 217–25.

**Abstract:** An important issue in health care today is the cost of essential pharmaceuticals and medical supplies. To control the increase of health care expenses, in 1976 the Gulf Cooperation Council states began to study the idea of establishing a group purchasing programme for pharmaceuticals and medical supplies. This paper demonstrates the elements of the programme, how it works, what obstacles it faces and how other countries can profit from this experience. It also discusses the future of the group purchasing programme in the light of

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globalization and how the international changes under the World Trade Organization agreements will affect the programme in future.

Link: <https://www.ncbi.nlm.nih.gov/pubmed/16532691>

Kumaresan, J., I. Smith, V. Arnold, and P. Evans. 2004. "The Global TB Drug Facility: Innovative Global Procurement [Stop TB Partnership]." *The International Journal of Tuberculosis and Lung Disease* 8 (1): 130–38.

**Abstract:** The Global TB Drug Facility (GDF) is a new initiative to increase access to high quality tuberculosis drugs. The GDF, a project of the Global Partnership to Stop TB, is managed by its secretariat, in the World Health Organization (WHO), Geneva. It aims to provide tuberculosis drugs to treat up to 11.6 million patients over the next 5 years and to assist countries to reach the WHO global TB control targets by 2005. The GDF was launched on 24 March 2001. Six rounds of applications have been completed, with 46 countries and non-governmental organisations (NGOs) approved for support. The GDF is not a traditional procurement mechanism. It has adopted an innovative approach to the supply of drugs, by linking demand for drugs to supply and monitoring, using partners to provide services, using product packaging to simplify drug management and linking grants to TB programme performance. This paper describes the GDF operational procedures and experience gained so far. Key achievements to date are also outlined, including the creation of a flexible supply system to meet differing programme needs, rapid establishment of procedures, reduction in TB drug prices—a catalyst for DOTS expansion in countries, standardisation of products, and collaboration with partners. The GDF is flexible enough to meet the needs of countries with a TB burden. The GDF experience could be used as an example for global procurement of drugs and commodities for other diseases, such as HIV/AIDS and malaria. In the future it is likely that the GDF will expand to include second-line drugs and diagnostic materials for TB and could assist other partnerships to develop similar mechanisms and facilities to meet country needs.

Link: <http://www.ingentaconnect.com/content/iuatld/ijtld/2004/00000008/00000001/art00019>

Lunte, Kaspars, Thierry Cordier-Lassalle, and Joel Keravec. 2015. "Reducing the Price of Treatment for Multidrug-Resistant Tuberculosis through the Global Drug Facility." *Bulletin of the World Health Organization* 93 (4): 279–82. <https://doi.org/10.2471/BLT.14.145920>.

**Abstract:** Problem: Many countries have limited experience of securing the best prices for drugs and have little negotiating power. This is particularly true for the complex, lengthy and expensive regimens used to treat multidrug-resistant tuberculosis.

**Approach:** The Stop TB Partnership's Global Drug Facility is dedicated to improving worldwide access to antituberculosis medicines and diagnostic techniques that meet international quality standards.

**Local setting:** The Global Drug Facility is able to secure price reductions through competitive tendering among prequalified drug manufacturers and by consolidating orders to achieve large purchase volumes. Consolidating the market in this way increases the incentives for suppliers of quality-assured medicines.

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Relevant changes: In 2013 the Global Drug Facility reduced the price of the second-line drugs it supplies for multidrug-resistant tuberculosis: the overall cost of the longest and most expensive treatment regimen for a patient decreased by 26% – from 7890 United States dollars (US\$) in 2011 to US\$ 5822 in 2013.

Lessons learnt: The price of treatment for multidrug-resistant tuberculosis supplied by the Global Drug Facility was reduced by consolidating orders to achieve large purchase volumes, by international, competitive bidding and by the existence of donor-funded medicine stockpiles. The rise in the number of suppliers of internationally quality-assured drugs was also important. The savings achieved from lower drug costs could be used to increase the number of patients on high-quality treatment.

Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4431560/>

Roy Chaudhury, R., R. Parameswar, U. Gupta, S. Sharma, U. Tekur, and J. S. Bapna. 2005. "Quality Medicines for the Poor: Experience of the Delhi Programme on Rational Use of Drugs." *Health Policy and Planning* 20 (2): 124–36. <https://doi.org/10.1093/heapol/czi015>.

Abstract: Prior to 1994, most Delhi hospitals and dispensaries experienced constant shortages of essential medicines. There was erratic prescribing of expensive branded products, frequent complaints about poor drug quality and low patient satisfaction. Delhi took the lead in developing a comprehensive Drug Policy in 1994 and was the only Indian state to have such a comprehensive policy. The policy's main objective is to improve the availability and accessibility of quality essential drugs for all those in need. The Delhi Society for the Promotion of Rational Use of Drugs (DSPRUD), a non-governmental organization, worked in close collaboration with the Delhi Government and with universities to implement various components of the policy. The first Essential Drugs List (EDL) was developed, a centralized pooled procurement system was set up and activities promoting rational use of drugs were initiated. In 1997, the Delhi Programme was designated the INDIA-WHO Essential Drugs Programme by the World Health Organization. The EDL was developed by a committee consisting of a multidisciplinary group of experts using balanced criteria of efficacy, safety, suitability and cost. The first list contained 250 drugs for hospitals and 100 drugs for dispensaries; the list is revised every 2 years. The pooled procurement system, including the rigorous selection of suppliers with a minimum annual threshold turnover and the introduction of Good Manufacturing Practice inspections, resulted in the supply of good quality drugs and in holding down the procurement costs of many drugs. Bulk purchasing of carefully selected essential drugs was estimated to save nearly 30% of the annual drugs bill for the Government of Delhi, savings which were mobilized for procuring more drugs, which in turn improved availability of drugs (more than 80%) at health facilities. Further, training programmes for prescribers led to a positive change in prescribing behaviour, with more than 80% of prescriptions being from the EDL and patients receiving 70–95% of the drugs prescribed. These changes were achieved by changing managerial systems with minimal additional expenditure. The 'Delhi Model' has clearly demonstrated that such a programme can be introduced and implemented and can lead to a better use and availability of medicines.

Link: <https://academic.oup.com/heapol/article/20/2/124/568791>

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Songkhla, Mongkol Na, Suwit Wibulpolprasert, and Phusit Prakongsai. 1998. "Good Drugs at Low Cost: Thailand's Provincial Collective Bargaining System for Drug Procurement." *Essential Drugs Monitor*, no. 25-26: 5-7.

Abstract: Not available

Link: <http://apps.who.int/medicinedocs/en/d/Jwhozip10e/1.3.html>

Southern African Development Community (SADC). 2012. "SADC Pooled Procurement of Essential Medicines and Medical Supplies Situational Analysis and Feasibility Study." <https://www.sadc.int/documents-publications/show/2972>.

Abstract: Not available

Link: <https://www.sadc.int/documents-publications/show/2972>

Tambini, Gina, Jon Kim Andrus, John W. Fitzsimmons, and Mirta Roses Periago. 2006. "Regional Immunization Programs as a Model for Strengthening Cooperation among Nations." *Revista Panamericana De Salud Publica = Pan American Journal of Public Health* 20 (1): 54-59

Abstract: Not available

Link: [https://www.scielo.org/scielo.php?pid=S1020-49892006000700012&script=sci\\_arttext&tlng=e](https://www.scielo.org/scielo.php?pid=S1020-49892006000700012&script=sci_arttext&tlng=e)

Tordoff, June M., Pauline T. Norris, and David M. Reith. 2005. "Managing Prices for Hospital Pharmaceuticals: A Successful Strategy for New Zealand?" *Value in Health* 8 (3): 201-8. <https://doi.org/10.1111/j.1524-4733.2005.04040.x>.

Abstract: Objectives: In 2002, as part of a National Hospital Pharmaceutical Strategy, the New Zealand (NZ) government agency PHARMAC commenced a 3-year period of negotiating prices for 90% of hospital pharmaceuticals on behalf of all NZ public hospitals. The present study was undertaken to determine the effects of this first year of "pooled procurement."

Methods: Using price changes and volume data for each of their top 150 pharmaceutical items, chief pharmacists at 11 public hospitals calculated projected cost savings for the financial year July 2003 to June 2004. Researchers calculated total projected savings for all 11 hospitals, and for three types of hospitals. Estimates of projected savings were made for all 29 major public hospitals by using savings per bed and savings per bed-day. A sensitivity analysis was undertaken. Items showing savings were categorized by using the Anatomical Therapeutic Chemical classification system.

Results: For the 11 hospitals, the top 150 items comprised 612 different items. Projected savings for 2003 to 2004 were NZ\$2,652,814, NZ\$658,984, and NZ\$127,952 for tertiary, secondary, and rural/special hospitals, respectively. Percentage savings as a median (range) of the total top 150 expenditure were: tertiary 5.28% (3.09-16.05%), secondary 7.41% (4.67-12.85%), and rural/special 9.55% (6.27-10.09%). For all 29 hospitals, estimated projected savings were NZ\$5,234,919

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(NZ\$3,304,606–NZ\$8,044,482) by savings per bed, and NZ\$5,255,781 (NZ\$2,936,850–NZ\$8,693,239) by savings per bed-day. The main contributors to savings were: agents for infections, the nervous system, musculoskeletal system, and blood/blood-forming organs.

Conclusion: The first year of pooled procurement under the National Hospital Pharmaceutical Strategy (2002–2003) has resulted in moderate savings. For all 29 major public hospitals, savings of around NZ\$5.2 million (\$2.9 million–\$8.7 million) or 3.7% were projected for 2003 to 2004. Longer-term effects, however, on patient outcomes and availability of pharmaceuticals, as well as on pharmaceutical expenditure, have yet to be evaluated.

Link: <http://www.sciencedirect.com/science/article/pii/S1098301510625673>

Waning, Brenda, Warren Kaplan, Alexis C King, Danielle A Lawrence, Hubert G Leufkens, and Matthew P Fox. 2009. "Global Strategies to Reduce the Price of Antiretroviral Medicines: Evidence from Transactional Databases." *Bulletin of the World Health Organization* 87 (7): 520–28. <https://doi.org/10.2471/BLT.08.058925>.

Abstract: Objective: To estimate the impact of global strategies, such as pooled procurement arrangements, third-party price negotiation and differential pricing, on reducing the price of antiretrovirals (ARVs), which currently hinders universal access to HIV/AIDS treatment.

Methods: We estimated the impact of global strategies to reduce ARV prices using data on 7253 procurement transactions (July 2002–October 2007) from databases hosted by WHO and the Global Fund to Fight AIDS, Tuberculosis and Malaria.

Findings: For 19 of 24 ARV dosage forms, we detected no association between price and volume purchased. For the other five ARVs, high-volume purchases were 4–21% less expensive than medium- or low-volume purchases. Nine of 13 generic ARVs were priced

6–36% lower when purchased under the Clinton Foundation HIV/AIDS Initiative (CHAI). Fifteen of 18 branded ARVs were priced 23–498% higher for differentially priced purchases compared with non-CHAI generic purchases. However, two branded, differentially priced ARVs were priced 63% and 73% lower, respectively, than generic non-CHAI equivalents.

Conclusion: Large purchase volumes did not necessarily result in lower ARV prices. Although current plans for pooled procurement will further increase purchase volumes, savings are uncertain and should be balanced against programmatic costs. Third-party negotiation by CHAI resulted in lower generic ARV prices. Generics were less expensive than differentially priced branded ARVs, except where little generic competition exists. Alternative strategies for reducing ARV prices, such as streamlining financial management systems, improving demand forecasting and removing barriers to generics, should be explored.

Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2704041/>

World Health Organization (WHO). 2007a. "A Situational Analysis and Feasibility Study on Regional Pooled Bulk Procurement of Essential Medicines and Other Health Supplies in the East

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African Community Partner States.”  
<http://apps.who.int/medicinedocs/documents/s18414en/s18414en.pdf>.

Abstract: The East African Community (EAC), in January 2007, requested the assistance of the WHO Department of Technical Cooperation for Essential Medicines (TCM) to conduct a situational analysis and feasibility study for implementing Regional Pooled Procurement of Medicines as part of their efforts to address issues of accessibility and availability of essential medicines in the region. Pooled procurement, otherwise known as joint purchasing, is increasingly being regarded globally as an efficient strategy to resolve challenges as high medicines prices, poor quality and other bottlenecks generally associated with Procurement and Supply Chains of Essential Medicines. A number of sub- regional and regional blocs as well as global initiatives have adopted the pooled procurement mechanisms with success stories to share. The Gulf States, who have carrying out pooled procurement for over twenty five years reported that it had reduced costs and made millions of dollars in savings, whilst the East Caribbean Islands reported an average cost savings of 37% for 25 selected items over a five year period. Other successful pooled procurement initiatives includes the WHO Pan American Health Organization (PAHO) Strategic Funds and the WHO Global Drug Facility for TB medicines, have shown significant achievements in lowering medicines prices, improving procurement process and quality of medicines. The two models of pooled procurement, under review in this study are the Group Contracting and the Central Contracting. These models are similar as they both involve bulk purchasing of medicines on behalf of a group or countries, with the main difference being the level of collaboration and integration, the administrative infrastructure required to implement the pooled procurement and therefore the technical and financial resources needed. Thus in Group Contracting countries jointly negotiate prices and agree to purchase through the selected suppliers, but the various member countries conduct the purchasing individually. With Central Contracting, Member countries jointly conduct tenders and award contracts through a centralized procurement unit, which pools the financial resources from the member countries. Apart from reducing cost of medicines and contributing to a more cost efficient and transparent procurement system, pooled procurement also facilitates harmonization of standard treatment guidelines, medicines registrations and essential medicines lists. The main objectives of this study are: To analyse the legal and regulatory framework on procurement and delivery of pharmaceutical products and other essential medical supplies in the public sector of the EAC Partner States; To determine the feasibility of pooled procurement of medicines; To recommend a specific model of pooled procurement and identify a potential target commodity list for bulk purchasing; To develop guidelines and recommendations for the implementation of the recommended model.

Link: <http://apps.who.int/medicinedocs/en/d/Js18414en/>

World Health Organization (WHO). 2007b. “Multi-Country Regional Pooled Procurement of Medicines

- Identifying Key Principles for Enabling Regional Pooled Procurement and a Framework for Inter- Regional Collaboration in the African, Caribbean and Pacific Island Countries.”  
<http://apps.who.int/medicinedocs/en/m/abstract/Js14862e/>.

Abstract: The Department of Technical Cooperation for Essential Drugs and Traditional Medicine (TCM), WHO, organized a meeting on multi-country regional pooled procurement of medicines in Geneva, Switzerland, on 15th - 16th January 2007. The objective of this meeting was to provide

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a forum for sharing experiences from the ongoing regional and global pooled procurement programmes and also to explore priority areas for inter-regional collaboration. The meeting brought together experts from various regional and global initiatives, representatives of sub-regional economic groups and development partners interested in pooled procurement.

Link: <http://apps.who.int/medicinedocs/en/m/abstract/Js14862e/>

*\* For the purposes of this review, we have established three categories to describe the state of the literature: thin, considerable, and rich.*

- *Thin: There are relatively few papers and/or there are not many recent papers and/or there are clear gaps*
- *Considerable: There are several papers and/or there are a handful of recent papers and/or there are some clear gaps*
- *Rich: There is a wealth of papers on the topic and/or papers continue to be published that address this issue area and/or there are less obvious gaps*

*Scope: While many of these issues can touch a variety of sectors, this review focuses on medicines. The term medicines is used to cover the category of health technologies, including drugs, biologics (including vaccines), and diagnostic devices.*

*Disclaimer: The research syntheses aim to provide a concise, comprehensive overview of the current state of research on a specific topic. They seek to cover the main studies in the academic and grey literature, but are not systematic reviews capturing all published studies on a topic. As with any research synthesis, they also reflect the judgments of the researchers. The length and detail vary by topic. Each synthesis will undergo open peer review, and be updated periodically based on feedback received on important missing studies and/or new research. Selected topics focus on national and international-level policies, while recognizing that other determinants of access operate at sub-national level. Work is ongoing on additional topics. We welcome suggestions on the current syntheses and/or on new topics to cover.*

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