

Matrix of Drug Quality Reports Affecting USAID-assisted Countries

By the U.S. Pharmacopeia Drug Quality and Information Program

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USP DQI SUBSTANDARD/COUNTERFEIT DRUG QUALITY REPORTS ON USAID-ASSISTED COUNTRIES

REGIONS	DRUG/S	REPORTS	REFERENCES (2003-2008)
AFRICA			
Burkina Faso		* In Ouagadougou, 20% of medicines are counterfeit. These medicines show no expiration date and require no prescription. In the past three years, a record 23.6 tonnes of fake medicines in Ouagadougou were seized by government security forces. According to the National Committee of Drug Control (CNLD), these counterfeits cost the economy up to USD \$4.7 million each year despite laws banning them.	Government inaction spurs consumption of counterfeit drugs. UN Integrated Regional Information Networks. February 20, 2008. Available at: www.allafrica.com
Cameroon	Antimalarials (chloroquine, quinine, and antifolates)	284 samples of three antimalarial drugs from 132 different sources in 16 villages and cities throughout the country were collected. Drug quality was assessed by a simple color reaction test and semi-quantitative thin-layer chromatography. Fifty (38%) of 133 chloroquine, 52 (74%) of 70 quinine, and 10 (12%) of 81 antifolates had either no active, insufficient active, wrong, or unknown ingredient(s).	Basco, L. Molecular epidemiology of malaria in Cameroon: quality of antimalarial drugs used for self-medication. <i>Am. J. Trop. Med. Hyg.</i> , 70(3), 2004: 245-250
Democratic Republic of the Congo (DRC)	Antiretrovirals	Fake antiretrovirals were found in Lubumbashi in December 2003. The bottles and blisters which were not in carton boxes were labeled “Triomune” (stavudine, lamivudine, and nevirapine) and “Duovir” (lamivudine and zidovudine), both of which are Cipla’s brand products. Preliminary investigations showed that fake labels were put on bottles containing non-ARV pharmaceutical products. Some tablets have been identified to contain fluvoxamine (antidepressant) or cyclobenzaprine (muscle relaxant). Counterfeiters have targeted health prescribers and patients to buy these cheap ARVs.	Ravinetto R. Counterfeit ARVs in DRC. <i>E-DRUG</i> . Feb 11, 2004. Available from: http://www.essentialdrugs.org/edrug
	Antiretrovirals (“Triomune” and “Duovir”)	Medecins Sans Frontieres (MSF), which is running an HIV/AIDS program in the DRC, reported that fluvoxamine (an antidepressant) and cyclobenzaprine HC1 (a muscle relaxant) had been labeled as either “Triomune” or “Duovir”, the two commonly prescribed antiretroviral brands that are manufactured by Indian pharmaceutical company Cipla.	Antidepressants are sold as antiretrovirals in DR Congo. <i>The Lancet</i> 2004; 363: 713.
	Artemisinin-derivatives – tablets, capsules,	Of 24 samples taken from pharmacies in Nairobi, Kenya and Bukavu, DR Congo, 9 failed European pharmacopeial requirements for active ingredients (95-105%). Two samples	Atemnkeng, M., De Cock, K., and Plaizier-Vercammen J. Quality control of active ingredients in artemisinin-derivative antimalarials

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	dry suspensions, and injections of artemether, arteether, artesunate, or dihydroartemisinin	had slight overdoses, while 7 were underdosed. Arteether injections had the lowest drug content (77%). Approximately two-thirds of the dry powder suspensions were found to be fake or substandard. Tablet forms failed requirements 23% of the time.	within Kenya and DR Congo. Tropical Medicine and International Health, Jan 2007; vol. 12 no 1: p 68-74.
Egypt	Viagra	Fake Viagra tablets were made by combining ingredients in a cement mixer.	Cement Mixer used to make fake Viagra. NST Online. May 29, 2007. Available from: http://www.nst.com.my Accessed May 29, 2007.
Ethiopia	Antiretrovirals	Smugglers are illegally importing drugs and passing them off as antiretroviral drugs. Ethiopian health officials have warned the public not to buy these drugs. According to Ethiopia's Drug Administration and Control Authority, these illegally imported drugs are of unauthorized quality and with unpredictable effects.	Kaisernetwork.org. Daily HIV/AIDS Report. Drug Access/Ethiopian Health Officials Warn Public Against Counterfeit Antiretroviral Drugs. (Oct. 9, 2003). Available from: http://www.kaisernetwork.org/daily_reports/rep_index.cfm?DR_ID=20261
Gabon	Chloroquine tablets	5 (29%) of 17 samples of chloroquine tablets had content failure; 1 (5.8%) of 7 samples failed dissolution tests.	Maponga, C and Ondari, C. The quality of antimalarials: a study in selected African countries. EDM Research Series No 30 Geneva: World Health Organization, May 2003.
Ghana	Chloroquine tablets (CQT), chloroquine syrup (CQS), and sulphadoxine/Pyrimethamine tablets (SPT)	Professor Johnson Kwakye of Kwame Nkrumah University of Science and Technology has analyzed the fake drugs in the market. He discovered the root crop cassava masquerading as ampicillin. Cassava when pulverized turns into a white powder, similar in appearance to the antibiotic. The country's regulatory agency, the Food and Drugs Board (FDB), is taking concerted efforts to combat counterfeit drugs. Such actions appear to be paying off. Professor Kwakye reports that the decrease in the number of fake drugs on the market can be attributed to FDB's efforts. 1 (5%) of 20 samples of CQS had content failure; 12 (66.7%) of 18 samples of CQT had content failure; 3 (20%) of 15 samples of CQT failed dissolution tests; 3 (37.5%) of 8 samples of SPT had content failure; 3 (75%) of 4 samples of SPT failed dissolution tests	Counterfeit medicines becoming harder to spot. SCRIP World Pharmaceutical News August 13, 2004. Issue: 2976; London UK. PJB Publications Ltd. 15. Maponga, C and Ondari, C. The quality of antimalarials: a study in selected African countries. EDM Research Series No 30 Geneva: World Health Organization, May 2003.
Ivory Coast	Ginovir 3D capsule	The WHO received information about the availability of a	Counterfeit triple antiretroviral combination

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	(antiretroviral combination product consisting of zidovudine 200 mg, lamivudine 150 mg, and indinavir 40 mg)	counterfeit version of this antiretroviral triple combination product. Analysis of the fake drug was done by the Agence Francaise de Securite Sanitaire des Produits de Sante (AFSSAPS) upon request from the Association of AIDS Patients (AIDES). Results showed the samples did not contain lamivudine or indinavir; they contained zidovudine 201 mg, stavudine 40 mg, and an unidentified substance. The manufacturer on the label was Selchi Pharmaceuticals, Namibia.	product (Ginovir 3D) detected in Cote d'Ivoire. WHO QSM/MC/IEA.110, November 28, 2003. Bulletin d'Analyse N° 2003/U/NX/20391/M/ NC, Direction des Laboratoires et des Contrôles, (date de notification 11 juillet 2003) AFSSAPS.
Kenya	<p>Antiretrovirals</p> <p>Chloroquine tablets (CQT), chloroquine syrup (CQS), and sulphadoxine/Pyrimethamine tablets (SPT)</p> <p>Artemisinin-derivatives – tablets, capsules, dry suspensions, and injections of artemether, arteether, artesunate, or dihydroartemisinin</p> <p>Antimalarials (duo-cotexin and cotexin)</p>	<p>The <i>Daily Nation</i> newspaper reported that antiretrovirals for distribution as part of Kenya's AIDS medicine program were being sold on the black market in Nairobi. The drugs are being sold at less than US\$65 for a monthly cocktail, nearly quarter the normal price. The drugs can be bought without doctors' prescription.</p> <p>2 (25%) of 8 samples of CQS had content failure; 3 (42.8%) of 7 samples of CQT had content failure; 2 (28.6%) of 7 samples of CQT failed dissolution tests; 11 (91.7%) of 12 samples of SPT failed dissolution tests.</p> <p>Of 24 samples randomly taken from pharmacies in Nairobi, Kenya and Bukavu, DR Congo, 9 failed European pharmacopeial requirements for active ingredients (95-105%). Two samples had slight overdoses, while 7 were underdosed. Arteether injections had the lowest drug content (77%). Approximately two-thirds of the dry powder suspensions were found to be fake or substandard. Tablet forms failed requirements 23% of the time.</p> <p>Dr. James Nyikal, Director of Medical Services at the Pharmacy and Poisons Board, reported that several cartons of counterfeit duo-cotexin and cotexin were seized from a store selling electronics in Nairobi. A quality analysis performed on the seized medicines confirmed that they did not contain any active ingredients to treat malaria.</p>	<p>Siringi S. AIDS drugs being sold illegally on market stalls in Kenya. <i>Lancet</i> 2004; 363: 377.</p> <p>Maponga, C and Ondari, C. The quality of antimalarials: a study in selected African countries. EDM Research Series No 30 Geneva: World Health Organization, May 2003.</p> <p>Atemnkeng, M., De Cock, K., and Plaizier-Vercammen J. Quality control of active ingredients in artemisinin-derivative antimalarials within Kenya and DR Congo. <i>Tropical Medicine and International Health</i>, Jan 2007; vol. 12 no 1: p 68-74.</p> <p>Mwaniki, M. Alert as crooks make a killing out of malaria. <i>The Nation</i>, Aug 24, 2007. Available at: http://allafrica.com/stories/printable/200708231158.html Accessed Aug 17, 2007</p>

		<p>The chief pharmacist in the Ministry of Health, Dr. Fred Siyoi, said that a majority of herbal products are not registered, have no proven active ingredients, and have not been tested for efficacy and safety by the Board.</p> <p>* Approximately 30% of the drug market is counterfeit, according to the Kenyan Association of Pharmaceutical Industry, who says that USD \$130 million worth of counterfeit pharmaceuticals is being sold each year.</p>	<p>Mwaniki, M. Fake medicines flood country. The Nation (Nairobi). Nov 14, 2007. Available at: http://allafrica.com/stories/printable/200711141015.html Accessed Dec 13, 2007</p> <p>Keshi, C. Pharmaceutical drug prices and the problem of fakery. Business Day. February 17, 2008. Available at: www.businessdayonline.com</p>
Mali	Chloroquine tablets (CQT), chloroquine syrup (CQS), and sulphadoxine/Pyrimethamine tablets (SPT)	4 (66.7%) of 6 samples of CQS had content failure; 9 (47.3% of 19 samples of CQT had content failure; 1 (5.2%) of 19 samples of CQT failed dissolution tests; 7 (100%) of 7 samples of SPT failed dissolution tests.	Maponga, C and Ondari, C. The quality of antimalarials: a study in selected African countries. EDM Research Series No 30 Geneva: World Health Organization, May 2003.
Mauritania		Officials seized and destroyed approximately 36,000 bottles of counterfeit drugs. The source of the drugs is believed to be China, Syria, Nigeria, and Hong Kong.	Tran, P. Counterfeit drug sales in Africa strong, threaten public health. Voice of America News. Oct 19, 2007. Available at: www.voanews.com
Mozambique	Chloroquine tablets (CQT), chloroquine syrup (CQS), and sulphadoxine/Pyrimethamine tablets (SPT)	3 (25%) of 12 samples of CQS had content failure; 3 (20%) of 15 samples of CQT had content failure; 1 (6.7%) of 15 samples of CQT failed dissolution tests; 1 (5.5%) of 18 samples of SPT had content failure; 18 (100%) of 18 samples of SPT failed dissolution tests.	Maponga, C and Ondari, C. The quality of antimalarials: a study in selected African countries. EDM Research Series No 30 Geneva: World Health Organization, May 2003.
Nigeria		<p>A recent survey conducted by the Nigerian National Institute of Pharmaceutical Research reported that 80% of drugs in all major pharmacies in Lagos were fake and 7% of these fake drugs contained dangerous ingredients.</p> <p>Progress is being made by NAFDAC in clearing the Nigerian market of fake drugs. In 2001, a study by NAFDAC found that almost 70% of pharmaceuticals on the market were not authorized. By June 2004, the figure was down to 20%. This was made possible through an enlightenment campaign. The next step undertaken by NAFDAC was to tackle the problem at its source. NAFDAC identified India and China as the main</p>	<p>Fighting fake pharmaceuticals: small steps. Nigeria attacks fakes. Authentication News, 2003. Available from: http://www.AuthenticationNews.info</p> <p>Nigeria fights corruption. SCRIP World Pharmaceutical News July 7, 2004. Issue no. 2967; PJB Publications Ltd. London, UK.</p>

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		<p>sources of counterfeit drugs in the Nigerian market. The agency established independent contacts in both countries to regulate the exports. Measures included awarding a certificate for export to Nigeria from India, random checks on shipments, sending samples to laboratories throughout India for sampling, pre-shipment information requirement.</p> <p>NAFDAC's improved surveillance activities resulted in increased seizures at the port and within the country. This led to the public burning of fake and substandard regulated products between 2001 and 2004 worth over 8 billion naira (US\$60 m) out of which drugs amount to N4,933,916,013 (US\$35, 753,014)</p> <p>Early results from a draft report by the Nigerian drug regulator, NAFDAC, say the number of counterfeit medicines circulating in the community has declined from nearly 70% in 2002 to less than 10% in 2005.</p> <p>As many as 80% of all drugs distributed are fake, according to Council of Europe and WHO statistics.</p> <p>Counterfeit medicines account for approximately 68% of the drug market in Nigeria.</p> <p>At the urging of NAFDAC, 12 African countries have established the West African Drug Regulators Forum, an agency that will combat the sale of counterfeit drugs in the Sub-Saharan region. In 2001, the Nigerian government reported that roughly 70% of all medicines in the country were counterfeit.</p> <p>Approximately \$109 million (N14 billion) worth of substandard and fake products were destroyed in Nigeria between April 2001 and January 2006, according to Professor Dora Akunyili of NAFDAC. The amount of counterfeit drugs in the country has dropped from 41% in 2001 to 16% in 2006. The amount of unregistered drugs in the market has also dropped—from 68% in 2001 to 19% in 2006.</p>	<p>Akunyili D. Pharmaceutical counterfeiting: Nigeria's efforts in fighting drug counterfeiting. Proceedings of the 2nd Global Forum on Pharmaceutical Anticounterfeiting; 2005 Mar. 15-17; Paris, France. Denver CO: Reconnaissance Intl; 2005.</p> <p>Nigeria says counterfeit medicines are falling. www.scripsnews.com, September 21, 2005, no. 3091, pg 19.</p> <p>Sliva Jan. Counterfeit drugs deemed threat in Europe. September 22, 2005 ABC News Internet Ventures.</p> <p>Nigeria criticizes China over counterfeit threat. Daily International Pharma Alert. Feb 14, 2006; vol 3, no 31. Available from www.fdanews.com</p> <p>Forum established to tackle drug counterfeiting. Daily International Pharma Alert. March 22, 2006; vol 3, no 57. www.fdanews.com</p> <p>Edike T. and Obinwanne C. NAFDAC Destroys N14bn Fake Drugs. Vanguard. Nov 7, 2006. Available from: www.allafrica.com</p>
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	<p>Phenyl Butazone</p> <p>Antimalarials, antihypertensives</p>	<p>NAFDAC shut down the Onitsha Bridge Head Drug Market over fake drugs. It is a market containing more than 2,500 drug shops. The market will remain closed until after NAFDAC has had an opportunity to thoroughly screen it, question key officials of the market union, remove bad quality products, and ensure traders are not able to sell counterfeit drugs there in the future. As of September 2006, the level of counterfeit drugs circulating in the Onitsha market was approximately 40% as opposed to the national average of 16.7%. The NAFDAC director said that had it not been for the high level of fake drugs in Onitsha, the national average would have been less than 10%.</p> <p>After closing the Onitsha Bridge Head Drug Market, NAFDAC discovered 17 truck loads of fake and adulterated drugs and other pharmaceutical materials. Of the 4,000 shops closed, 1,200 have been screened. Cartons of phenyl Butazone, a pain reliever which was banned in the country 10 years ago because of its dangerous side effects, were also found in the market.</p> <p>In September 2006, Nigerian authorities discovered USD 25,000 worth of counterfeit antimalarial and blood pressure medicines that were hidden in a shipment of purses originating in China.</p> <p>During the past 6 years, NAFDAC has destroyed more than \$115 million USD worth of counterfeit and substandard products. While 58 cases are still pending in courts, 45 convictions have already been secured in counterfeit drug-related cases.</p> <p>In the past six years, NAFDAC has destroyed over N20 billion (USD169 million) worth of fake medicines. The agency conducted 115 mass burnings of counterfeit goods. While 60 cases are pending trial, 45 convictions already have been handed down.</p>	<p>Okoye, C. NAFDAC shuts down market over fake drugs. This Day Online. March 6, 2007. Available at: www.thisdayonline.com/nview.php?id=72255</p> <p>Anyanwu, G. 17 lorry-load of banned drugs recovered from Onitsha market. The Daily Sun. March 16, 2007. Available at: www.sunnewsonline.com/webpages/news/national/2007/mar/16/national-16-03-2007-09.htm</p> <p>McNeil Jr., D. A growing epidemic of fake medications in Asia. International Herald Tribune. Feb 20, 2007.</p> <p>Akunyili, D. IMPACT – a new force in global anticounterfeiting. Proceedings of the 3rd Global Forum on Pharmaceutical Anticounterfeiting; March 13-15, 2007; Prague, Czech Republic.</p> <p>Agabi, C. NAFDAC destroys fake drugs worth N20bn. Daily Trust (Abuja). Oct 31, 2007. Available at: www.allafrica.com Accessed Dec 11, 2007</p>
Senegal	Chloroquine and sulfadoxine-pyrimethamine (SP)	<p>Abdoulaye Wade, the president of Senegal, has allocated CFA 25 million (\$48,000) for the 2006 budget to tackle the country's estimated \$11.4-15.2 million black market in medicines. The money will be used "to promote generic medicines and strengthen inspections to control the illegal market, reports</p>	<p>Senegal tackling counterfeits. www.scripsnews.com, September 21, 2005, no 3091, pg 19.</p>

		IRIN, the UN news service.	
Sierra Leone		<p>The Pharmacy Board commissioned the National Drug Safety Monitoring Programme (Pharmacovigilance) and also destroyed Le500 million (approximately USD168,000) worth of confiscated, substandard/fake and counterfeit drugs.</p> <p>The Pharmacy Board destroyed Le9 million (approximately USD 3,015) worth of counterfeit, substandard, and expired medicines in Kenema district. The medicines were confiscated from several locations throughout the Gorama Mende Chiefdom.</p> <p>There are more than Le300 million (USD 100,000) worth of fake, sub-standard, counterfeit, and expired medicines awaiting destruction. According to Michael Lansana, Director of the Pharmacy Board, the importation, distribution, and sale of these types of drugs has improved from 43% to approximately 9%.</p> <p>*The registrar of the Pharmacy Board said that more than 4 billion Leones (USD \$1.33 million) worth of illegally imported, substandard, and counterfeit drugs were destroyed between January and July 2007.</p> <p>* John Zorokog, Chairman of the Pharmacy Board Kono District, burned 65 million Leones (USD \$21,700) worth of expired, substandard, and counterfeit drugs in public.</p>	<p>Koroma, AK. Pharmacy Board Makes History. Concord Times (Freetown). July 5, 2006. available at: http://allafrica.com/stories/printable/200607050996.html</p> <p>Massaquoi, M. Pharmacy Board Destroys Le 9 Million Drugs. Concord Times (Freetown). June 6, 2007. available at: http://allafrica.com/stories/printable/20070606852.html Accessed: June 8, 2007</p> <p>Turay, A. Pharmacy Board concerned over illegal importation in Sierra Leone. Awareness Times (Freetown). December 7, 2007. Available at: http://news.sl/drwebsite/publish/printer_20057133.shtml Accessed: December 10, 2007</p> <p>Turay. A. Pharmacy Board discloses plans of operations in Sierra Leone. Awareness Times (Freetown). January 17, 2008. Available at: http://news.sl/drwebsite/publish/pritner_20057398.shtml Accessed: January 18, 2008</p> <p>Pharmacy Board Destroys LE 65M Drugs. The New Citizen. February 14, 2008. Available at: www.christiantrede.com Accessed: February 18, 2008</p>
Sudan	Chloroquine tablets (CQT), chloroquine syrup (CQS), and sulphadoxine/Pyrimethamine tablets (SPT)	4 (26.6%) of 15 samples of CQS failed content tests; 1 (5.2%) of 19 samples of CQT failed content tests; 2 (12.5%) of 16 samples of CQT failed dissolution tests; 12 (80%) of 15 samples of SPT failed dissolution tests.	Maponga, C and Ondari, C. The quality of antimalarials: a study in selected African countries. EDM Research Series No 30 Geneva: World Health Organization, May 2003
Tanzania	Amodiaquine	To assess the quality of AQ and SP, samples of these drugs were	Minzi OM, Moshi MJ, Hipolite D, et al.

* New information

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	(AQ), sulfadoxine-pyrimethamine (SP)	obtained from eight wholesale pharmacies authorized to import medicines in Dar Es Salaam. Fifteen AQ and 18 SP samples were collected and tested for identity, content of active ingredients and dissolution assay as described by USP. Results showed all samples passed the identity test; 2 out of 15 (13%) AQ samples failed the dissolution test but passed all the assay for content, whereas 2 out of the 18 (11%) and 8 out of the 18 (44%) SP samples failed the assay for content and dissolution tests, respectively.	Evaluation of the quality of amodiaquine and sulphadoxine/pyrimethamine tablets sold by private wholesale pharmacies in Dar Es Salaam Tanzania. J Clin Pharm Ther 2003; 28(2): 117-22.
Uganda	Antiretrovirals	Fake antiretrovirals were found in the market.	E-drug: Fake ARVs on Uganda market. Kibumba G. 5 Aug 2004. Available from http://www.essentialdrugs.org/edrug
	Cloxacillin	A batch of the antibiotic Cloxacillin was declared fake by both the National Medical Stores (NMS) and the National Drug Authority (NDA).	Nyakairu Frank and Nakabugo Zurah. Fake drugs smuggled from DR Congo. The Monitor (Kampala), October 1, 2005. Available from: www.allAfrica.com
	Antiretrovirals	The Programme Manager of the Malaria Control Programme in Uganda, Dr. John Bosco Rwakimari, said that the country lacks the necessary experts to correctly dispose of expired ARVs. There are approximately 60,000 doses of expired ARVs still being stored by the National Medical Stores. Junior Health Minister Richard Nduhuura stated that the drugs will not be given out and will be destroyed. Earlier in 2006, senior NMS officials were suspended on charges of hoarding ARVs, resulting in their expiry.	Kazooba, C. Uganda stuck with expired ARVs. African News Dimension. Oct 20, 2006. Available from: www.andnetwork.com
	Quine ® (Quinine Sulphate)	Counterfeit Quine BP 300mg tablets were discovered in the Ugandan market. The National Drug Authority notified the public that the counterfeits are Batch no 0908 with a manufacturing date of May 2006 and an expiration date of April 2009. Uganda's only licensed manufacturer of Quine, Kampala Pharmaceutical Industries Ltd, did not manufacture the product.	Bogere H and Nafula J. Fake Quinine on market. Daily Monitor. May 10, 2007. Available from: http://www.monitor.co.ug/news/news05102.php Accessed: May 10, 2007
Zambia	"Tetrasil"	* The Zambian government reported that the alleged HIV/AIDS cure known as "Tetrasil" was found to be a pesticide. Albert Mwango, a government specialist in HIV/AIDS drugs, reported that Tetrasil is used as a disinfectant for swimming pools.	Zambian government announces that reported HIV/AIDS cure found to be pesticide. Medical News Today. June 6, 2007. Available at: www.medicalnewstoday.com/articles/73084.php Accessed: March 18, 2008

Zimbabwe	Chloroquine tablets (CQT), chloroquine syrup (CQS), and sulphadoxine/Pyrimethamine tablets (SPT)	<p>2 (13.3% of 15 samples of CQS had content failure; 8 (57.1%) of 14 samples of CQT had content failure; 1 (7.1%) of 14 samples failed dissolution tests; 1 (10%) of 10 samples of SPT had content failure; 10 (100%) of 10 samples of SPT failed dissolution tests.</p> <p>According to Dr. Paul Chimedza, president of the Zimbabwe Medical Association (ZIMA), the parallel market for drugs is thriving. Genuine, as well as fake, drugs are being sold on the streets. A month's treatment with ARVs would cost from US\$200 to \$400 in the parallel market compared to about \$1200 from legitimate sources (registered pharmacy). There is no quality control for these drugs obtained in the parallel market, which are likely not stored under correct conditions and can pose significant risks.</p>	<p>Maponga, C and Ondari, C. The quality of antimalarials: a study in selected African countries. EDM Research Series No 30 Geneva: World Health Organization, May 2003.</p> <p>Sick economy fuels growth of fake drug market. UN Integrated Regional Information Networks. Dec 11, 2006. Available from: www.allafrica.com</p>
	Antiretrovirals	<p>The Medicines Control Authority of Zimbabwe (MCAZ) issued a statement to warn the public that counterfeit antiretrovirals are being imported and sold in flea markets and hair salons.</p>	<p>Fake ARVs threaten lives. UN Integrated Regional Information Networks. August 27, 2007. Available from: www.allafrica.com Accessed August 27, 2007.</p>

ASIA AND NEAR EAST

	Artesunate	<p>At least 5 new counterfeit versions of artesunate have been found in Southeast Asia since the beginning of the year. 53% of artesunate bought in shops in mainland Southeast Asia in 2004 was estimated to be counterfeit.</p>	<p>Counterfeits continue to emerge in Asia. www.scripsnews.com, September 21, 2005, no 3091, pg 22</p>
Bangladesh		<p>The Drug Administration (DA) put all drug imports under pre-customs inspection at all entry points (seaports and airports) to crack down on substandard drugs and fake packaging. Special police force will support inspectors in this action. In early 2003, the Public Health and Drugs Testing Laboratory in its annual testing of 5000 local samples found 300 either counterfeit or substandard. The country is reported to have about 30,000 illegal drugstores in addition to a similar number of licensed drugstores.</p>	<p>War against fake drugs waged. Pre-customs inspection at all entry points, special police force in action. The Daily Star Web Edition, vol. 4 no. 170, Nov. 14, 2003. Available from: http://www.thedailystar.net/2003/11/14/d3111401011.htm</p>

	Cotrimoxazole pediatric suspensions	Ten brands obtained from various drug shops in the country were analyzed for potency and other important pharmaceutical parameters (appearance, weight, pH, etc) using BP specifications. Seven out of 10 were found substandard; the pH of 6 brands was out of BP range and less viscosity was found on 2 brands.	Choudhury MMH, Rana MS, Amin MN, et al. Quality assessment of some paediatric cotrimoxazole suspensions marketed in Bangladesh. Hamdard Medicus; 2004; XLVII(2): 58-62.
Burma (see Myanmar)			
Cambodia	Artesunate	Sophisticated second and third generations of counterfeit artesunate labeled as produced by Guilin Pharma have been found in this country. The fake products have new, convincing, and very well crafted but fake holograms attached to the blisterpacks. The results of the Fast Red Dye test and HPLC analysis showed that these products did not contain artesunate.	Newton P. Counterfeit artesunate antimalarial tablets. WHO Pharmaceuticals Newsletter No. 3, 2003: 9.
	Antimalarials	In May 2003, a Cambodian government research project purchased antimalarial drugs from rural pharmacies; more than 27% of the drugs bought were counterfeit.	Crampton T. Fake malaria pills haunt Asians. International Herald Tribune, August 25, 2003. Available at : www.ihf.com
	Artesunate	In Phnom Penh, fake artesunates described as Category 2 were being sold in a pharmacy for 50 cents for 12 pills instead of a dollar; they proved not to be artesunate when tested by Ministry of Health scientists.	Crampton T. Fake malaria pills haunt Asians. International Herald Tribune, August 25, 2003. Available at : www.ihf.com
	Artesunate	The Ministry of Health reports that nearly two-thirds of the artesunate tested by its laboratory were counterfeit.	Crampton T. Fake malaria pills haunt Asians. International Herald Tribune, August 25, 2003. Available at : www.ihf.com
	Quinine sulfate tablet	TLC testing using GPHF mini-lab on 39 samples collected showed the following results: 7 passed the basic tests for quality, 30 have the wrong active ingredient, and one sample was subpotent. This represents an average failure rate of 77% of all quinine samples collected in the four provinces.	Smine A, Phanouvong S., Chanthap L, et al. Antimalarial drug quality in Mekong countries 2004. Available from: http://www.uspdqi.org
	Antimalarials	Data obtained from the USP DQI antimalarial drug quality monitoring project started in 2002 in the Mekong region showed the presence of fake and substandard antimalarial drugs. Results obtained from this project have been reported to authorities and communicated to relevant parties. The DRAs of the various	Antimalarial drug quality monitoring project in the Mekong region 2004. U.S. Pharmacopeia Drug Quality and Information (USP DQI) Program. Available from: www.usp.dqi.org

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	Antimalarials	<p>countries have taken appropriate action to address the problem. The Food and Drug Department (FDD) of Cambodia produced information, education and communication materials (TV spots, calendar, T-shirt, and posters) to raise awareness among health care professionals and the general public on the danger of using fake drugs (including artesunate, quinine, and tetracycline) in collaboration with other law enforcement agencies, e.g., police and customs. The FDD also organized a workshop and invited manufacturers, wholesalers, retailers, and health care professionals to discuss the issues of counterfeit drugs in Cambodia.</p> <p>A study conducted by USP DQI in 2003 found that 27% of 451 samples tested were counterfeit.</p>	<p>Poor quality of antimalarial drugs in Cambodia addressed. USP Press. 2006 Jan; vol 3, issue 3.</p>
	Antimalarials	<p>WHO estimates that Cambodia has about 2800 illegal medicines sellers and about 1000 unregistered medicines on the market.</p> <p>34% of all 498 known facilities and drug outlets in 4 provinces were surveyed, and 451 drug samples were collected. 79% of these were not registered at the Cambodia Department of Drugs and Food (DDF), 27% failed thin layer chromatography and disintegration tests – all of these samples were unregistered.</p>	<p>WHO launches campaign against counterfeit medicines. Bulletin of the World Health Organization 2003; 81 (12): pp. 921-22</p> <p>Lon CT, Tsuyuoka R, et al. Counterfeit and substandard antimalarial drugs in Cambodia. Trans R. Soc. Trop. Med. Hyg.; June 8, 2006: In press.</p>
China		<p>The PBI Asian Medical eNewsletter reported on March 4, 2003 that the Shanghai Drug Administration Bureau plans to strengthen its anti-counterfeiting efforts through increased monitoring of the drug market and by following the whole process from manufacturing to selling and tracking adverse reactions. In 2002, the Bureau inspected 14,980 drugs and found 1833 to be below quality standards. Some contained talcum powder or flour while others contained toxic materials. The Chinese government reported that during the first half of 2002, it found 70,000 cases of counterfeit drug production, exceeding the total number of cases uncovered throughout 2001.</p> <p>The head of the litigation department of Rouse and Co, a legal firm in China, reported progress in curbing illegal pharmaceutical manufacturers through criminal action against large scale networks; 11 people have recently been arrested and are facing prosecution. China tackles counterfeiting through an</p>	<p>Fighting fake pharmaceuticals: small steps. Shanghai enforcement. Authentication News, 2003. Available from: http://www.AuthenticationNews.info</p> <p>Scrip World Pharmaceutical News June 11, 2004. Issue 2960; London, UK. PJB Publications Ltd: p. 17.</p>

* New information

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		China ranked second in the number of counterfeit drugs seized/destroyed in 2005—a total of 87 seizures.	vol 3, no 31. www.fdanews.com
	Armillarisni A	Nine people died in a hospital in Guangdong province after being injected with fake Armillarisi A, a drug used in the treatment of gall bladder, liver, and gastric disorders. China’s Premier ordered an investigation into the incident as well as a safety review of the country’s pharmaceutical factories. The State Food and Drug Association (SFDA) announced a ban on all products of Qiqihar No. 2 Pharmaceutical Company, Ltd. during the investigation.	WHO global taskforce to tackle counterfeit drugs. www.scripsnews.com , February 24, 2006, no. 3134, p. 16. Nine killed by fake Chinese Drug. May 22, 2005. http://news.bbc.co.uk/go/pr/fr/-/2/hi/asia-pacific/5003548.stm ; and Harsh Penalties needed to discourage counterfeit production, says expert. May 18, 2006. http://www.interfax.cn/showfeature.asp?aid=12952&slug=health
	Viagra and Cialis	A total of 381,000 fake Viagra pills and 1.4 million counterfeit Cialis tablets, worth a combined total of approximately US\$29 million on the market, were seized from workshops at Kangdeli Health Care, according to a release from the court.	Xiaoyi S, Fake Viagra maker given 10-year prison term. China Daily; May 10, 2006.
	Birth control pills, Viagra, Rabies vaccines, bird flu vaccines	Fake birth control pills – containing starch, glucose, and toxic substances – were seized and the factory producing them closed down by Chinese authorities. One person was arrested, and authorities were searching for others. The factory was also producing fake Viagra pills. The government would also crack down on manufacturers of fake and poor quality rabies vaccines following reports of several deaths caused by these substandard vaccines. Fake or poor quality bird flu vaccines have also been reported.	China arrests one over fake, toxic birth-control pills. Reuters Foundation AlertNet. Dec 18, 2006. Available at: www.alertnet.org
	Tamiflu (oseltamivir)	Shanghai police seized approximately 880 pounds of fake Tamiflu, worth about \$600,000, and arrested 13 suspects. The authorities are searching for more fake Tamiflu the group sold over the internet in Southeast Asia.	Chinese police bust gang selling counterfeit bird flu drug. Agence France-Presse. Aug 30, 2006. Available at: www.bioportfolio.com
	Viagra (sildenafil citrate), antiretrovirals, Tamiflu (oseltamivir),	A Chinese court has sentenced Xi Yongli to eight years in prison for his role in producing over 60 tonnes of fake Viagra pills without a license or the permission of the patent holder of sildenafil citrate, Pfizer. Xi registered his business as a “food company” in 2001, but used sildenafil, sugar, and other	Watts J. China drug pirates leave death in their wake. Guardian Weekly. Dec 8-14, 2006, p. 4. Available at: http://www.taipetimes.com/News/world/archives/2006/12/06/2003339298

	antibiotics, rabies vaccines, birth control pills	<p>ingredients to make fake pills and capsules. By the time he was arrested, Xi and his company had sold approximately 21 million yuan (US\$2.7 million) worth of products.</p> <p>China investigated 310,000 reports of counterfeit drugs in 2005 which were worth about 51 million yuan (US\$6.5 million) and destroyed 530 factories.</p> <p>The EU trade commissioner also reported seizure by European customs officers of fake birth control pills and ARVs coming from China. The U.S. FDA seized 51 shipments of Tamiflu.</p> <p>In May, 2006, 11 people died after taking antibiotics produced from Heilongjiang; the manufacturers erroneously added diethylene glycol to the antibiotics.</p> <p>In 2005, local media reported police discovered 40,000 boxes of fake rabies vaccines.</p> <p>In 2005, it was reported that about 50 babies died in Anbul and more than 100 became gravely malnourished after being fed with fake milk formula, some of which contained only 6% of the required vitamins, minerals, and proteins.</p>	
	Cardiovascular, anti-impotence, and antiviral agents, diet pills	<p>The Hong Kong Customs and Excise Department seized approximately HKD19 million (USD2.44 million) worth of fake drugs and also arrested a man. About 470,000 counterfeit tablets to treat heart disease, male impotence, and avian influenza, as well as diet pills, were seized. According to analysis, the drugs did not contain harmful substances, but they did not include genuine active ingredients.</p>	<p>Hong Kong Customs seizes 19 million HKD worth of counterfeit drugs. People's Daily Online. Jan. 29, 2007.</p>
	Viagra	<p>A court in Beijing has ordered three Chinese drug makers to pay a \$38,000 fine, publicly apologize, and cease making counterfeits of Viagra. Pfizer, the maker of Viagra, won a trademark case against the companies because the counterfeits were produced to look the same as Pfizer's original blue, diamond-shaped pills, but they did not contain the patented active ingredient. Because of this, the pills are not considered to be generic equivalents.</p>	<p>Pfizer wins Viagra trademark case in China. FDA News. Jan 2, 2007; vol. 4, no. 1.</p>
	Viagra	<p>John Theriault, Pfizer's Head of Global Security, reported that 11 export seizures, totaling 196,484 tablets of Viagra, were confiscated between February 2006 and February 2007 in China. There were 8.9 million counterfeit Viagra seizures</p>	<p>Drugmaker sees cooperation from China in fighting counterfeits. Daily International Pharma Alert. May 14, 2007; vol. 4, no 95. www.fdanews.com</p>

		<p>globally, and 47% of those were in China.</p> <p>International Policy Network reported in 2006 that between 200,000 and 300,000 people die each year in China as a result of substandard or counterfeit drugs. According to a Shanghai-based drug investigator, 22 of the 32 drugstores recently investigated in Nanjing were selling counterfeit drugs. The investigator further reported that 4 of the 15 drugstores supported by public medical insurance carried counterfeit drugs.</p> <p>Depending on the sampling venue, approximately 0.5% of medicines available in China are counterfeit.</p> <p>According to John Newton, a senior investigator with Interpol, transnational Chinese gangs are responsible for the counterfeit antimalarial drug trade in Southeast Asia.</p> <p>China has announced that it will overhaul its food and drug safety regulations and begin performing nationwide inspections. The plans include placing new controls on imports and exports of food and drugs, stepping up random testing on drugs, and having inspection information for 90% of food products.</p> <p>In 110,426 batches screened from 9 provinces during March 2006 – August 2006, a total of 3,122 batches were found to contain counterfeit or substandard drugs. The batches were collected and screened by mobile labs sponsored by the Chinese State Food and Drug Association (SFDA).</p>	<p>Hepeng, J. China's battle with fake drugs. Royal Society of Chemistry. May 18, 2007. Available from: http://www.rsc.org/chemistryworld/News/2007/May/18050701.asp Accessed: May 21, 2007</p> <p>Yang, Zhong-Yuan. International Pharmaceutical Federation's Pharmaceutical Sciences World Congress. March 25, 2007.</p> <p>Chinese gangs 'behind fake drugs.' Daily International Pharma Alert. June 5, 2007; vol 4, no 110. www.fdanews.com</p> <p>Barboza, D. China tightens food safety regulations. International Herald Tribune. June 6, 2007. www.iht.com Accessed: June 8, 2007</p> <p>Shaohong, J. Mobile labs developed in China for detection of counterfeit drugs. Proceedings of the 3rd Global Forum on Pharmaceutical Anticounterfeiting; March 13-15, 2007; Prague, Czech Republic.</p>
	Antimalarials		
	Albumin	<p>The SFDA discovered several thousand packs of fake human albumin, a protein found in blood plasma, during a crackdown on substandard blood products. The packs contained polysorbate-80, a food-use emulsifying agent, and were circulating in eight provinces.</p>	<p>China unearths more fake blood products. www.scripsnews.com, June 29, 2007, no. 3272, p. 17.</p>
	Rabies vaccine, serum protein, miconazole nitrate	<p>Police in Heilongjiang Province discovered 227 cases of people receiving counterfeit rabies vaccine; 29 of the cases were in Sichuan Province and 198 were in Heilongjiang Province. The suspects allegedly used distilled water, starch, and other</p>	<p>Counterfeit rabies vaccine given to 227 people. The Epoch Times. August 4, 2007. Available at: http://en.epochtimes.com/tools/printer.asp?id=58362 Accessed August 6, 2007.</p>

	<p>Viagra, Tamiflu, and antimalarials</p> <p>Diabetes test strips</p> <p>Losec, Panadol, Norlevo, dietary supplements and ointments</p>	<p>ingredients to create and sell 67 forms of counterfeit medicines, including rabies vaccine, serum protein, and miconazole nitrate.</p> <p>During a series of raids, Chinese police seized one ton of fake Viagra pills, along with fake Tamiflu and antimalarials. Four gangs were discovered making the fake drugs during a two-year crackdown involving Interpol as well as Chinese and U.S. authorities.</p> <p>Counterfeit versions of at-home diabetes tests used to measure blood sugar levels were discovered by Johnson & Johnson, the maker of the tests. Court filings disclose that China was the source of around 1 million fake test strips that were found in 35 states of the United States as well as Canada, Greece, India, Pakistan, the Philippines, Saudi Arabia, and Turkey. Officials first learned of the fake strips in September 2006 when complaints were received from customers who alleged that the strips resulted in error messages and inaccurate results.</p> <p>Zheng Xiaoyu, former head of the SFDA from 1997 to 2006, was executed in China on July 10, 2007. During his tenure, the SFDA approved six fake medicines in exchange for cash.</p> <p>More than 2 million counterfeit medicines were found in Taiwan by police officers during a raid. The medicines were imported in bulk from China and packaged for sale in Taiwan.</p> <p>On November 29, China's SFDA released the draft judicial interpretation of new anti-drug counterfeiting laws. Under those laws, manufacturers and sellers of counterfeit drugs that cause serious injury or death could be sentenced to death. If serious deformities or bodily harm occur to more than 3 people, or slight injury to more than 10 people, those convicted could face life imprisonment. Hospitals that buy, store, or use medicines which they know to be fake or substandard will face criminal charges as well.</p> <p>Following the deaths of 13 people who were given the industrial chemical diglycol, 5 employees of a pharmaceutical factory –</p>	<p>China seizes Viagra in crackdown on fake drugs. China Daily. July 25, 2007. Available at: http://www.chinadaily.com/cn/china/2007-07/25/content_5443310.htm Accessed July 26, 2007.</p> <p>Frank, A.D. and Rapaport, L. China counterfeit diabetes tests tracked by J&J. Bloomberg.com. August 16, 2007. Available at: http://www.bloomberg.com Accessed August 16, 2007.</p> <p>China executes ex-food regulator. The New York Times. July 10, 2007. Available at: http://www.nytimes.com Accessed July 10, 2007</p> <p>Oung, A. DOH issues fake drugs warning. Taipei Times. Dec 18, 2007. Available at: www.taipetimes.com/news/taiwan/archives/2007/12/18/2003392998 Accessed Dec 18, 2007</p> <p>China State FDA recommends death penalty for drug counterfeiters. PharmAsia News. Dec 10, 2007. Available at: www.pharmasianews.com/2007/12/china-state-fda.html Accessed: Dec 11, 2007</p> <p>Chinese plant employees stand trial over product deaths. www.scripsnews.com Sept 12, 2007, no</p>
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	<p>Viagra</p> <p>Armillarisni A injection</p> <p>Cancer drugs (Methotrexate, cytarabin hydrochloride, vincristine sulfate)</p> <p>High blood pressure medicine (Amlodipine)</p>	<p>*Recently, one man died and 11 others were taken to the hospital after taking fake Viagra.</p> <p>* A man died from the effects of a contaminated drug given to him in 2006. After contracting hepatitis, the man was hospitalized in April 2006 and given fake Armillarisi A injection, which had been contaminated with diglycol instead of propylene glycol. Since 2006, the man had received kidney and liver transplants, but died of kidney failure. The contaminated Armillarisi A injections were given to 65 patients in April 2006; after suffering kidney failure, 13 had died by the end of 2007. The death toll now stands at 14.</p> <p>* After 200 Chinese cancer patients were paralyzed or otherwise harmed in 2007 by contaminated leukemia drugs, the SFDA has shut down Shanghai Hualian, the maker of methotrexate. Problems with the drug first came to light in summer 2007 after patients receiving the drug experienced leg pain or even paralysis. Because the cause of the problem was unclear, only mild warnings were issued. However, after cytarabin hydrochloride (another cancer drug manufactured by Shanghai Hualian) began to cause adverse reactions, officials suspected contamination and found that the two drugs had indeed been contaminated with vincristine sulfate, also a cancer drug. Though official numbers have not been released, anecdotal evidence suggests that there are at least 193 victims nationwide and that approximately half of those are still unable to walk.</p> <p>* Three men were arrested for allegedly smuggling fake high blood pressure medicine into South Korea from China. The men partnered with an unlicensed supplier in Shandong Province in NE China; the supplier shipped the first batch of 1.2 million pills (out of a total order of 10 million fake pills) in January. These pills were to be packaged as genuine in Seoul by the smugglers, and each bottle of 500 tablets was to be sold at 25% less than the standard price. The pills were analyzed and found to contain less than 10% of normal levels.</p>	<p>Moy, Patsy. HK at center of global drugs scam. The Standard. February 11, 2008. Available from: www.thestandard.com Accessed: Feb 12, 2008</p> <p>Death toll from contaminated drug rises to 14 in S China. Xinhuanet. Jan 23, 2008. Available at: http://news.xinhuanet.com/english/2008-01/24/content_7482979.htm Accessed: Feb 4, 2008</p> <p>Hooker, J. and Bogdanich, W. Tainted drugs tied to maker of abortion pill. The New York Times. January 31, 2008. Available at: www.nytimes.com/2008/01/31/world/asia/31pharma.html Accessed: January 31, 2008</p> <p>Three arrested for smuggling fake medicine from China. Yonhap News Agency. March 18, 2008. Available at: http://english.yonhapnews.co.kr Accessed: March 19, 2008</p>
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* New information

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	<p>Contraceptive patches</p> <p>Eltroxin (Thyroxin)</p> <p>Paracetamol</p>	<p>The website, www.rxpharmacy.ws, apparently operated by American Style Products of New Delhi, is selling counterfeit contraceptive patches online that contain no active ingredients. The US FDA is investigating other products sold on the website that purport to be versions of FDA-approved drugs; the FDA urges consumers to treat any drugs purchased from this firm as being suspect.</p> <p>According to the Associated Chambers of Commerce and Industry of India (ASSOCHAM), 20% of medicines sold in India are fake. Of those, 60% do not have active ingredients, 19% have incorrect ingredients, and 16% have either harmful or inappropriate ingredients, like talcum powder. Approximately 38% of medicines in government hospitals are counterfeit, and 35% of drugs sold worldwide come from India.</p> <p>At the urging of patients in Maharashtra and Gujarat, the State FDA opened an inquiry in December 2006 about GlaxoSmithKline's Eltroxin, a thyroid hormone supplement used to treat people that have a deficiency of the hormone. According to the Assistant Commissioner of State with the FDA, large quantities of counterfeit versions of the drug were found during raids in Kandivli and Mumbai in January 2007, with one person arrested. The investigation is ongoing.</p> <p>In some surveys of medicines bazaars in the country, more than 90% of the medicines are found to be fakes. With only 35 drug inspectors at the national level and slightly more than 1000 at the state level, there are approximately 500 medicines outlets per inspector.</p> <p>According to data samples tested by State authorities from 1995-2003, substandard drugs account for approximately 8.19-10.64% of the market, while spurious drugs account for approximately 0.24-0.47%.</p> <p>Approximately Rs. 20 million (USD \$509,000) worth of fake drugs were seized in Orissa's Bolangir district. Among the medicines seized was paracetamol, a common fever reducer and pain reliever.</p>	<p>FDA and Johnson & Johnson warn public about counterfeit contraceptive patches sold through foreign internet site. FDA News. February 4, 2004. found at: http://www.fda.gov/bbs/topics/NEWS/2004/NEW01017.html</p> <p>20% of medicines sold are fake: ASSOCHAM. India Infoline News Service. Jan 9, 2007. Available at: www.indiainfoline.com</p> <p>FDA raids fake thyroid drug makers in Mumbai. The Economic Times. Mar 20, 2007 Available at: http://economictimes.indiatimes.com/articleshow/msid-1780951.cms</p> <p>Counterfeit Medicines on the Rise in India. Huliq. May 17, 2007. Available from: http://www.huliq.com/?q=21813/counterfeit-medicines-on-the-rise-in-india Accessed: May 17, 2007</p> <p>Sikka, H. Counterfeit drugs: a menace to humanity. Proceedings of the 3rd Global Forum on Pharmaceutical Anticounterfeiting; March 13-15, 2007; Prague, Czech Republic.</p> <p>Fake medicine factory busted in Orissa. India eNews. July 21, 2007. Available from: http://www.indianews.com Accessed on July 24, 2007.</p>
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Indonesia		<p>The Indonesian Drug and Food Control Agency (BPOM) reported that the most commonly counterfeited drugs are the antibiotics, analgesics, and drugs for diabetes. In May 2003, BPOM discovered 55 counterfeit medicines being sold in the market. Among them were amoxicillin 500 mg capsule that contained only 45.84% and penicillin that contained 45.34% of the active ingredient.</p> <p>Eleven men were arrested in Jakarta by the police on suspicion of producing syringes that contained only water. The men arrested said that they gathered used syringes out of the garbage of two local hospitals. They refilled the syringes with water and forged new expiration dates and packaging.</p>	<p>BPOM finds 55 items of counterfeit medicines in circulation. Issue 368 June 23, 2003. Extracts from: http://www.cic.co.id/majalah/368_02chem.htm</p> <p>WHO worried about fake drugs in Indonesia. Australian Broadcasting Corporation Radio Australia. February 24, 2007. Available at: http://www.radioaustralia.net.au/news/stories/s1856059.htm</p>

* New information

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	Neuralgin, Lemocin, antibiotics, anti-allergy drugs, cosmetics	<p>Estimates say that 25% of drugs for sale in Indonesia may be counterfeit.</p> <p>Jakarta police confiscated approximately 160,000 drugs that lacked distribution permits. The owners of the two shops raided were arrested. Neuralgin, a painkiller; Lemocin, a throat reliever; CTM, an anti-allergen; and antibiotics were among the medicines confiscated. Cosmetic products, such as makeup and face cream that contained high levels of mercury, were also seized.</p>	Pharmacy owners arrested for selling illegal drugs. The Jakarta Post. July 28, 2007. Available at: http://www.thejakartapost.com Accessed: July 26, 2007.
Israel	Viagra, Cialis	The Israeli Customs Authority seized 11,820 fake Viagra pills and 800 fake Cialis pills, along with several hundred other unidentified pills. The shipment arrived aboard a container ship which originated in China. If authentic, the seized pills would have been worth approximately NIS 1 million (\$248,583 USD)	Ashod customs seizes NIS 1 million counterfeit Viagra pills. Port 2 Port. March 5, 2007. Available from: http://www.port2port.com/Index.asp?CategoryID=43&ArticleID=1258 Accessed: April 26, 2007
Laos	Artesunate Antimalarials	<p>Sophisticated second and third generations of counterfeit artesunate labeled as produced by Guilin Pharma have been found in this country. The fake products have new, convincing, and very well crafted but fake holograms attached to the blisterpacks. The results of the Fast Red Dye test and HPLC analysis showed that these products did not contain artesunate.</p> <p>Data obtained from the USP DQI antimalarial drug quality monitoring project started in 2002 in the Mekong region showed the presence of fake and substandard antimalarial drugs. Results obtained from this project have been reported to authorities and communicated to relevant parties. The DRAs of the various countries have taken appropriate action to address the problem. The Food and Drug Department of Laos has issued recall notice for four lots of artesunate tablets to all 17 provincial Health and Drug Authority after receiving a verification test report of these fake artesunate from Food and Drug Quality Control Centre. The provincial authorities, in turn, have conducted investigative inspections of the distribution chain and confiscated all fake artesunate tablets found in pharmacies and drug retailers. Legal action is under way against all those who sell these fake drugs.</p> <p>At the 2nd global forum on pharmaceutical anticounterfeiting, a drug quality study on artesunate was reported that involved a</p>	<p>Newton P. Counterfeit artesunate antimalarial tablets. WHO Pharmaceuticals Newsletter No. 3, 2003: 9.</p> <p>Antimalarial drug quality monitoring project in the Mekong region 2004. U.S. Pharmacopeia Drug Quality and Information Program. Available from: www.usp.dqi.org</p> <p>Newton P. Fake antimalarials in SE Asia. . Proceedings of the 2nd Global Forum on</p>

		large stratified random samples (about 2300 samples); the objective of the study was to obtain a reliable and unbiased estimate of the prevalence of counterfeit and substandard drugs in the country, and study was funded by the government, Wellcome Trust, CDC, British Embassy in Bangkok. Samples were randomly obtained from the districts, pharmacies, shops that were selected by persons not involved in the collection of samples in the field. Provisional results have shown that 28 of the 29 (96%) artesunate tablets collected did not contain the active ingredient, suggesting that the previous high estimates on the prevalence of fake artesunate using non-random sampling reflected the real situation. The results for the other 15 drugs samples are not yet available.	Pharmaceutical Anticounterfeiting; 2005 Mar. 15-17; Paris, France. Denver CO: Reconnaissance Intl; 2005.
Malaysia		Approximately RM 7.8 million (\$2,248,810 USD) worth of fake medicines and beauty products were seized by the Health Ministry in 12,362 raids in 2006. According to Deputy Minister Datuk Dr Abdul Latiff Ahmad, the government estimates that 5-8% of all medicines on the market in the country are fakes. Beginning in May 2007, the government will implement a new hologram system to help alleviate the problem.	Fake medicines worth RM 7.8 million seized last year. <i>Materia Medica Malaysiana</i> . April 5, 2007. Available from: http://malaysianmedicine.blogspot.com Accessed: April 26, 2007
Myanmar (Burma)	Artemether	There are reports of fake intramuscular artemether labeled as produced by Kunming Pharmaceuticals.	Newton P. Counterfeit artesunate antimalarial tablets. <i>WHO Pharmaceuticals Newsletter</i> No. 3, 2003: 9.
	Oral Artesunate	In February 2005, a 23-year old Burmese man died after being treated with oral artesunate for malaria. After analysis, it was found that the main active ingredient in the substance he was given was paracetamol (acetaminophen). Though artesunate was found to be present in the tablets, the content was only 10 mg per tablet, instead of the 50mg present in the genuine product. 16% of randomly collected samples of medicines failed laboratory testing for quality assessment.	Newton PN, McGready R, et al. (2006) Manslaughter by Fake Artesunate in Asia – will Africa be next? <i>PLoS Med</i> 3(6): e197.
	Artemisinin	A Myanmar charity organization purchased 100,000 tablets and discovered that all of them were worthless.	WHO launches campaign against counterfeit medicines. <i>Bulletin of the World Health Organization</i> 2003; 81(12): pp.921-22. McNeil Jr., D. A growing epidemic of fake medications in Asia. <i>International Herald Tribune</i> . Feb 20, 2007.

	Artesunate	Recent samples of tablets taken from the border between Myanmar (Burma) and Thailand contained only 3-10 mg of artesunate per tablet; genuine tablets should contain approximately 50 mg.	Newton, P. Counterfeit medicines and the artesunate problem. Proceedings of the 3 rd Global Forum on Pharmaceutical Anticounterfeiting; March 13-15, 2007; Prague, Czech Republic.
	Artesunate	* Two different batches of artesunate were taken as samples from Kengtung, the capital of Shan State. The samples were sent to the U.S. Centers for Disease Control and Prevention (CDC) for testing; both batches were confirmed to be counterfeits and contained no measurable amount of artesunate, the standard treatment for the most dangerous strain of malaria, <i>Plasmodium falciparum</i> . The source of the drugs is unknown, but they have also been found along the border of Myanmar and Thailand.	Huanok, W. Counterfeit antimalarial drugs sold in Shan State. The Irrawaddy News Magazine. February 8, 2008. Available at: www.irrawaddy.org Accessed: February 12, 2008
Nepal	Amoxicillin, Thiabric, Antozol, Omiproazol and Norifloxacin	In February 2004, the Department of Drug Administration (DDA) seized 1200 capsules of amoxicillin 250 mg from three pharmacies in Rupendehi district. The manufacturer listed was Adip Labs of Kalol in India; investigation revealed that no such company exists. Test revealed the capsules contained a white odorless powder that was not the active ingredient. The DDA also found druggists in Narayanghat, Butwal, and Krishnaagar with 11 brands of unlicensed medicines and collected 18 dubious samples of substandard drugs; tests by the Royal Drugs Laboratory on the samples collected found 3% to be substandard. One DDA inspector estimates that up to 20% of the drugs in the market are substandard. In a batch of spot tests conducted last year, 96 out of the 359 samples of medicines (expired Thiabric, Antozol, Omiproazol and Norifloxacin) were found to be substandard.	Rai D. Which is real, and which is fake? Ever wondered why the medicine you take for that cough never seems to work? Nepali Times March 19-25, 2004. Available from: http://www.nepalitimes.com/issue/188/nation.htm
Pakistan	Alternative medicines and Viagra	The WHO estimates that in 2004, 40-50% of drugs consumed in Pakistan were counterfeit. Provincial authorities seized 495 samples of substandard, fake or illegal medicines in 2005, out of which 64 (13%) were fake. Warranties are to accompany drugs through the supply chain from manufacturers to retailers, and retailers will be held legally responsible for products that do not have a warranty, according to a recent Supreme Court ruling that has spurred the	Multinationals urge Pakistan to raise drug prices. Daily International Pharma Alert. Jan 27, 2006; vol 3, no 19. www.fdanews.com Waqar A. Sale of homeopathic and herbal 'Viagra' rampant. Daily Times; April 6, 2006. Clampdown on fake drugs in Pakistan. www.scripsnews.com . May 26, 2006. no. 3160: p. 18.

		<p>government to take action against fake, counterfeit, and spurious pharmaceutical products in the country.</p> <p>According to Dr. Qaiser Sajjad, Secretary-General of the Pakistan Medical Association, 40 to 50% of all drugs in the country are counterfeit. Dr. Akbar Sial, a health ministry official, denied that this assertion is true.</p> <p>The government is establishing a national drug regulatory authority (DRA) to focus on drug quality and registration. Though Pakistan's health secretary, Syed Anwar Mahmood, said that the DRA will be autonomous, some consumer rights proponents believe that it will further the interests of drug companies.</p>	<p>Pakistan: mixed reaction to proposed drug authority. Reuters Foundation AlertNet. Nov 3, 2006. Available at: www.alertnet.org</p>
Philippines	<p>Maintenance drugs for cancer, diabetes, and cardiovascular diseases; OTC products such as analgesics (paracetamol); antibiotics; cough syrups, tablets, and capsules</p> <p>Vitamins (Calpol and Ceelin)</p> <p>Amira Whitening Cream</p> <p>Multivitamins, cefazolin, cefuroxime,</p>	<p>A local newspaper reported that a Senate inquiry was told that more than 7 billion pesos worth of fake medicines is being sold in the country, most of them coming from India, China, Taiwan, and Pakistan. It was also reported that the director of the BFAD admitted to the committee that her office failed to conduct random sampling of drugs in the past due to limited resources (budget and adequate staff).</p> <p>The Department of Health (DoH) warned the public on the proliferation of counterfeit drugs sold in some drugstores in Davao City. Most of the fake drugs are vitamins, according to Gil Cawad of the DOH.</p> <p>National Bureau of Investigation (NBI) agents arrested a businesswoman for selling fake whitening cream worth P.5 million (approximately US\$94,340) in Pampanga. During the operation, NBI agents seized 700 bottles of fake Amira Whitening Cream.</p> <p>In Pampanga alone, P5 million (approximately \$99,000 USD) in fake drugs were seized late in 2005, according to Normita Leyesa, president of the Philippine Pharmaceutical Association.</p>	<p>Martin S. P7-B fake drugs for sale. From maintenance to paracetamol. <i>The Manila Times</i>. October 07, 2004.</p> <p>Gevera Mai. Fake drugs alarm DOH. Philippine Information Agency press release, October 13, 2005.</p> <p>Vendor of fake whitening cream nabbed. <i>Tempo</i>; May 19, 2006. http://www.tempo.com/ph/news.php?aid=24106</p> <p>Fake medicines are everywhere; on a daily basis, many unknowingly risk death. <i>News Today</i>. August 11, 2006. found at</p>

	<p>dydrogesterone, loperamide, gliclazide, and dexamethasone</p> <p>Viagra, Norvasc</p>	<p>Operatives from the National Bureau of Investigation (NBI) conducted enforcement action against a total of 23 drugstores: 8 in metro Manila, 10 in various areas of Southern Luzon, and 5 in Northern Luzon. Officials seized fake Viagra (50 mg and 100 mg) as well as fake Norvasc (5 mg and 10 mg). Prior to the enforcement action, samples purchased from the stores in question were confirmed as counterfeit.</p> <p>Several drug stores in Binondo, Manila, suspected of selling unregistered drugs, were raided by police in January 2007. Five people were arrested, including four Chinese nationals. The police seized P 800,000 (approximately USD 16,600) worth of erectile dysfunction drugs, vitamin and mineral supplements, and sleep enhancers.</p>	<p>http://www.thenewstoday.info/2006/08/11/fake.medicines.are.everywhere.html</p> <p>Fake Viagras abound, NBI warns. Manila Standard Today. Dec 7, 2006. Available at: www.manilastandardtoday.com</p> <p>Mananghaya J. 4 Chinese nabbed in Binondo. The Philippine Star. January 10, 2007.</p>
	<p>Plendil and Imdur</p>	<p>The National Bureau of Investigation (NBI) seized 1,364 pieces of Plendil and 959 pieces of Imdur in pharmacies in San Pablo City, Laguna. Worth a total of P100,000 (approximately \$2,100 USD), Plendil is an anti-hypertension drug used to regulate blood pressure and Imdur is a vasodilator for heart ailments.</p>	<p>Macairan E. and Agcaoili T. NBI raids yield P100,000 in fake hypertension drugs. The Philippine Star. May 1, 2007. Available from: http://www.abs-cbnnews.com/storypage.aspx?StoryID=75568 Accessed: May 1, 2007</p>
	<p>Charantia, erectile dysfunction drugs, soap, diet pills, beauty products</p>	<p>Police seized approximately P500 million (\$10,787,487 USD) worth of fake drugs during a raid in Manila and arrested six Chinese nationals.</p>	<p>Evangelista, R. P500m in fake drugs seized. Manila Standard Today. June 23, 2007. Available from: http://www.manilastandardtoday.com/?page=policy_june23_2007 Accessed: June 26, 2007</p>
	<p>Viagra</p>	<p>* The National Bureau of Investigation (NBI) has filed charges against eight people who were allegedly involved with the sale and distribution of fake Viagra in Manila. Investigators seized P 115,000 (USD\$2,800) worth of counterfeit Viagra from the drugstore where one of the suspects was arrested.</p>	<p>Santos, T. 8 charged for selling fake Viagra in Manila. Philippine Daily Inquirer. February 14, 2008. Available at: http://services.inquirer.net Accessed: February 18, 2008.</p>
Singapore	Power 1 Walnut	* Police arrested a man after discovering approximately 2,000	Ching, N. That's how raid team knew where "sex

	(anti-impotence drugs)	counterfeit anti-impotence drugs in several raids. The value of the drugs was estimated at \$200,000 (USD\$144,000). The drugs contained 45mg to 100mg of glibenclamide (an anti-diabetic drug), which is several times its therapeutic dose of 2.5 mg to 20 mg. At least ten men in Singapore experienced adverse reactions after taking the drug; one of the men suffered a stroke.	drugs” were. The Electric New Paper. Feb 24, 2008. Available at: http://newpaper.asia1.com.sg Accessed: Feb 25, 2008
Thailand	Furosemide (Lasix), levonorgestrel (Postinor), norethisterone (Primolut), finasteride (Proscar), sildenafil (Viagra)	Counterfeit versions of the products mentioned in the previous column were found in drugstores in 2003, according to a senior pharmaceutical inspector of FDA at the pre-International Conference of Drug Regulatory Authorities; the agency has undertaken measures to combat counterfeit medicines: monitoring and surveillance activities; sampling of products; strong measures for law enforcement; increased cooperation with nongovernment bodies, the police, and customs; and provides training for law enforcement officers.	Asian countries on the road to tackle counterfeits. Scrip World Pharmaceutical News Feb 20, 2004. Issue 2928; west Sussex, UK. PJB Publications Ltd: 18.
	Antimalarials	Data obtained from the USP DQI antimalarial drug quality monitoring project started in 2002 in the Mekong region showed the presence of fake and substandard antimalarial drugs. Results obtained from this project have been reported to authorities and communicated to relevant parties. The DRAs of the various countries have taken appropriate action to address the problem. The Food and Drug Administration of Thailand is undertaking investigation on substandard quinine, artesunate, and chloroquine with local manufacturers and distributors to find the root cause of the problem.	Antimalarial drug quality monitoring project in the Mekong region 2004. U.S. Pharmacopeia Drug Quality and Information Program. Available from: www.usp.dqi.org
	Antimalarials	Substandard medicines are believed to account for 8.5% of medicines on the market.	WHO launches campaign against counterfeit medicines. Bulletin of the World Health Organization 2003; 81(12): pp.921-22.
	Antimalarials	An official from the Antimalarial Drug Resistance Information Center said that substandard malaria drugs have been found in 10 provinces in Thailand along the Burmese border and 4 provinces along the Cambodian border. Residents there acquired counterfeit or expired drugs from local pharmacies.	Silp, S. Thai Officials Warn about Counterfeit Malarial Drugs. Irrawaddy News Magazine. September 7, 2006. Available at: www.irrawaddy.org
	Artesunate	Recent samples of tablets taken from the border between Myanmar (Burma) and Thailand contained only 3-10 mg of artesunate per tablet; genuine tablets should contain	Newton, P. Counterfeit medicines and the artesunate problem. Proceedings of the 3 rd Global Forum on Pharmaceutical Anticounterfeiting;

	Viagra	<p>approximately 50 mg.</p> <p>The FDA is proposing an amendment to the Drug Act of BE 2510 seeking to impose fines of up to Bt5 million (USD166,000) for manufacturers of fake drugs. Sellers and importers could receive fines of up to Bt2 million (USD66,500) The current law states that the maximum fine for manufacturers is Bt50,000 (USD1,600), while sellers and importers face a maximum fine of Bt10,000 (USD332). Deputy Public Health Minister Morakot Kornkasem estimated that Bt800 million (USD26.6 million) worth of fake medicines are sold in Thailand every year, but that those drugs account for less than 1% of the total drug market.</p> <p>* Pfizer purchased 217 samples of Viagra in both Bangkok and the provinces and tested them; 202 were fakes. The counterfeit versions contained only between 17%-48% of the active ingredient, but the packaging on most of them was “perfect” and included a hologram.</p>	<p>March 13-15, 2007; Prague, Czech Republic.</p> <p>FDA proposes heavier fines for fake drug business. The Nation. Dec 6, 2007. Available at: www.nationmultimedia.com</p> <p>The scourge of fake medicine. Bangkok Post. Feb 14, 2008. Available from: www.bangkokpost.com Accessed: Feb 14, 2008</p>
Vietnam	Antimalarials	<p>Data obtained from the USP DQI antimalarial drug quality monitoring project started in 2002 in the Mekong region showed the presence of fake and substandard antimalarial drugs. Results obtained from this project have been reported to authorities and communicated to relevant parties. The DRAs of the various countries have taken appropriate action to address the problem. The Drug Administration of Vietnam has issued an investigation notice to all 64 provincial health and drug authorities to inspect targeted pharmacies for the specific lot number of fake artesunate tablets as reported by the monitoring project. The Provincial authorities have ordered a recall of this product from the market.</p> <p>8% of randomly collected samples of medicines failed laboratory testing for quality assessment.</p>	<p>Antimalarial drug quality monitoring project in the Mekong region 2004. U.S. Pharmacopeia Drug Quality and Information Program. Available from: www.usp.dqi.org</p> <p>WHO launches campaign against counterfeit medicines. Bulletin of the World Health Organization 2003, 81 (12)</p>
	Acetaphen	<p>Drug inspectors in Bac Ninh province found fake 30mg/2ml ampoules of Acetaphen, used as a painkiller and antipyretic.</p>	<p>Chau L. Vietnam on the lookout for fake drugs. Thanh Nien News; May 12, 2006.</p>
	Levitra	<p>The health ministry’s Drug Administration Department said</p>	<p>Son N. Fake erectile dysfunction medicines on</p>

		<p>bogus Levitra 20mg was found on sale at many drugstores.</p> <p>Dr. Phung Thi Vinh of Central Testing Institute stated that approximately 80% of all medicines in Vietnam are generic, but that the country does not have regulations in place to govern bioequivalence. Three drug testing centers will be established in Northern, Central, and Southern regions of the country to focus on drug quality control.</p> <p>In 2005, out of 10,998 manufacturers and traders inspected, 1,394 were found to employ “errant practices” and were fined VND1.6 billion (US\$99,626). Two manufacturers were shut down permanently, and 133 were suspended. A total of 29,336 drug samples were taken for testing and 867 were found unsafe for use.</p>	<p>sale in Vietnam; April 24, 2006.</p> <p>Vietnam to elevate drug scrutiny via three new analysis centers. Than Nien News. Nov 22, 2006. Available at: www.thanhniennews.com</p>
United Arab Emirates (UAE)		<p>* According to the Director-General of Dubai Customs, more than 300 tonnes of imports containing counterfeit medicines were destroyed in 2007.</p> <p>* The UAE plans to set up a new federal agency to help in the fight against counterfeit drugs. The Chairman of the Brand Owners Protection Group said that this is being done as a precautionary measure to prevent the counterfeit trade from growing, recognizing that Dubai has become a “major transit shipment area.” The agency will include representatives from health, customs, and other authorities.</p>	<p>Harrison, R. Dubai destroys over 300 tonnes of counterfeit goods. Emirates Business 24/7. February 6, 2008. Available at: www.business24-7.ae/cs/article_show_main1_story.aspx?HeadlineID=1873 Accessed: February 6, 2008</p> <p>Fake drugs battle is just beginning. 7Days. January 9, 2008. Available at: www.7days.ae/en/2008/01/09/fake-drugs-battle-is-just-beginning.html Accessed: Jan 10, 2008</p>
Yemen	Antimalarials (Chloroquine & Sulfadoxine/Pyrimethamine)	<p>Percentage failure of samples based on ingredient content is 6.7% for chloroquine base syrup (CQS) and 20% for chloroquine phosphate (CQT). In dissolution, failure rate was 8% for CQT and 70% for sulfadoxine/pyrimethamine (SPT).</p> <p>Approximately 70% of drugs in Yemen are contraband, according to Mohammed al-Asali, a member of the parliamentary health committee. In May, a woman was arrested entering Yemen with 80 packets of medicine valued at YR 800,000 (about \$4,061 USD). According to the article, the woman had not kept the drugs at carefully controlled temperatures, which made them potentially dangerous. Local</p>	<p>Abdo-Rabbo Ahmed, Bassili Amal, and Atta Hoda. The quality of antimalarials available in Yemen. Malaria Journal 2005; vol. 4 no. 28</p> <p>Yemen: counterfeit, obsolete drugs pose safety risk, say health experts. Reuters Foundation AlertNet. July 4, 2006. found at www.alertnet.org</p>

* New information

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		authorities recently seized and destroyed 15 tonnes of fake and smuggled medicines in the Haradh district, Sana'a International Airport, Hudaidah Airport, and in the Aden and Taiz governorates, according to Adel Humaid, head of the Drug Monitoring Department at the Ministry of Health's Higher Authority for Medicine.	
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EUROPE AND EURASIA

		Counterfeit medicines make up approximately 10% of the European pharmaceutical market, up from nearly zero 10 years ago, per the World Health Organization (WHO).	Sliva Jan. Counterfeit drugs deemed threat in Europe. September 22, 2005 ABC News Internet Ventures.
Azerbaijan		The health ministry inspected more than 230 pharmacies in Baku alone, revealing pharmaceuticals of low quality, 33 brands in total. These were withdrawn from pharmacies, and 12 pharmacies were closed.	Measles/rubella vaccination funded in Azerbaijan...pharmacy inspections. www.scripsnews.com , March 29, 2006, no. 3143, p. 17.
Kazakhstan		As a result of an increasing number of counterfeits found in the country in the last three years, new measures have been proposed by the Kazakhstani association of representatives of foreign pharmaceutical companies against counterfeit drugs in the country: increase the severity of punishment for producing and trading counterfeits, establish well-equipped laboratories to analyze samples more quickly, improve collaboration between manufacturers and state quality control organizations, and label drugs in Kazakh (the state language).	Kazakhstani association proposes new anti-counterfeiting measures. www.scripsnews.com , Nov 3, 2006, no. 3206, p. 19.
Kyrgyzstan		The Ministry of Health reported that up to 70% of pharmaceuticals being bought in Bishkek, the country's capital, could be counterfeit. Further, the proportion of counterfeit and low-quality products identified in pharmaceutical deliveries that pass through customs was 5%. The high price of officially imported medicines drives the patients to street markets where they can buy cheaper drugs but are more likely to be fake and of poor quality. The ministry has proposed an amendment to the country's Criminal Code through introduction of criminal charges for those producing counterfeit drugs.	Counterfeit drugs spreading in Kyrgyzstan. Scrip World Pharmaceutical News. April 9, 2004. Issue 2942. London, UK. PJB Publications Ltd: p.20. Also available at: www.scrippharma.com
Moldova		Local companies produce about 10% of the country's 3749 registered pharmaceuticals with the remainder being imported.	Moldova concerned about counterfeits or date-expired products. Scrip World Pharmaceutical

		<p>According to the National Institute of Pharmaceuticals, up to 10% of pharmaceuticals being sold could be counterfeit or date expired. It also reported that only 2% of pharmaceuticals that might have been smuggled last year were actually identified. The government plans to open special quality control laboratories at customs terminals in order to reduce the circulation of counterfeit drugs in the country.</p>	<p>news March 12, 2004. Issue 2934; London, UK. PJB Publications Ltd. p.4. Also available at www.scrippharma.com</p>
Russia	<p>Ampicilline (ampicilline) tablet Claritin (loratadine) tablet Mezim-forte (proteolytic enzyme) tablet Lorinden (flumetasone) ointment Omez (omeprazole) Cerebrolysin injection Biseptol (cotrimoxazole) tablet No-spa (drotaverine) tablet Nizoral (ketoconazole) tablet</p>	<p>Among the findings of a survey by a Russian think tank and PhRMA headed by the Coalition for Intellectual Property Rights (CIPR), 93% of Moscow residents have encountered counterfeit items at retailers during 2002; 6% of counterfeits are sold in pharmacies.</p> <p>At a roundtable discussion organized by AIPM, CIPR and the American Chamber of Commerce in Russia on 16 April 2002, Alexander Toporkov, Deputy Head of the Ministry of Health Department for State Quality Control, reported that, in 2001, there were 101 documented cases of counterfeited lots and 49 cases of counterfeited medicines, with antibiotics being the most frequently counterfeited (47%) followed by hormone-containing drugs (11%). At the 8th Adams Smith Institute International Conference “The Pharmaceutical and Healthcare Sector in Russia,” held in St. Petersburg 22-23 May 2002, Mr. Toporkov presented statistics for the first four months of 2002: 23 cases of counterfeit medicines contained within 43 different lots.</p> <p>The drugs listed in the previous column were counterfeited during the first 3 months of 2004, according to data provided by the Department of the Control of Drug Quality.</p> <p>At the 2nd global forum on pharmaceutical anticounterfeiting, it was reported that fake medicines are on the rise in the country, about 15% now; an estimated 70% of these fake medicines are</p>	<p>Russian survey reveals rampant fakes and consumer psyche. Authentication News, April 2003; vol 9 no.3: 3.</p> <p>2004 Report from Elena Ushkalova, M.D., USP DQI Russia coordinator. eushk@mars.rags.ru</p> <p>Thomson, T. Strengthening pharmaceutical controls in Eastern Europe. Proceedings of the 2nd Global Forum on Pharmaceutical</p>

	<p>Antibiotics, cardiovascular and gastrointestinal medicines</p>	<p>produced domestically while some are imported from China and other Asian markets.</p> <p>Counterfeit drugs make up some 20% of all drugs distributed, Council of Europe and WHO statistics show.</p> <p>Russian authorities have seized over 1000 tonnes of illicitly manufactured pharmaceuticals in the previous three years, according to the Federal Control Service. Counterfeit drugs account for approximately 5-10% of all drugs consumed in Russia. A recent UN survey ranked Russia as the fifth-largest producer of counterfeit pharmaceuticals in the world, with around 70% of these products produced domestically. Officials have been trying to tighten border controls, but these efforts have been undermined by the recent abolition of the Department of Pharmaceutical Inspection.</p> <p>Russia's federal service for surveillance in healthcare and social development, Roszdravnadzor, pulled 162 batches of counterfeit drugs under 47 names from the market in 2005, compared with 60 names in 2004. Amendments to the criminal code have been drafted, including fines and prison sentences.</p> <p>5-10% of pharmaceuticals consumed in Russia are counterfeits. A recent UN survey states that Russia is the fifth-largest producer of fake medicines in the world.</p> <p>Russia ranked first in the number of counterfeit drugs seized/destroyed in 2005—a total of 93.</p> <p>Russia's health ministry estimates that counterfeit pharmaceuticals worth US\$250-300 million are being sold in the country every year; almost 70% of them—including antibiotics, cardiovasculars, and gastrointestinal— are being made in Russia. In 2005, state control organizations seized from pharmacies 182 batches of medicines under 48 names, of which more than 70% imitated imported products.</p>	<p>Anticounterfeiting; 2005 Mar. 15-17; Paris, France. Denver CO: Reconnaissance Intl; 2005.</p> <p>Sliva Jan. Counterfeit drugs deemed threat in Europe. September 22, 2005 ABC News Internet Ventures.</p> <p>Russia in new crackdown on counterfeits. Daily International Pharma Alert. Dec 27, 2005; vol 2, no. 250. www.fdanews.com</p> <p>Russia to introduce criminal penalties for counterfeit drugs. www.scripsnews.com, January 25, 2006, no. 3125, p. 6.</p> <p>CIS states in joint anti-counterfeiting action plan. Daily International Pharma Alert. Jan 20, 2006; vol 30, no 14. www.fdanews.com</p> <p>WHO global taskforce to tackle counterfeit drugs. www.scripsnews.com, February 24, 2006, no. 3134, p. 16.</p> <p>Counterfeits worth \$250 million sold in Russia. www.scripsnews.com, February 24, 2006, no. 3134, p. 2.</p>
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		<p>in the country are counterfeit. According to the Federal Health and Social Development Inspection Service, about 70% of counterfeit drugs seized by law enforcement are imitations of foreign medicines.</p> <p>The district court of Kutsevsky in western Moscow will hear the case of 10 people accused of trafficking the Thai pills, a weight loss formula containing phentermine and oraphepranon, an unknown substance, both of which are classified as addictive psychotropics.</p> <p>In a first reading, the Duma has passed a bill that will amend a clause in the national criminal code. The bill calls for stricter punishments for people who produce, trade, store, transport, or import counterfeit drugs. The current maximum sentence is 10 years, but if the amendment is passed, the sentence would be extended to 15 years.</p>	<p>Russia's parliament proposes longer jail sentence for counterfeiting. www.scripsnews.com, May 16, 2007, no. 3259, p. 6.</p>
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LATIN AMERICA AND THE CARIBBEAN

Argentina	Iron supplements	<p>A 22-year-old woman died of liver failure on December 23, 2004 after taking the 7th of 10 iron injections for a mild case of anemia. Samples of the medicine were collected and tested, and the medicines authority (ANMAT) confirmed that they were highly toxic counterfeits. The source of the counterfeits was traced to the distributor, and four people were prosecuted. However, the subsequent recall of the medicine was not fully successful – in May 2005, another woman died, and a pregnant woman who was also given the injections gave birth to a 26-week premature baby.</p>	<p>Reggi, V. IMPACT: a WHO initiative to combat counterfeit medicines. Proceedings of the 3rd Global Forum on Pharmaceutical Anticounterfeiting; March 13-15, 2007; Prague, Czech Republic.</p>
	Asthma and cancer medications	<p>Adrian Gimenez, one of Argentina's most experienced counterfeit drug investigators, reported that a group of counterfeiters were discovered producing adulterated asthma medications inside a hen house. He also reported that there were two recent cases involving fake cancer medicines. In one case, no active ingredient was found, and in the other case, the expiration date of the medicine had passed and the medicine was transferred to a different container. It was noted that in Argentina, it is not illegal to change the expiration date of a medicine unless it can be proven that doing so was damaging to a person's health.</p>	<p>Loewy, M. Deadly Imitations. Perspectives in Health. 2007, vol. 11, no. 1. Available at: http://www.paho.org/English/DD/PIN/Number23_article2.htm</p>

	levonorgestrel, ethinylestradiol)		
Dominican Republic		The Ministry of Health reports that half of all pharmacies operate illegally and 10% of drugs imported in 2005 were fakes. Some medicines that were seized had expired more than a decade earlier.	Loewy, M. Deadly Imitations. Perspectives in Health. 2007, vol. 11, no. 1. Available at: http://www.paho.org/English/DD/PIN/Number23_article2.htm
El Salvador		The Association of Pharmaceutical Companies reported that counterfeit medicines are widely available in the market. Gamma Laboratories, a local manufacturer, reported losses of USD \$40 million in 2005.	Loewy, M. Deadly Imitations. Perspectives in Health. 2007, vol. 11, no. 1. Available at: http://www.paho.org/English/DD/PIN/Number23_article2.htm
Guyana	antimalarials	Dr. Leslie Ramsammy, Minister of Health, reported that two antimalarial drugs were discovered in the country within the last two years.	More vigilance, training needed to curb influx of fake drugs—Food and Drugs Director. Stabroek News. August 15, 2007. Available at: http://www.stabroeknews.com Accessed August 16, 2007.
Mexico	Zocor, Carisoprodol	<p>Mexican authorities are investigating the sale of counterfeit medicines in a border town that is popular among American tourists looking for cheap medicines. U.S. officials reported one pharmacy sold useless tablets labeled Zocor (cholesterol-lowering drug) to an American citizen in this border town. This incident led to an alert issued by the U.S. FDA on July 30, 2004 about the fake Zocor which had no active ingredient and also about substandard Carisoprodol (anti-muscle spasm) which was found to have a very low level of active ingredient.</p> <p>As many as 40% of all drugs distributed are fake, according to Council of Europe and WHO statistics.</p> <p>The illegal drug trade stands at US\$650 million per year, equal to around 10% of total drug sales.</p> <p>Mexico has pledged to reform its Health Law to strengthen regulators' powers to crack down on the country's US\$70 million illegal drug counterfeiting sector. Under the reforms, counterfeiting would become a crime punishable by imprisonment.</p>	<p>Stevenson, M. Mexico eyes fake drugs on border. CBSNews.com Available at: http://www.cbsnews.com/stories/2004/08/10/world/main635220.shtml Accessed March 22, 2005.</p> <p>Sliva Jan. Counterfeit drugs deemed threat in Europe. September 22, 2005 ABC News Internet Ventures.</p> <p>Latin America battles counterfeit drug threat. Daily International Pharma Alert. Feb 27, 2006; vol 3, no. 40. www.fdanews.com</p> <p>Multinationals urge firm action on Mexican counterfeiting. Daily International Pharma Alert. Feb 14, 2006; vol 3, no. 31. www.fdanews.com</p>

		In 2004, federal agents confiscated 60 tons of stolen, expired, and counterfeit pharmaceuticals in Michoacan and Jalisco. Such illegal products account for 10% of the national market.	Loewy, M. Deadly Imitations. Perspectives in Health. 2007, vol. 11, no. 1. Available at: http://www.paho.org/English/DD/PIN/Number23_article2.htm
Panama	Cough and anti-allergy syrups	Diethylene glycol (an alcohol used in brake fluid and hydraulic systems) mixed in sugar-free cough syrups, was found to be the cause of 21 deaths and 13 ill patients in Panama. Government-made cough and anti-allergy syrups were contaminated with the substance, discovered with the help of US CDC and US FDA. The syrups have since been removed from clinics. Health Minister Camilo Alleyne said it was unlikely that the medicines had been accidentally contaminated; it is more likely that they were tampered with.	Power M. Panama mystery illness traced to adulterated drugs. Reuters Foundation AlertNet. Oct 12, 2006. Available at: www.alertnet.org
	Cough and anti-allergy syrups	The contaminated cough and anti-allergy syrups that were found in 2006 have been traced through three trading companies on three continents; none of the companies performed purity testing. Originating near the Yangtze Delta, 46 barrels of toxic syrup were exported by Chinese companies. Of the 365 reported deaths in Panama, 100 have been confirmed as directly resulting from the diethylene glycol, which was exported as 99.5% pure glycerin.	Bogdanich, W. and Hooker, J. From China to Panama, a trail of poisoned medicine. The New York Times. May 6, 2007. Available at: http://www.nytimes.com Accessed Dec 13, 2007.
Peru		Local regulator DIGEMID impounded 28 tons of fake drugs in 2004, and another 460,000 illegal products were intercepted in 2005. 43% of intercepted products were found to be lacking the active ingredient claimed on the packaging. Peru's Ministry of Health estimates that illegal sales of medicines account for 15 to 20% of the local market. The Association of Pharmaceutical Laboratories reported that the sale of counterfeit medicines rose from USD \$40 million in 2002 to USD \$66 million in 2006. In Lima alone, the amount of illegal pharmacies that sell counterfeit medicines has risen from 200 in 2002 to 1800 in 2007. More than 460,000 counterfeit or expired medicines were seized in 2005, according to the General Directorate of Medicines, Supplies, and Drugs.	Latin America battles counterfeit drug threat. Daily International Pharma Alert. Feb 27, 2006; vol 3, no. 40. www.fdanews.com World Health Organization Fact Sheet no. 275, revised Feb 2006; http://www.who.int/mediacentre/factsheets/fs275/en/print/html Loewy, M. Deadly Imitations. Perspectives in Health. 2007, vol. 11, no. 1. Available at: http://www.paho.org/English/DD/PIN/Number23_article2.htm

Venezuela		It is estimated that one in four pharmaceuticals is a counterfeit or fails to meet regulatory standards.	Latin America battles counterfeit drug threat. Daily International Pharma Alert. Feb 27, 2006; vol 3, no. 40. www.fdanews.com
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MULTI-COUNTRY/REGIONAL/GLOBAL

Myanmar, Laos, Vietnam, Cambodia and Thailand	Antimalarial (Artemisinin derivatives or Mefloquine)	Of the 188 tablet packs purchased which were labeled as 'artesunate', 53% did not contain any artesunate. Of the 44 mefloquine samples, 9% contained less than 10% of the expected amount of active ingredient.	Dondorp, A.M., et al. Fake antimalarials in Southeast Asia are a major impediment to malaria control: multinational cross-sectional survey on the prevalence of fake antimalarials. Tropical Medicine and International Health, Dec 2004; vol. 9 no 12: p 1241-1246.
Global		In 2005, there were 781 counterfeiting incidents, representing a 40% increase over 2004, according to the Pharmaceutical Security Institute. Eighty-nine countries were connected to the trade in 2005, a rise of 32% from 2004.	WHO global taskforce to tackle counterfeit drugs. www.scripsnews.com , February 24, 2006, no. 3134, p. 16.
Africa		Dr. Valerio Reggi, from WHO's Department of Medicines Policy and Standards, stated that there were 800 documented cases of counterfeit drugs reported globally in 2005. Of those, 62 occurred in Africa, with Nigeria and South Africa being the hardest hit. In some countries, counterfeit drugs may make up more than half of the drug supply. For example, some recent reports have said that more than 50% of antimalarials in Africa are believed to be counterfeit.	Weak laws blamed for trade in fake drugs. Daily Nation Online. August 15, 2006. www.nationmedia.com/dailynation Combating Counterfeit Drugs: a Report of the Food and Drug Administration. February 18, 2004. p. 2.
Global		WHO estimates that 1 in 4 packets of medicine sold in street markets in developing countries could be fakes. Because of this, WHO has launched a taskforce to fight the multimillion dollar counterfeit drug industry.	WHO launches taskforce to fight counterfeit drugs. Bulletin of the World Health Organization; September 2006, vol. 84 no. 9: p. 689
Global		In some areas of Sub-Saharan Africa, South East Asia, and Latin America, counterfeits make up more than 30% of medicines. In many of the former Soviet republics, approximately 20% of drugs are counterfeit, while countries with emerging economies have an estimated 10% counterfeit. Wealthy countries have less than 1% counterfeit. Illegal internet sales are 50% counterfeit. At the first official meeting of IMPACT (the International Medical Products Anti-Counterfeiting Taskforce), WHO and more than 20 international partners launched a package of measures to help	WHO and partners accelerate fight against counterfeit medicines. World Health Organization news release. Nov 15, 2006. Available at: www.who.int

		national authorities combat counterfeit medicines.	
Global		According to a bulletin released from the European Commission, 75% of the cases of counterfeit drug seizures in 2005 related to drugs originating in India, 7% from Egypt, 6% from China, and 4% from Thailand. In terms of the number of items seized, 15% came from Indonesia, followed by Egypt, India, and Chile.	Commission reveals extent of counterfeit medicines in EU. www.scripsnews.com , Nov 17, 2006, no. 3210, p. 2.
Southeast Asia	Antimalarials (artesunate)	In a recent sampling by Dr. Paul Newton and a team from Oxford University's Center for Tropical Medicine in Vientiane, Laos, 53% of antimalarials purchased in South-East Asia were fakes. Many of the fake artesunate pills were extremely accurate in appearance, with sophisticated packaging, holograms, and in one case, even secret logos visible only under UV light. Some of the pills contained flour, starch, or chalk, while some contained acetaminophen (which can lower the fever associated with malaria but cannot cure the disease) or chloroquine (a nearly useless antimalarial). One sample contained a sulfa drug that can cause a fatal rash in people who are allergic. A few contained a small amount of real artemisinin, but only enough to produce a false positive on the commonly-used Fast Red dye test – not enough to cure the disease.	McNeil Jr., D. A growing epidemic of fake medications in Asia. International Herald Tribune. Feb 20, 2007.
Global		Pharmacology experts estimate that 80% of nations lack drug agencies that are capable of detecting sophisticated counterfeits.	McNeil Jr., D. A growing epidemic of fake medications in Asia. International Herald Tribune. Feb 20, 2007.
Global	Ponstan and Viagra	According to Donald Shruhan, Global Security Senior Regional Director for Pfizer, 3.5 million counterfeit Viagra tablets were seized in 2005, seven times as many as were seized in 2003. One of the fake Viagra pills was found to have the same ingredients as in Ecstasy (methylenedioxymethamphetamine or MDMA, a stimulant/hallucinogen). Shruhan also described counterfeit Ponstan tablets that looked similar to the real version but contained boric acid, which can cause kidney failure or death.	Cement Mixer used to make fake Viagra. NST Online. May 29, 2007. Available from: http://www.nst.com.my Accessed: May 29, 2007
Southeast Asia	antimalarials	A study conducted by WHO revealed that of the 104 antimalarial medicines on sale in pharmacies, 38% did not contain any active ingredients.	Loewy, M. Deadly Imitations. Perspectives in Health. 2007, vol. 11, no. 1. Available at: http://www.paho.org/English/DD/PIN/Number23_article2.htm
Republic of the Congo, Nigeria, Senegal, Sudan	Antiretroviral, anti-tuberculosis, antimalarial medicines	Representatives of four African countries asked for Interpol's help in preventing counterfeit drugs – especially antiretroviral, anti-tuberculosis, and antimalarial medicines – from making their way into the market by way of smuggling networks. According to John	Interpol to help stop trade of counterfeit antiretroviral, TB, Malaria drugs in Africa. Kaiser Daily HIV/AIDS Report. Nov 8, 2007. Available at: www.kaisernetwork.org/daily_reports

* New information

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		Newton, manager of Interpol’s intellectual property rights project, Interpol will train police in these countries on how to eradicate smuggling networks, coordinate their police operations, and track the fake drugs being imported into the continent.	Accessed: Dec 12, 2007
Southeast Asia	Antimalarials (artesunate)	* Of the 391 artesunate samples collected by Operation Jupiter, 195 (49.9%) were found to contain little or no artesunate; genuine products have ~50mg of artesunate, while the samples taken only contained up to 12mg. Samples were taken from Myanmar (137), Lao PDR (115), Vietnam (75), Cambodia (48), and the Thai/Myanmar border (16). Chemical analysis showed many wrong active ingredients, such as banned pharmaceuticals, carcinogens, and raw materials used to manufacture the illicit drug “ecstasy.” Sixteen different fake holograms also were discovered during the investigation. The evidence – including certain types of pollen, calcite, and charcoal – indicated that the counterfeits were manufactured in southeastern China.	Newton, P, Fernandez, F, Plancon, A, et al. An Epidemiological Collaborative Investigation into the Criminal Fake Artesunate Trade in South East Asia. PLoS Medicine. February 2008. Vol. 5: issue 2. Available from: www.plosmedicine.org