

Matrix of Medicine Quality Reports Affecting USAID-assisted Countries
By the *Promoting the Quality of Medicines* program

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Notes from the author:

The *Matrix of Medicine Quality Reports Affecting USAID-assisted Countries* serves as a repository of publicly-available information and aims to raise awareness of the problem of counterfeit and substandard medicines. PQM does not endorse publications or verify the sources from which they quote.

The *Matrix* was created by Joyce Primo-Carpenter, M.D., BSc. Pharm., U.S. Pharmacopeia Drug Quality and Information program Associate Director, 2003-2008

The information in the *Matrix* is updated monthly. New entries are highlighted in yellow.



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PQM Medicine Quality Reports Affecting USAID-assisted Countries

REGIONS	DRUG/S	REPORTS	REFERENCES (2004-2010)
AFRICA			
Angola		The Provincial Government of Luanda banned the sale of medicines and surgery and hospital tools in municipal markets. According to a press release, “products are being sold without the meticulous observance of hygienic technical and scientific conditions.”	Luanda government bans medicines sale at markets. Agencia Angola Press. May 16, 2009 Available at: www.portalangop.co.ao Accessed May 18, 2009
Burkina Faso	Antimalarials	<p>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.</p> <p>Of 77 antimalarial samples taken in Nouna Health District in northwestern Burkina Faso in 2006, 32 (42%) were found to be of poor quality. Approximately 10% of the substandard medicines came from the licensed market, while 90% came from the illicit market.</p>	<p>Government inaction spurs consumption of counterfeit drugs. UN Integrated Regional Information Networks. February 20, 2008. Available at: www.allafrica.com</p> <p>Tipke M., Diallo S, et al. Substandard anti-malarial drugs in Burkina Faso. Malaria Journal. May 27, 2008. Available at: http://www.malariajournal.com/content/7/1/95</p>
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. Am. J. Trop. Med. Hyg., 70(3), 2004: 245-250
Congo	Antimalarials	According to official figures, 60% of people in Brazzaville use medicines purchased from illegal street vendors to treat malaria instead of the recommended remedy (ACTs).	Backstreet remedies hinder anti-malaria fight. IRIN. Jan 14, 2009. Available at: www.irinnews.org Accessed: Jan 15, 2009.
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	Ravinetto R. Counterfeit ARVs in DRC. E-DRUG. Feb 11, 2004. Available from: http://www.essentialdrugs.org/edrug

	<p>Antiretrovirals (“Triomune” and “Duovir”)</p> <p>Artemisinin-derivatives – tablets, capsules, dry suspensions, and injections of artemether, arteether, artesunate, or dihydroartemisinin</p>	<p>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.</p> <p>Medecins Sans Frontieres (MSF), which is running an HIV/AIDS program in the DRC, reported that fluvoxamine (an antidepressant) and cyclobenzaprine HCl (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.</p> <p>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 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>Antidepressants are sold as antiretrovirals in DR Congo. The Lancet 2004; 363: 713.</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. Tropical Medicine and International Health, Jan 2007; vol. 12 no 1: p 68-74.</p>
Egypt	<p>Viagra</p> <p>Dostinex, others</p>	<p>Fake Viagra tablets were made by combining ingredients in a cement mixer.</p> <p>A large amount of counterfeit drugs were seized during warehouse raids. Counterfeits purporting to treat cancer, diabetes, hyperprolactinaemia, and others were confiscated. According to authorities, the drugs originated in China and passed through Syria before arriving in Egypt.</p> <p>The Ministry of Health and Population estimates that 10% of pharmaceutical products sold in the country are counterfeit.</p>	<p>Cement Mixer used to make fake Viagra. NST Online. May 29, 2007. Available from: http://www.nst.com.my Accessed May 29, 2007.</p> <p>Egypt seizes large amount of suspected fake drugs. CNN Money. May 1, 2009. Available at: www.money.cnn.com Accessed May 4, 2009</p> <p>The Ministry of Health and Population targets counterfeit drugs in pharmacies. June 15, 2009. Egypt Today. Available at: www.egypttoday.com Accessed: June 15, 2009</p>
Ghana	Ampicillin	Professor Johnson Kwakye of Kwame Nkrumah University of	Counterfeit medicines becoming harder to spot.

		<p>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.</p>	<p>SCRIP World Pharmaceutical News August 13, 2004. Issue: 2976; London UK. PJB Publications Ltd. 15.</p>
	Toothpaste	<p>Two containers of counterfeit "Close Up" toothpaste were destroyed by the Anti Illicit Trade Coalition at Kpone Landfill. The toothpaste was imported from China.</p>	<p>Counterfeit toothpaste destroyed. My Joy Online. June 18, 2009. Available at: www.myjoyonline.com Accessed June 18, 2009</p>
	Antimalarials (Coartem)	<p>The Kumasi zonal office of the FDB announced that counterfeit antimalarials – Coartem with batch nos. X0089 and M1200 – were found in the market. The drugs were found to contain no active ingredient.</p> <p>The fake Coartem was found when a private citizen brought a suspicious sample to the attention of the Medicine Quality Monitoring program, implemented by the U.S. Pharmacopeia Drug Quality and Information Program and financially supported by the U.S. Agency for International Development.</p>	<p>Food and Drugs Board detects fake anti-malaria drug. Ghana News Agency. July 9, 2009. Available at: www.ghananewsagency.org Accessed July 9, 2009</p> <p>Counterfeit antimalarial drug discovered in Ghana with aid of USP Drug Quality and Information Program. U.S. Pharmacopeia press release. July 22, 2009. Available at: www.usp.org</p>
	Antimalarials (artesunate)	<p>14 of 17 (82.4%) sampled artesunate tablets sold in pharmacies in Kumasi failed to meet European Pharmacopeia content requirements.</p>	<p>Quality of artesunate tablets sold in pharmacies in Kumasi, Ghana. Ofori-Kwakye, K., Asantewaa, Y., and Gaye, O. Trop J Pharm Res., Dec 2008, vol. 7, no. 4. Available at: http://www.bioline.org.br/pdf?pr08041 Accessed October 16, 2009.</p>
Kenya	Antiretrovirals	<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 a doctor's prescription.</p>	<p>Siringi S. AIDS drugs being sold illegally on market stalls in Kenya. Lancet 2004; 363: 377.</p>
	Artemisinin-derivatives –	<p>Of 24 samples randomly taken from pharmacies in Nairobi, Kenya and Bukavu, DR Congo, 9 failed European</p>	<p>Atemnkeng, M., De Cock, K., and Plaizier-Vercammen J. Quality control of active</p>

	<p>tablets, capsules, dry suspensions, and injections of artemether, arteether, artesunate, or dihydroartemisinin</p> <p>Antimalarials (duo-cotexin and cotexin)</p>	<p>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>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>GlaxoSmithKline, a British pharmaceuticals group, encouraged the government of Kenya to adopt stricter measures relating to the importation of counterfeit medicines, which account for approximately 30% of the pharmaceutical market in the country.</p> <p>Kenyans spend about Sh 4 billion (USD \$64.5 million) annually on fake medicines. Convicted counterfeiters face fines of up to only Sh 5,000 (USD \$80).</p> <p>According to Prof. Peter Anyang' Nyong'o, the Medical Services Minister, a nationwide survey conducted by the Pharmacy and Poisons Board shows that 16% of antimalarial medications are counterfeit.</p>	<p>ingredients in artemisinin-derivative antimalarials within Kenya and DR Congo. Tropical Medicine and International Health, Jan 2007; vol. 12 no 1: p 68-74.</p> <p>Mwaniki, M. Alert as crooks make a killing out of malaria. The Nation, Aug 24, 2007. Available at: http://allafrica.com/stories/printable/200708231158.html Accessed Aug 17, 2007</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> <p>GlaxoSmithKline urges Kenya to block fake medicines. Agence France-Presse. April 15, 2008. Available at: www.afp.com Accessed: April 16, 2008</p> <p>Mbogo, S. Why we are losing the war against fake drugs. Business Daily. May 1, 2008. Available at: http://allafrica.com Accessed: May 2, 2008</p> <p>Ngirachu, J. 16 p.c. of malaria drugs fake. Daily Nation. May 29, 2008. Available at: www.nationmedia.com/dailynation Accessed: May 29, 2008</p>
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	Antimalarials, others	The Pharmacy and Poisons Board has begun cracking down on illegal drug distribution outlets in Nairobi. Dr. Wilfred Ogutta, the Deputy Pharmaceutical Inspector, said that the project is already underway in seven provinces and that 225 outlets have already been closed down.	Maina, J. Pharmacy Board cracks the whip. Kenya Broadcasting Corporation. July 28, 2008. Available at: www.kbc.co.ke . Accessed: July 29, 2008
	Panadol (paracetamol)	Anyang Nyongo, the Medical Services Minister, said that up to 80% of the medicines in Kenya are counterfeit; a large percentage of these drugs are antimalarials.	WHO raises fears over high levels of counterfeit drugs in Kenya. APA News. Sep 4, 2008. Available at: www.apanews.net Accessed: Sep 5, 2008
	Condoms (“Hot” brand)	Over Sh 5 million (USD \$64,000) worth of fake Panadol – a pain reliever and fever reducer – was destroyed. Expired and counterfeit medicines were seized in Eldoret Town and a suspect arrested in a raid conducted by the Pharmacy and Poisons Board. Some of the seized products were banned while others had expired nearly 10 years ago.	Fake drugs destroyed. Daily Nation. December 17, 2008. Available at: www.dailynation.com Accessed: December 17, 2008 Fake and expired drugs seized. Daily Nation. Aug 4, 2009. Available at: www.dailynation.com Accessed: Aug 4, 2009
		Kenya Bureau of Standards banned “Hot” brand condoms after the product reported a 100% failure rate.	Kenya: KEBS imposes condom ban. AllAfrica.com. Sep 11, 2009. Available at: www.allafrica.com Accessed Oct 7, 2009
Lesotho	Steroids, antibiotics, antifungals, and oral contraceptives	As part of an intellectual property rights program called OASIS (Operational Assistance, Services and Infrastructure Support), police carried out Operation Fiela with the support of INTERPOL. During the operation, more than 50 premises were inspected with illegal steroids, antifungals, oral contraceptives, and antibiotics seized.	Ilston, G. Interpol support leads to counterfeit seizure. Police Professional. Aug 6, 2009. Available at: www.policeprofessional.com Accessed: Aug 7, 2009
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
Mauritius	Esoz (“Esose”)	During a raid at a pharmacy in Curepipe, approximately 10,000 pills with the brand name “Esose” were seized. The manufacturer on the packaging was listed as an Indian subsidiary of the British laboratory Glenmark; however, Glenmark manufacturers a product with the brand name “Esoz.”	Mauritius police seize suspected counterfeit drugs. African Press Agency. Oct 19, 2009. Available at: www.apanews.net Accessed October 19, 2009.

	Psychotropics	In October 2006, one Seychellois and one Australian – both owners of companies operating in the Port Louis port – were arrested for importing approximately 185,000 psychotropic medicines into the country.	Mauritius police seize suspected counterfeit drugs. African Press Agency. Oct 19, 2009. Available at: www.apanews.net Accessed October 19, 2009.
Nigeria		<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 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 N4,933,916013 (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>Nigeria fights corruption. SCRIP World Pharmaceutical News July 7, 2004. Issue no. 2967; PJB Publications Ltd. London, UK.</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.scripnews.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>Phenyl Butazone</p> <p>Antimalarials, antihypertensives</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>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</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> <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;</p>
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	<p>Septin, Glucophage, Augmentin, Ampiclox, oxytocin, Aldomet, and Encephabol</p>	<p>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>NAFDAC impounded a 20-foot container of counterfeit pharmaceuticals containing Septin (co-trimoxazole), Glucophage (Metformin), Augmentin (co-amoxiclav), Ampiclox (ampicillin), oxytocin injections, Aldomet (methyldopa), and Encephabol (pyritinol hydrochloride).</p> <p>With 150 police officers, 350 soldiers, and 150 of their own personnel, NAFDAC successfully closed down the Onitsha drug market in Anambra State.</p> <p>The Lagos State Task Force on Counterfeit, Fake Drugs, and Unwholesome Processed Foods confiscated N80 million (USD \$678,000) worth of fake drugs, sealed seven illegal pharmaceutical premises, and arrested two illegal operators during recent raids.</p> <p>The Lagos State Task Force on Counterfeit, Fake Drugs, and Unwholesome Processed Foods shut down nine illegal pharmacies, arrested three operators, and confiscated N100 million (USD \$735,000) worth of fake drugs.</p>	<p>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> <p>Obinna, C. NAFDAC foils attempt to flood market with fake drugs. Vanguard. May 27, 2008. Available at: www.allafrica.com Accessed: May 29, 2008</p> <p>Akinboade, L. NAFDAC shuts down Onitsha drug market. Vanguard. Jul 22, 2008. Available at: www.vanguardngr.com Accessed: Jul 24, 2008</p> <p>Task force confiscates drugs worth N80m. The Tide News. Oct 14, 2008. Available at: www.thetidenews.com Accessed: Oct 14, 2008</p> <p>9 pharmacy shops shut, fake drugs impounded. This Day. December 2, 2008. Available at: www.thisdayonline.com Accessed: Dec 2, 2008</p>
	<p>Teething syrup (“ My Pikin”)</p>	<p>At least 34 children have died after using “My Pikin” teething syrup tainted with diethylene glycol, commonly found in antifreeze and brake fluid. Exposure causes kidney and liver damage; NAFDAC said that the children died of kidney failure. NAFDAC has shut down the maker of My Pikin, Lagos-based Barewa Pharmaceuticals.</p>	<p>Eboh, C. Nigeria infant drug toll hits 34, antidote flown in. Reuters. Dec 3, 2008. Available at: www.africa.reuters.com; and Harris, E. Nigeria shuts pharmaceutical firm after teething medicine kills 25. Newsday.com. Nov 26, 2008. Available at: www.newsday.com</p>
	<p>Teething syrup (“ My Pikin”)</p>	<p>Tainted teething syrup is still circulating in the country, and new cases of poisoning are being reported. At least 84 children have</p>	<p>Mbachu, D. Nigeria tainted syrup kills 84 children; drug still selling. Bloomberg.com. Feb</p>

	<p>Antimalarials (artesunate, dihydroartemisinin, SP, quinine, and chloroquine)</p> <p>Amoxicillin, ciprofloxacin, ampicillin, cloxacillin, erythromycin stearate, nifedipine, artesunate, amodiaquine, mesterolone, salbutamol, loperamide, timolol maleate, lorazepam, lisinopril, others</p>	<p>died since November.</p> <p>225 samples of antimalarial medicines were taken in 6 towns in Anambra state. Following laboratory analysis using high performance liquid chromatography (HPLC), it was found that 60 (37%) did not contain the correct amount of active ingredients. A total of 78% of the suspect drugs were from private facilities.</p> <p>The Lagos State Task Force on Counterfeit, Fake Drugs, and Unwholesome Processed Foods destroyed N50 million (USD \$335, 683) worth of fake drugs and arrested seven people during a raid on illegal pharmaceutical and patent medicines operators.</p> <p>The Kano chapter of the Pharmaceutical Council of Nigeria sealed five drug manufacturing depots after the Director of Pharmaceutical Services expressed concern over the increase of substandard drugs produced by the companies.</p> <p>NAFDAC arrested 21 pharmacy and medicine store operators and seized N1 million (USD \$6,791) worth of fake, expired, and unregistered products in Benue State.</p> <p>NAFDAC seized counterfeit medicines worth N100 million (USD \$671,000) that were imported into the country through the Lagos airport. The drugs were mainly concealed in personal items such as bedding and undergarments. Laboratory analysis showed that some of the drugs contained no active ingredient and others had little ingredient. Visual inspection showed that the labels had clear differences from the genuine medicines. In a statement read at a press conference, NAFDAC announced that any airline conveying fake drugs into the country will have the airplane as well as the drugs impounded.</p> <p>At least 28 illegal pharmaceutical companies and patent</p>	<p>6, 2009. Available at: www.bloomberg.com Accessed: Feb 6, 2009</p> <p>Onwujekwe, O. et al. Quality of anti-malarial drugs provided by public and private healthcare providers in south-east Nigeria. <i>Malaria Journal</i> Feb 2009, 8:22. Available at: www.malariajournal.com/content/8/1/22</p> <p>Task force destroys N50m fake drugs in Lagos. <i>Nigerian Tribune</i>. Mar 3, 2009. Available at: www.tribune.com.ng Accessed Mar 19, 2009</p> <p>Muhammad, A. Five drug firms shut in Kano. <i>Vanguard</i>. Apr 24, 2009. Available at: www.vanguardngr.com Accessed Apr 27, 2009</p> <p>NAFDAC arrests 21 patent medicine dealers. <i>This Day</i>. May 9, 2009. Available at: www.thisdayonline.com Accessed: May 11, 2009</p> <p>Dada, S. NAFDAC warns airlines over fake drugs' importation. <i>This Day</i>. May 15, 2009. Available at: www.thisdayonline.com Accessed May 15, 2009</p> <p>Ugbodaga, K. 28 pharmacies shut in Lagos. The</p>
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	Antimalarials	<p>medicine stores were shut down in Lagos state in the first week of June. Offenses included selling drugs without licenses, sale of counterfeit and fake drugs, and others.</p> <p>Authorities seized a consignment of fake antimalarial medicines that were produced in China but labeled “Made in India.”</p>	<p>PM News. June 9, 2009. Available at: www.thepmnews.com Accessed June 10, 2009.</p> <p>Alexander, J. Chinese firms export fake drugs to African countries on “made in India” label. Pharmabiz. June 9, 2009. Available at: www.pharmabiz.com Accessed June 9, 2009</p>
	Antimalarials (Maloxine and Amalar)	<p>NAFDAC alerted the public about fake antimalarials (Maloxine and Amalar) circulating in the country. Genuine Maloxine has not been imported into Nigeria since 2003, according to the brand owner of the product, St. Michael’s Pharmaceuticals.</p> <p>NAFDAC seized 250 tonnes of fake pharmaceuticals and cosmetics worth USD \$2.7 million in Kano.</p> <p>The Lagos State Task Force on Counterfeit, Fake Drugs, and Unwholesome Processed Foods sealed off seven illegal patent medicine stores and destroyed about N60 million (USD \$394,000) worth of fake medicines in Mushin Local Government Area.</p>	<p>Ogundipe, S. and Obinna, C. NAFDAC alerts on fake imported antimalarial drugs. Vanguard. June 16, 2009. Available at: www.vanguardngr.com Accessed June 18, 2009.</p> <p>Nigeria says 250 tonnes of fake drugs seized. AfricAsia. June 21, 2009. Available at: www.africasia.com Accessed June 22, 2009</p> <p>Akoni, O. Lagos shuts 7 illegal medicine stores. Vanguard. Oct 20, 2009. Available at: www.vanguardngr.com. Accessed Oct 21, 2009</p>
Senegal	Chloroquine and sulfadoxine-pyrimethamine (SP)	<p>Abdoulaye Wade, the president of Senegal, has allocated CFA 25 million (USD \$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 IRIN, the UN news service.</p>	<p>Senegal tackling counterfeits. www.scripnews.com, September 21, 2005, no 3091, pg 19.</p>
Sierra Leone		<p>The Pharmacy Board commissioned the National Drug Safety Monitoring Programme (Pharmacovigilance) and also destroyed Le500 million (approximately USD \$168,000) 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>Koroma, AK. Pharmacy Board Makes History. Concord Times (Freetown). July 5, 2006. available at: http://allafrica.com</p> <p>Massaquoi, M. Pharmacy Board Destroys Le 9 Million Drugs. Concord Times (Freetown). June 6, 2007. available at: http://allafrica.com Accessed: June 8, 2007</p>

	<p>Chloraphecol, tetracycline, contrim, and others.</p> <p>Amoxicillin, ampicillin, ibuprofen, cimetidine, cough syrup</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>The Pharmacy Board destroyed Le 31 million (USD \$10,600) worth of counterfeit and substandard medicines at the Kenema Government Hospital. According to Sahr Sylvanus Komba, the board chairman for Kenema and Kailahun districts, none of the medicines had a seal of origin.</p> <p>A recall issued by the Pharmacy Board directed several illegally imported products to be withdrawn from the market because they did not meet quality standards. All products with labels from “KVA, KAV, KYV, KV, KYY, KYN, KNA, and Milan Hamburg” are included in the recall as they are all counterfeit.</p> <p>The Ministry of Health and Sanitation has publicly announced that it intends to destroy all counterfeit pharmaceutical products that are imported into Sierra Leone. Confiscated by the Pharmacy Board, a 20ft container holding 650 cartons of substandard toothpaste contaminated with diethylene glycol is among the first to be destroyed.</p> <p>The Pharmacy Board burned about Le 20 million (USD \$6,700) worth of expired, substandard, fake, and counterfeit drugs in Kenema.</p>	<p>Turay, A. Pharmacy Board concerned over illegal importation in Sierra Leone. Awareness Times (Freetown). December 7, 2007. Available at: www.news.sl 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: www.news.sl Accessed: January 18, 2008</p> <p>Pharmacy Board Destroys Le 65M Drugs. The New Citizen. February 14, 2008. Available at: www.christiantrede.com Accessed: Feb 18, 2008</p> <p>Vandi, M. Sierra Leone: Pharmacy Board destroys Le 31 million fake drugs. Concord Times (Freetown). June 17, 2008. Available at: http://allafrica.com Accessed: June 18, 2008</p> <p>Pharmacy Board warning of counterfeit drugs in Sierra Leone. Awareness Times Newspaper. June 4, 2008. Available at: www.news.sl Accessed: June 9, 2008</p> <p>James, B. Deadly drugs to be destroyed: health minister to start with 20ft container of deadly toothpaste. Awareness Times Newspaper. Jul 17, 2008. Available at: www.news.sl Accessed: July 18, 2008</p> <p>Moriba, S. Pharmacy Board burns fake drugs in Kenema. Awoko. Sep 3, 2008. Available at: www.awoko.org Accessed: Sep 5, 2008</p>
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	Antimalarials	<p>Approximately Le 90 million (USD \$30,000) worth of substandard, fake, and counterfeit drugs was burned publicly by the Pharmacy Board in the northern city of Makeni in the Bombali District.</p> <p>The Pharmacy Board burned Le 1.2 billion (USD \$336,000) worth of substandard, fake, and counterfeit medicines on December 10, 2008.</p> <p>There are more than 1000 border crossing points in the country that are unmanned by customs officials, making drug inspections nearly impossible. The Pharmacy Board has officials at only Queen Elizabeth Quay and Lungi airport. The Ministry of Health increased the Pharmacy Board's budget this year to allow them to hire 15 inspectors to monitor the Guinean and Liberian borders.</p> <p>The Pharmacy Board destroyed more than Le 1.5 billion (USD \$492,000) worth of substandard and counterfeit drugs in 2008.</p> <p>A large consignment of expired antimalarials was destroyed in April by the Ministry of Health and Pharmacy Board in Freetown.</p> <p>Deputy Health and Sanitation Minister, Mohamed Koroma, and the Pharmacy Board have cancelled the licenses of over 20 pharmaceutical outlets following investigations proving that the outlets committed various offenses, including selling counterfeit and expired medicines.</p>	<p>Pharmacy Board destroys Le90M fake drugs, holds stakeholder meeting in Sierra Leone. Awareness Times Newspaper. Nov 5, 2008. Available at: www.news.sl</p> <p>Turay, A. Pharmacy Board destroys Le.1.20 billion worth of drugs in Sierra Leone. Awareness Times. Dec 11, 2008. Available at: www.news.sl Accessed: Dec 11, 2008</p> <p>Horner, R. and Hallam, B. Porous borders hinder fight against fake drugs. Concord Times (Freetown). Jan 19, 2009. Available at: www.allafrica.com Accessed: Jan 19, 2009.</p> <p>Kargbo, A.B. Health Ministry destroys expired malaria drugs. Standard Times. Apr 20, 2009.</p> <p>Fonti, A. In Sierra Leone, pharmacies licenses cancelled. Awareness Times. Nov 13, 2009. Available at: www.new.sl Accessed Nov 20, 2009</p>
South Africa	Antib-4 (pyrazinamide, ethambutol, isoniazid, and rifampicin) and	<p>A spokesman for the Medical Controls Council said that counterfeit medicines and pharmaceutical products make up 2-10% of the South African market, and ten cases have been reported to authorities.</p> <p>Health authorities withdrew two generic drugs used to treat tuberculosis because of concerns of quality. After being in storage, two combination drugs – Antib-4 and Ebsar – did not contain the appropriate levels of active pharmaceutical ingredients as stated on their labels.</p>	<p>Mtyala, Q. Trade in fake goods costing South Africa R2bn. Business Report. May 14, 2009. Available at: www.busrep.co.za Accessed May 15, 2009</p> <p>Sidley, P. South Africa withdraws TB drugs because of quality concerns. British Medical Journal. August 20, 2008. Available at: www.bmj.com Accessed May 27, 2009</p>

	Ebsar (isoniazid and rifampicin)		
Tanzania	Antibiotics, pain killers, antimalarials, sildenafil (Viagra), and vitamins	A recent study by the Confederation of Tanzania Industries (CTI) reveals that 60% of the medicines imported into the country are counterfeit and that 80% of the medicines used in the country are of foreign origin. CTI calls for an amendment in the Merchandize Act of 1963, saying that the law is outdated and lacks power to effectively deal with the problem of counterfeits.	Rugonzibwa, P. CTI for review of Merchandize Act of 1963. Daily News. July 8, 2008. Available at: http://dailynews.habarileo.co.tz Accessed: July 9, 2008
	Antimalarials	Government authorities seized several tonnes of expired, unregistered, and counterfeit medicines, including antibiotics, pain killers, antimalarials, sildenafil, and vitamins.	Rugonzibwa, P. Daily news. Tanzania Standard. Oct 5, 2008. Available at: www.dailynews.habarileo.co.tz Accessed: Oct 6, 2008
	Antimalarials (metakelfin)	Hussein Kamote, director of policy and advocacy for CTI, said that the group recently tested a batch of antimalarials and found that they contained only wheat flour.	Counterfeit drugs put lives at risk. IRIN. Jan 15, 2009. Available at: www.irinnews.org Accessed Jan 16, 2009.
		The Tanzania Food and Drug Authority (TFDA) has suspended the importation, distribution, sale, and use of metakelfin – an antimalarial – because counterfeits were found in the market. TFDA carried out an inspection of 40 pharmacies and discovered several batches of metakelfin that were imported without TFDA approval or had low percentages of active pharmaceutical ingredient (some as low as 0.4% compared to the required range of 90-110%).	Shekighenda, L. TFDA halts sale, use of metakelfin. IPP Media. Apr 1, 2009. Available at: www.ippmedia.com Accessed Apr 2, 2009
Uganda	Antiretrovirals	Fake antiretrovirals were found in the market.	Kibumba G. Aug 5, 2004. Fake ARVs on Uganda market. Available: http://www.essentialdrugs.org
	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 at: 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.	Kazooba, C. Uganda stuck with expired ARVs. African News Dimension. Oct 20, 2006. Available from: www.andnetwork.com

	<p>Quine ® (Quinine Sulphate)</p> <p>Antimalarials– Amodiaquine, sulfadoxine-pyromethamine, coartem</p> <p>Enzoy (aphrodisiac)</p>	<p>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.</p> <p>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.</p> <p>The National Drug Authority has recently tested 237 samples of antimalarials and found all to be genuine. The samples were collected from hospitals, pharmacies, and drug shops.</p> <p>Three people were arrested in Jinja for allegedly selling counterfeit drugs. Police and medical experts from Kampala conducted a crack-down, sweeping pharmacies on Main Street and Nizam Road. 78 packets of counterfeit Enzoy – an aphrodisiac banned in Uganda – were confiscated.</p> <p>The National Drug Authority, URA, and police have impounded counterfeit medicinal products worth millions of shillings. Only two of the 40 pharmacies sampled during the operation did not have counterfeit products.</p> <p>According to a report by the Eastern Uganda Drug Inspector, many drug outlets sell illegal or expired drugs and are run by unqualified staff: 81% in Soroti, 78% in Tororo, 72% in Bukedea, 67.2% in Kumi, 65% in Katakwi, 60% in Mbale, 61% in Busia, and 36% in Nakapiripirit.</p> <p>A joint operation carried out by INTERPOL and the National Drug Authority discovered 200 cartons of fake drugs in central and eastern districts of Uganda.</p>	<p>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</p> <p>Nafula, J. Country Battles Problem of Counterfeit Drugs. The Monitor. Sep 13, 2008. Available at: www.allafrica.com Accessed: Sep 15, 2008</p> <p>Three held over fake drugs. The New Vision. September 30, 2008. Available at: www.newvision.co.ug Accessed: Oct 1, 2008</p> <p>Wandera, A., Bagala, A. Police impound fake drugs, cosmetics. Daily Monitor. Oct 6, 2008. Available at: www.monitor.co.ug Accessed: Oct 7, 2008</p> <p>Mafabi, D. Soroti drug outlets sell expired drugs. Monitor Online. June 25, 2009. Available at: www.monitor.co.ug Accessed June 25, 2009</p> <p>INTERPOL impounds 200 cartons of counterfeit drugs in Uganda. Ultimate Media. Sep 4, 2009. Available at: www.ultimatemediaconsult.com</p>
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Zambia	Tetrasil	The Zambian government reported that the alleged HIV/AIDS cure known as Tetrasil was found to be a pesticide. Albert Mwangi, 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
	Condoms (“Hot” and “Evolution” brands)	Zambia Bureau of Standards withdrew 59 cases of “Hot” brand condoms and another 59 cases of “Evolution” brand from the market after they failed to meet the critical electrical freedom from holes test.	Zambia: two condom brands banned. AfricaNews. Aug 4, 2009. Available at: www.africanews.com Accessed Oct 7, 2009
Zimbabwe	Antiretrovirals	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. 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. Police arrested 51 people – including 6 doctors – for allegedly dispensing unregistered and expired medicine.	Sick economy fuels growth of fake drug market. UN Integrated Regional Information Networks. Dec 11, 2006. Available at: www.allafrica.com Fake ARVs threaten lives. UN Integrated Regional Information Networks. August 27, 2007. Available at: www.allafrica.com Accessed August 27, 2007 51 arrested in police raids. The Herald. November 7, 2009. Available at: www.allafrica.com Accessed November 9, 2009

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Afghanistan		In the past 18 months, the Pharmacy Affairs Department has seized approximately 200 tonnes of counterfeit medicine.	Fake medicine floods market – Ministry. Quqnoos.com. Nov 5, 2008. Available at: www.quqnoos.com Accessed: Nov 6, 2008
Bangladesh	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	Choudhury MMH, Rana MS, Amin MN, et al. Quality assessment of some paediatric cotrimoxazole suspensions marketed in Bangladesh. Hamdard Medicus; 2004; XLVII(2):

		of 6 brands was out of BP range and less viscosity was found on 2 brands.	58-62.
Burma (see Myanmar)			
Cambodia	Quinine sulfate tablet	TLC testing using GPHF Minilab 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 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.	Antimalarial drug quality monitoring project in the Mekong region 2004. U.S. Pharmacopeia Drug Quality and Information (USP DQI) Program. Available from: www.uspdqi.org
	Antimalarials	A study conducted by USP DQI in 2003 found that 27% of 451 samples tested were counterfeit.	Poor quality of antimalarial drugs in Cambodia addressed. USP Press. 2006 Jan; vol 3, issue 3.
	Antimalarials	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. Veng Thai, Director of the Phnom Penh Municipal Department of Health, estimates that only 2-3% of medicines sold in the city are expired or fake. A recent inspection of 500 medicines booths	Lon CT, Tsuyuoka R, et al. Counterfeit and substandard antimalarial drugs in Cambodia. Trans R. Soc. Trop. Med. Hyg.; June 8, 2006: In press. Sovan, N and Yin, C. Bad medicine floods countryside. The Phnom Penh Post. July 25, 2008. Available at: www.phnompenhpost.com

	<p>Chloroquine phosphate, amoxicillin, ampicillin, and penicillin</p> <p>Chloroquine phosphate, artesunate, and quinine sulfate</p>	<p>in Phnom Penh found 3-4 fake medical items. According to Veng Thai, rural areas have a much higher rate of substandard medicines. Dr. Yim Yann, President of the Pharmacists Association of Cambodia (PAC), said that after inspecting medicines in pharmacies, PAC found that approximately 20-40% of medicines are unregistered with the Ministry of Health.</p> <p>Out of 243 medicine samples tested in January 2009, 4 failed laboratory testing: chloroquine phosphate, amoxicillin, ampicillin, and penicillin.</p> <p>Out of 205 medicine samples tested in June 2009, 9 samples failed laboratory testing, including samples of chloroquine phosphate, artesunate, and quinine sulfate.</p> <p>The director of the municipal health department in Phnom Penh, Sok Sokun, said that 9 illegal pharmacies will be shut down for selling counterfeit medicines, and 100 more also face closure. According to officials, only half of the country's 2,000 pharmacies are registered with the Ministry of Health.</p>	<p>Accessed: July 29, 2008</p> <p>Medicine quality monitoring program in the Mekong region (2009). U.S. Pharmacopeia Drug Quality and Information (USP DQI) Program.</p> <p>Medicine quality monitoring program in the Mekong region (2009). U.S. Pharmacopeia Drug Quality and Information (USP DQI) Program and Global Fund.</p> <p>Leakhana, K. Pharmacy Crackdown. The Phnom Penh Post. Nov 23, 2009. Available at: www.phnompenhpost.com Accessed Nov 23, 2009</p>
China	Antimalarials	<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 administrative raid by China's State FDA, civil action in court, or the pursuit of a criminal case.</p> <p>The Shanghai Municipal FDA signed a memorandum of understanding with Pfizer which will train staff in detection and dealing with counterfeit pharmaceutical activities. The training is part of the preparation for planned SMFDA raids to shut down fake pharmaceutical production operations.</p> <p>In 2002, USP DQI under the cooperative agreement with USAID began monitoring the quality of antimalarials in the</p>	<p>Scrip World Pharmaceutical News June 11, 2004. Issue 2960; London, UK. PJB Publications Ltd: p. 17.</p> <p>Scrip World Pharmaceutical News June 11, 2004. Issue 2960; London, UK. PJB Publications Ltd: p. 17.</p> <p>Fake antimalarials found in Yunnan Province, China. USP Drug Quality and Information</p>

	<p>Zantac, Reductil, Stinox, Viagra, Cialis, flu drugs, unknown others</p> <p>Armillarisni A</p>	<p>Mekong region. Early 2004, the sentinel sites staff of Yunnan Province completed round 1 testing of antimalarials (artesunate, quinine, chloroquine, SP) using basic tests (visual inspection, dissolution, and TLC). A total of 39 samples were tested. Basic test results indicated that 35 of the 39 samples were authentic, while two samples failed and two were considered doubtful. Overall, about five percent of all samples (based on unique lot/batch number) failed, but more than half (53%) of samples did not identify the manufacturing or expiration date, important quality indicators. Based on established criteria, five samples (including all failed samples) were taken for verification testing at the National Institute of Drug Quality Control of Vietnam [NIDQC] using TLC and HPLC). Testing results indicate that two artesunate lots (030101 and 030801) contained no active ingredient. USP DQI notified relevant parties (regional WHO, the Yunnan Quality Control Laboratory, colleagues in China at the Yunnan Institute of Parasitic Diseases who informed the Yunnan Health Bureau and subsequently, the regulatory body, and State Drug Administration) so that the fake products can be removed from the drug outlets. Yunnan DRA is trying to investigate the main source(s) of these fake drugs.</p> <p>Due to lax regulations in mainland China, ingredients for these drugs were imported to Taiwan for manufacture, packaging and sale. Up to 550,000 pills were seized by the Criminal Investigation Bureau (CIB).</p> <p>According to UK sources, some 100,000 people in China died from illicit medicines in 2003.</p> <p>China ranked second in the number of counterfeit drugs seized/destroyed in 2005—a total of 87 seizures.</p> <p>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</p>	<p>program, 2004. Available from: www.uspdqi.org</p> <p>Counterfeit medicine ring busted. The China Post. Dec 9, 2005. http://www.chinapost.com</p> <p>Nigeria criticizes China over counterfeit threat. Daily International Pharma Alert. Feb 14, 2006; vol 3, no 31. www.fdanews.com</p> <p>WHO global taskforce to tackle counterfeit drugs. www.scripnews.com, February 24, 2006, no. 3134, p. 16.</p> <p>Nine killed by fake Chinese Drug. May 22, 2005. http://news.bbc.co.uk/go/pr/ft/-/2/hi/asia-pacific/5003548.stm; and Harsh Penalties needed to discourage counterfeit production, says expert. May 18, 2006.</p>
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	<p>Viagra and Cialis</p> <p>Birth control pills, Viagra, Rabies vaccines, bird flu vaccines</p> <p>Tamiflu (oseltamivir)</p> <p>Viagra (sildenafil citrate), antiretrovirals, Tamiflu (oseltamivir), antibiotics, rabies vaccines, birth control pills</p>	<p>State Food and Drug Association (SFDA) announced a ban on all products of Qiqihar No. 2 Pharmaceutical Company, Ltd. during the investigation.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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 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. In May, 2006, 11 people died after taking antibiotics produced from Heilongjiang; the manufacturers erroneously added</p>	<p>http://www.interfax.cn/showfeature.asp?aid=12952&slug=health</p> <p>Xiaoyi S, Fake Viagra maker given 10-year prison term. China Daily; May 10, 2006.</p> <p>China arrests one over fake, toxic birth-control pills. Reuters Foundation AlertNet. Dec 18, 2006. Available at: www.alertnet.org</p> <p>Chinese police bust gang selling counterfeit bird flu drug. Agence France-Presse. Aug 30, 2006. Available at: www.bioportfolio.com</p> <p>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</p>
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		<p>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	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.	Hong Kong Customs seizes 19 million HKD worth of counterfeit drugs. People's Daily Online. Jan. 29, 2007.
	Viagra	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.	Pfizer wins Viagra trademark case in China. FDA News. Jan 2, 2007; vol. 4, no. 1.
	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 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</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>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</p>

		medicines available in China are counterfeit.	Federation's Pharmaceutical Sciences World Congress. March 25, 2007.
	Antimalarials	<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>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>
	Albumin	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.	China unearths more fake blood products. www.scripnews.com , June 29, 2007, no. 3272, p. 17.
	Rabies vaccine, serum protein, miconazole nitrate	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 ingredients to create and sell 67 forms of counterfeit medicines, including rabies vaccine, serum protein, and miconazole nitrate.	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.
	Viagra, Tamiflu, and antimalarials	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.	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.
	Diabetes test strips	Counterfeit versions of at-home diabetes tests used to measure blood sugar levels were discovered by Johnson & Johnson, the	Frank, A.D. and Rapaport, L. China counterfeit diabetes tests tracked by J&J. Bloomberg.com.

	<p>Losec, Panadol, Norlevo, dietary supplements and ointments</p>	<p>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 – Qiqihar No 2 Pharmaceutical Company – are standing trial. Despite internal tests which uncovered problems with quality, the defendants are alleged to have used the chemical, initially purchased from a supplier who labeled it as propylene glycol. The supplier is undergoing a separate trial. Qiqihar No 2 was shut down and fined.</p> <p>In Milan, Italy, at the world's largest trade show for pharmaceutical ingredients, approximately 82 Chinese chemical companies claimed to make and export pharmaceutical ingredients. Records show that none were certified by the</p>	<p>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.scripnews.com Sept 12, 2007, no 3293, p. 18.</p> <p>Bogdanich, W. Chinese chemicals flow unchecked onto world drug market. The New York Times. Oct 31, 2007. Available at: www.nytimes.com Accessed: Dec 11, 2007</p>
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		<p>SFDA.</p> <p>Chinese and American regulators signed an agreement to strengthen the regulation of medicines and medical devices exported from China to the U.S. Chinese officials acknowledged that gaps in the system allow chemical companies to sell chemical ingredients – that might be substandard and dangerous – as pharmaceutical ingredients. Under the agreement, Chinese companies that make certain medicines for export to the U.S. must register with Chinese regulators. U.S. officials stated that the agreement was limited, but that it represented an important step in assisting the government of China to regulate such companies.</p> <p>Vice Premier Wu Yi stated that Chinese authorities have destroyed more than 900 counterfeit drug operations and have brought criminal charges against 279 people since July 2006.</p> <p>The SFDA announced that the budget for food and drug supervision for 2006-2007 was 3.7 billion yuan (approximately USD \$500 million), more than the total funding from 1998 through 2005 combined. According to Administration Head Shao Mingli, that spending provided equipment for 90% of the provincial drug departments (60% of those at city level), allowing them to conduct full-scale drug testing.</p> <p>In 2006, Hong Kong customs seized HK \$139,000 (USD \$17,800) worth of counterfeit drugs in 19 cases. In 2007, customs seized HK \$20.6 million (USD \$2,641,000) worth of counterfeits in 28 cases.</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.</p>	<p>Hooker, J. and Bogdanich, W. Agreement with China to regulate some drugs. The New York Times. Dec 12, 2007. Available at: www.nytimes.com Accessed: Dec 12, 2007</p> <p>Record spending on drug, food control. PharmaTimes. February 5, 2008. Available at: www.pharmatimes.com/worldnews/article.aspx?id=12792 Accessed: February 6, 2008</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>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>
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	<p>Cancer drugs (Methotrexate, cytarabin hydrochloride, vincristine sulfate)</p>	<p>The contaminated Armillarisni 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>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>High blood pressure medicine (Amlodipine)</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>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>
	<p>Viagra and Cialis (Sildenafil)</p>	<p>Two people were arrested for allegedly smuggling 300,000 tablets of counterfeit Cialis and Viagra from China into South Korea. The pills, valued at 4.5 billion won (USD \$4.5 million), were smuggled on passenger ships over the past three years, then advertised in free community newspapers and distributed through home delivery services. The fake drugs contained far higher levels of Sildenafil than the genuine pills and could cause various side effects or even be life-threatening.</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>
	<p>Heparin</p>	<p>Baxter International, Inc. issued a voluntary recall of all lots and doses of heparin sodium injection multi-dose, single dose vials,</p>	<p>Baxter to proceed with recall of remaining heparin sodium vial products. U.S. Food and</p>

		<p>Armilarisni A injection scandal, which has thus far led to 14 deaths. The court ordered the four defendants to pay a combined 3.5 million yuan (USD \$510,000) to the 11 plaintiffs. According to the attorney for one of the plaintiffs, this amount was the highest possible under existing law.</p> <p>Gao Jindge, called China's foremost combatant against counterfeit medicine by the Chinese media, says that approximately 66% of drug stores in China sell counterfeit medicine.</p> <p>The SFDA and Ministry of Health issued an emergency notice banning the use of ciwujia liquid injections – an herbal drug used to treat blood clots and heart disease – made by Wandashan Pharmaceutical Co. Six people have become ill, and three have died.</p> <p>Following the death of a 9-day-old infant, the Ministry of Health ordered hospitals to discontinue use of Yinzhihuang, an herbal drug used to treat jaundice and liver disease. Three other newborns who were treated with the drug experienced adverse effects. Taihang Pharmaceuticals, the maker of the drug, recalled the batch on October 16.</p> <p>Of 167 samples of Chinese herbal medicines tested by the Consumers' Foundation in 2008, 22 were adulterated with Western medicines ingredients, 71 contained lead, 61 contained mercury, and 40 contained cadmium.</p> <p>The Medicines Health Products Regulatory Agency (MHRA) in the United Kingdom issued a product recall for Casodex (for prostate cancer), Plavix (for strokes and heart conditions), and Zyprexa (for schizophrenia). Mike Deats, the head of enforcement at MHRA, said that the medicines contained 50-80% of the correct pharmaceutical ingredient. MHRA seized 40,000 of the estimated 70,000 drugs, but issued the recall because the other 30,000 were unaccounted for. The batch numbers on the drugs were traced back to Kevin Xu, a Chinese citizen at the center of an international fake drug ring. Mr. Xu was arrested on separate grounds by American government</p>	<p>www.chinadaily.com.cn Accessed: July 7, 2008</p> <p>Qiao Qi. Two thirds of Chinese drug stores sell counterfeit medicine, says investigator. Epoch Times. Sep 29, 2008. Available at: www.en.epochtimes.com Accessed: Sep 30, 2008</p> <p>Qian, C., and Chen, L. Herbal drug banned after 3 die. Shanghai Daily. Oct 9, 2008. Available at: www.shanghaidaily.com Accessed: Oct 9, 2008</p> <p>Tainted medicine suspected in China baby death. PR-inside. Oct 20, 2008. Available at: www.pr-inside.com Accessed: Oct 21, 2008</p> <p>Kao, Y.L. Chinese herbal medicines found to contain Western drug ingredients. Taiwan News Online. Feb 5, 2009. Available at: www.etaiwannews.com Accessed: Feb 6, 2009</p> <p>Burnell, P. How fake drugs got into the NHS. BBC News. February 3, 2009. Available at: www.bbc.co.uk Accessed: February 3, 2009</p>
	Ciwujia liquid injections		
	Yinzhihuang injections		
	Herbal medicines		
	Casodex, Plavix, and Zyprexa		

		officials and began a six and a half year jail sentence in January.	
	“Tang Zhi Ning Jian Nang” (diabetes medicine)	A counterfeit diabetes drug caused two deaths and hospitalized nine others in Xinjiang Uygur Autonomous Region in northwest China; the drug was also found in Sichuan Province. Carrying the name brand name “Tang Zhi Ning Jian Nang,” the drug was found to contain six times the normal dose of the chemical glibenclamide, used to lower blood sugar. Four suspects have been detained in Xinjiang for selling the drug.	Deadly diabetes drug found in Sichuan. Shanghai Daily. February 5, 2009. Available at: www.shanghaidaily.com Accessed Feb 5, 2009
	Medicines for high blood pressure, skin diseases, diabetes, and others	The SFDA blacklisted 25 websites for selling fake medicines. The drugs sold on those sites claimed to cure high blood pressure, skin diseases, diabetes, and other chronic diseases. A full list of the blacklisted websites – and the list of government-approved sites – is available at www.sfda.gov.cn .	China blacklists websites for selling fake pharmaceuticals. Bernama. Mar 11, 2009. Available at: www.bernama.com Accessed Mar 11, 2009
	Viagra (erectile dysfunction aid), Viartril-S (muscle relaxant), and Reductil (weight loss aid)	The Taiwan Medical Product Anti-Counterfeit Task Force conducted a study in 2008, sending 501 surveys to pharmacies and 502 to the public. After 458 surveys were returned by pharmacies and 476 by the public, the study found that 8% of surveyed pharmacies sold counterfeit products in their stores, with Viagra, Viartril-S, and Reductil being the most popular.	Lots of fake Viagra, Viartril-S, and Reductil emerge. The China Post. Mar 28, 2009. Available at: www.chinapost.com.tw Accessed: Mar 30, 2009
		The SFDA said that nearly 300,000 cases of illegal activities related to medicine and medical products were investigated in 2008. A total of 363 producers of fake drugs were shut down and 94 people were charged.	China’s ministries work together to bust online counterfeit drug dealers. Xinhua. May 15, 2009. Available at: www.news.xinhuanet.com Accessed May 15, 2009
	Casodex, Plavix, Zyprexa	Five people in England have been arrested on charges related to counterfeit Chinese-manufactured medicines. The medicines include Casodex, used to treat prostate cancer; Plavix, a medicine that helps prevent blood clots; and Zyprexa, an anti-psychotic.	Businessman in court over bogus medicines. This is Bath. October 14, 2009. Available at: www.thisisbath.co.uk Accessed October 15, 2009
	Viagra, Cialis, and Levitra	Two men were arrested and £400,000 (USD \$663,000) worth of counterfeit Viagra, Cialis, and Levitra was seized during a raid in Basford, England. City of London police discovered more than 70,000 pills in the home and believe that the counterfeits were shipped from China to be sold over the internet.	Two men arrested after Basford fake medicine raid. This is Nottingham. October 9, 2009. Available at: www.thisisnottingham.co.uk Accessed October 13, 2009

		<p>Authorities in Shanghai arrested a ring of three family members. The group was caught with 129 packages of fake medicines and medical appliances worth USD \$410,000.</p>	<p>Wenjun, C. Local FDA cracks down on 165 cases of unqualified meds. Shanghai Daily. Dec 15, 2009. Available at: www.shanghaidaily.com Accessed Dec 15, 2009</p>
India	<p>Contraceptive patches</p> <p>Eltroxin (Thyroxin)</p>	<p>The drug control department of the Delhi government carried out 618 inspections of chemists and manufacturing units in January. As a result, licenses of 112 chemists and three manufacturing units were suspended for violations of the Drugs and Cosmetics law (sale of schedule 'H' drugs without prescription). According to Delhi health minister Yoganand Shastri, the testing laboratory of the government took 132 samples of drugs and cosmetics, of which eight were found to be substandard. Prosecutions followed for the chemists and manufacturers found in violation. The government has decided to coordinate better with the Delhi police in curbing the manufacturing and sale of spurious drugs as well as the sale of drugs without prescription.</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 fakes. 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</p>	<p>New Delhi: The weather change may have sent people rushing to their chemists, but they were not the only ones visiting. Times News Network. March 3, 2004.</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>

	Paracetamol	<p>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 8.19-10.64% of the market, while spurious drugs account for 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>In a joint study between the Delhi Pharmaceutical Trust and SEARPharm Forum, 10,743 samples from 243 retail outlets in 15 states were collected. Approximately 20% of the samples were sent for testing at government labs, and 3.1% were found to be counterfeit.</p> <p>Dr. Anbumani Ramadoss, India's health minister, reported that the government is launching a study to determine the extent of substandard and spurious medicines in India. Approximately 300,000 samples are to be taken.</p> <p>In a study conducted by the office of the Deputy Drugs Controller, Western Zone, a total of 3,246 samples were collected. Of those, 5 were counterfeit and 2 did not comply with standards.</p> <p>According to the Associated Chambers of Commerce and Industry of India (ASSOCHAM), the market for fake and spurious drugs is growing at a rate of 10-25%.</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> <p>Datta, PT. Fake drugs across the price spectrum: WHO study. Hindu Business Line. Dec 22, 2007. Available at: www.thehindubusinessline.com</p> <p>Spurious drugs compound complexities of clinical diagnosis. www.scripnews.com October 5, 2007. no 3300. p. 15</p> <p>Spurious drugs estimated to be 3.1%. The Economic Times. Nov 21, 2007. Available at: www.economictimes.indiatimes.com Accessed: Dec 10, 2007.</p> <p>Fake drugs market growing at alarming rate. The Economic Times. Feb 11, 2008. Available at: http://economictimes.indiatimes.com/articleshow/msid-2771350.cms Accessed: Feb 12, 2008</p>
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	Anitbiotics (Ciprofloxacin)	Health department officials in Haryana seized counterfeit antibiotics worth Rs 2 million (USD \$47,000) from a manufacturing company in Gurgaon. Rakesh Dahiya, the District Drugs Control Officer, said that samples of Ciprofloxacin were found that were missing certain salts, making the drugs useless for patients; however, the drugs themselves would not be harmful.	Fake antibiotic pills worth Rs 20L seized. The Times of India. July 27, 2008. Available at: www.timesofindia.indiatimes.com Accessed: July 29, 2008
	Analgesics (Saridon)	Based on reports from the drug company, Piramal Healthcare, the Enforcement of Intellectual Property Rights (EIPR) group and the police raided manufacturers and seized more than 700,000 counterfeit tablets of the brand name analgesic, Saridon.	Fake antibiotic pills worth Rs 20L seized. The Times of India. July 27, 2008. Available at: www.timesofindia.indiatimes.com Accessed: July 29, 2008
	Tramal (painkiller) Fansidar (antimalarial)	Customs officials in Belgium seized more than 2 million counterfeit pills that were made in India and destined for countries in Africa. Counterfeit versions of the painkiller Tramal and the antimalarial Fansidar were among those pills seized. A spokesman from Belgian customs stated that he believed this to be the biggest seizure of counterfeit medicine in Europe.	Tagliabue, J. Belgium: shipments of fake pills seized. The New York Times. Oct 3, 2008. Available at: www.nytimes.com Accessed: Oct 3, 2008
	Antidepressants,	Fake antidepressants, painkillers, and insulin were found at	Bate, R. Nursing India's drug market back to

painkillers, and insulin	Danapur Railway Hospital. Following confirmatory testing, India's Drugs Control Agency found that many had 11-12% of the active pharmaceutical ingredient.	health. The American. Apr 16, 2009. Available at: www.american.com Accessed Apr 16, 2009
Anesthetics	Fake anesthetics were found at Osmania General Hospital in Hyderabad. One patient woke up after 30 minutes; the patient should have been unconscious for two hours.	Bate, R. Nursing India's drug market back to health. The American. Apr 16, 2009. Available at: www.american.com Accessed Apr 16, 2009
Antibiotics (amoxicillin)	Ghaziabad police raided a manufacturing plant that sold spurious medicines, arresting four people and confiscating machinery, packaging, and cartons of medicine. Rajasthan police raided a house in Rajpura and arrested a factory owner on charges of manufacturing spurious drugs. Police seized 35 boxes of amoxicillin during the raid. The accused does not hold a license to manufacture drugs and the medicines were being manufactured "under unhygienic conditions."	Kumar, L. Spurious medicine racket busted. The Times of India. May 27, 2009. Available at: www.timesofindia.com Accessed May 27, 2009 Spurious drugs: factory owner held. The Times of India. May 31, 2009. Available at: www.timesofindia.com Accessed June 8, 2009
Immunoglobulin therapy (Iviglob EX injections)	Health Minister Ghulam Nabi Azad announced that a new law has been signed that allows courts to sentence those who manufacture and sell spurious drugs to life terms. In Rajasthan, the state Drug Control Organisation seized 15 fake Iviglob EX injections, used to treat Guillain-Barre syndrome, an auto-immune disorder.	Life term for spurious drug peddlers: government. Samay Live. Aug 7, 2009. Available at: www.samalylive.com Accessed Aug 10, 2009 Ignoring bills aids fake drug biz. The Times of India. Aug 24, 2009. Available at: www.timesofindia.com Accessed: Aug 26, 2009
Antimalarials, antibiotics, antimycobacterials	A study conducted in two cities in India revealed that 12% of drug samples from Delhi failed either one or both tests used (thin-layer chromatography and disintegration); 5% of drug samples from Chennai failed one or both of the tests.	Bate, R., Tren, R., et al. Pilot Study of Essential Drug Quality in Two Major Cities in India. PLoS One 4(6) June 2009. Available at: www.plosone.org Accessed: October 7, 2009
Ofloxacin (antibiotic)	The State Drug Controller's Office seized substandard tablets of Ofloxacin, a commonly-prescribed antibiotic, from a medicine dealer in Bangalore.	Nandi, J. Low quality Ofloxacin tablets circulating. The Times of India. Oct 19, 2009. Available at: www.timesofindia.indiatimes.com Accessed Oct 19, 2009
Tamiflu (oseltamivir)	The US FDA recently purchased and analyzed several products represented online as Tamiflu (oseltamivir), which were found to contain talc and acetaminophen. The order arrived at the FDA	Leggiere, P. FDA warns about fraudulent H1N1 internet drugs. Homeland Security Today. Oct 19, 2009. Available at: www.hstoday.us Accessed

		<p>in an unmarked envelope postmarked from India and consisted of unlabeled white tablets taped between two pieces of paper. Shortly after the FDA placed the order, the vendor's website disappeared.</p> <p>In a survey conducted by the Central Drugs Standard Control Organization (CDSCO), 24,136 samples of medicines were collected and tested. The prevalence of spurious drugs was found to be 0.046%.</p> <p>Police in Jaipur arrested two people, seizing a large number of labels from reputable medicine companies and chemicals for making fake drugs and cosmetics.</p> <p>A series of raids conducted in November by the FDA in Uttar Pradesh resulted in approximately USD \$222,000 worth of fake and substandard medicines being seized. The raids were conducted over a 15-day period across 14 state districts.</p>	<p>Oct 19, 2009.</p> <p>Pandeya, R. Supply of fake drugs grossly overstated. Live Mint. Nov 26, 2009 Available at: www.livemint.com Accessed Nov 30, 2009</p> <p>Fake drug racket busted. The Times of India. Dec 23, 2009. Available at: www.timesofindia.com Accessed Dec 23, 2009</p> <p>Uttar Pradesh authorities seize counterfeit meds. Securing Pharma. Dec 30, 2009. Available at: www.securingspharma.com Accessed Dec 13, 2009</p>
Indonesia	<p>Neuralgin, Lemocin, antibiotics, anti-allergy drugs, cosmetics</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. 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> <p>The International Pharmaceutical Manufacturer Group (IPMG) estimates that around 40% of medicines in Indonesia may be counterfeit. Last year, the group estimated the number to be 25%.</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> <p>Pharmacy owners arrested for selling illegal drugs. The Jakarta Post. July 28, 2007. Available at: http://www.thejakartapost.com Accessed: July 26, 2007.</p> <p>Rulistia, N. 40% of all drugs in RI may be fake. The Jakarta Post. July 17, 2008. Available at: www.thejakartapost.com. Accessed: July 23, 2008.</p>

	Antibiotics, contraceptives, antifungals, antihypertensives, whitening creams, drugs for erectile dysfunction and weight loss	<p>According to Weddy Mallyan, head of the Center for Drugs and Food Investigation at the Food and Drug Monitoring Agency, several fake medicines were found on the islands of Java and Sumatra following a three-month investigation.</p> <p>Police raided a factory that was manufacturing fake medicines in Penjaringan, North Jakarta. Officers confiscated “millions” of fake pills and caplets.</p>	<p>Sagita, D. and Rachman, A. Raids uncover counterfeit drugs. Jakarta Globe. Mar 17, 2009. Available at: www.thejakartaglobe.com Accessed: Mar 18, 2009</p> <p>Police raid counterfeit drug factory. The Jakarta Post. July 17, 2009. Available at: www.thejakartapost.com Accessed July 20, 2009</p>
Israel	Viagra, Cialis anti-impotence drugs, anti-narcolepsy drugs, contraceptives, antibiotics, and psychotropics	<p>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)</p> <p>According to a pharmaceutical manufacturers committee at the Manufacturers Association of Israel (MAI), sales of out-of-date, counterfeit, and stolen medicine for human and veterinary use reached NIS 100-130 million (USD \$28-37 million) in 2007.</p> <p>Inspectors from the Israeli police and Health Ministry seized around 6,000 pills suspected of being fake in Tel Aviv, Haifa, and Jerusalem. Among those seized were anti-impotence drugs, anti-narcolepsy drugs, contraceptives, antibiotics, and psychotropics. According to the Health Ministry, more than 50% of prescription medications advertised in Israel’s print media are counterfeit.</p> <p>The Health Ministry issued an injunction to shut down Neve Avivim Pharmacy in Ramat Aviv. The pharmacists were selling second-hand and expired medicines as well as medicines from unknown sources.</p>	<p>Ashod customs seizes NIS 1 million counterfeit Viagra pills. Port 2 Port. March 5, 2007. Available at: http://www.port2port.com/Index.asp?CategoryID=43&ArticleID=1258 Accessed: April 26, 2007</p> <p>MAI: Sale of counterfeit and out of date pharmaceuticals in 2007 was NIS100-130 million. Port 2 Port. Apr 14, 2008. Available at: www.port2port.com Accessed April 15, 2008</p> <p>Siegel-Itzkovich, J. Israel joins world effort to halt counterfeit drug sales. The Jerusalem Post. Nov 16, 2008. Available at: www.jpost.com Accessed Nov 17, 2008</p> <p>Rozenberg, R. Fake drugs may bring you fake health. Haaretz. Nov 29, 2009. Available at: www.haartz.com Accessed Nov 30, 2009</p>
Iraq		Approximately 70% of the medicines in Iraq have expired or were imported illegally, according to Adil Muhsin, the Iraqi	Iraq: fake drugs a danger to public health, says UN official. Adnkronos International. August 25,

		<p>Health Ministry Director-General. The Ministry recently tested around 100 samples of imported drugs; some were found to contain poisonous substances.</p> <p>There are two state-run pharmaceutical factories in Iraq; 90% of medicines are imported. Nearly all those medicines are made by companies that are not registered in Iraq and are sold without being tested for efficacy. According to Adel Mohsin, the Health Ministry's inspector general, the Ministry recently tested 100 samples taken from pharmacies and found that all of them failed. The government set a deadline of September 1 to begin enforcing drug laws.</p> <p>According to Sayed Kathem Khawasiya, inspector general for the Ministry of Health, approximately 20% of medicines in the Iraqi market are complete fakes. In the past two months, the government has completed raids on and closed down 120 illegal pharmacies.</p>	<p>2008. Available at: www.adnkronos.com Accessed August 26, 2008.</p> <p>Iraq health ministry to enforce drug laws. Gulfnews. Sep 6, 2008. Available at: www.archive.gulfnews.com Accessed Sep 9, 2008</p> <p>Levinson, C. Iraq returns to its alternative medicine roots. USA Today. Nov 2, 2008. Available at: www.usatoday.com Accessed Nov 3, 2008.</p>
Jordan		<p>The Head of Jordan Pharmacists Association (JPA), Taher Shakhshsheer, said that approximately JD 12 million (USD \$16.9 million) worth of counterfeit medicines were confiscated in 2007; most of those were imported from China and India. The Jordan Food and Drug Administration (JFDA) announced that 150 of the 1700 pharmacies throughout the country were closed down after having been proven to deal in counterfeits.</p> <p>JFDA announced that the volume of trade in counterfeit and smuggled drugs dropped in 2008 from 2007. This drop is being attributed to an increase in the number of inspectors and the addition of beauty and fitness centers, printing presses, and herbal shops to the places that are regularly inspected.</p> <p>JFDA announced that 431 pharmacies were found in violation of the law in 2008; 14 were shut down for selling counterfeit medicines. 346 were found to be operating without licensed pharmacists, 57 were selling free medical samples, 34 were selling smuggled medicines, and 45 were selling medicines from unknown origins.</p>	<p>Halteh, S. Unified efforts needed to combat counterfeited medicines in Jordan – experts say. AG-IP News. April 15, 2008. Available at: www.ag-ip-news.com Accessed April 16, 2008</p> <p>Trade in counterfeit drugs in Jordan drops. AME Info. June 8, 2009. Available at: www.ameinfo.com Accessed June 8, 2009</p> <p>Report: Hundreds of pharmacies in Jordan violated the law in 2008. Jordan Times. Dec 12, 2009. Available at: www.menafn.com Accessed Dec 15, 2009</p>

Laos	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 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 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 the study was funded by the government, Wellcome Trust, CDC, and the 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.</p>	<p>Antimalarial drug quality monitoring project in the Mekong region 2004. U.S. Pharmacopeia Drug Quality and Information Program. Available from: www.uspdqi.org</p> <p>Newton P. Fake antimalarials in SE Asia. . Proceedings of the 2nd Global Forum on Pharmaceutical Anticounterfeiting; 2005 Mar. 15-17; Paris, France. Denver CO: Reconnaissance Intl; 2005.</p>
	Ampicillin	<p>Out of 194 medicine samples tested in December 2008, 1 sample of ampicillin failed laboratory testing. The sample did not contain the correct API.</p>	<p>Medicine quality monitoring program in the Mekong region (2009). U.S. Pharmacopeia Drug Quality and Information (USP DQI) Program.</p>
Malaysia		<p>Approximately RM 7.8 million (\$2,200,000 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</p>	<p>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</p>

		<p>hologram system to help alleviate the problem.</p> <p>During the first five months of 2008, law enforcement officials seized RM 55,000 (USD \$17,000) worth of unregistered pharmaceuticals during 14 raids. Sexual stimulants made up 3-40% of the total seized items.</p>	<p>Lim, B and Babulal, V. Sex stimulants top counterfeit drugs seized. NSTonline. May 14, 2008. Available at: www.nst.com.my Accessed: May 19, 2008.</p>
Myanmar (Burma)	<p>Oral Artesunate</p> <p>Artemisinin</p> <p>Artesunate</p> <p>Artesunate</p>	<p>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.</p> <p>A Myanmar charity organization purchased 100,000 tablets and discovered that all of them were worthless.</p> <p>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.</p> <p>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.</p>	<p>Newton PN, McGready R, et al. (2006) Manslaughter by Fake Artesunate in Asia – will Africa be next? PLoS Med 3(6): e197.</p> <p>McNeil Jr., D. A growing epidemic of fake medications in Asia. International Herald Tribune. Feb 20, 2007.</p> <p>Newton, P. Counterfeit medicines and the artesunate problem. Proceedings of the 3rd Global Forum on Pharmaceutical Anticounterfeiting; March 13-15, 2007; Prague, Czech Republic.</p> <p>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</p>
Nepal	<p>Amoxicillin, Thiabric, Antozol, Omiproazol and Norifloxacin</p>	<p>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.</p> <p>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</p>	<p>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</p>

		<p>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.</p>	
Pakistan	Alternative medicines, Viagra	<p>The WHO estimates that in 2004, 40-50% of drugs consumed in Pakistan were counterfeit.</p> <p>Provincial authorities seized 495 samples of substandard, fake or illegal medicines in 2005, out of which 64 (13%) were fake.</p> <p>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 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>At a meeting held in connection with World Intellectual Property Rights Day, experts stated that 40-50% of medicines sold in Pakistan are counterfeit.</p> <p>The Federal Investigation Agency (FIA) recovered approximately Rs 15 million (USD \$191,000) worth of counterfeit life-saving drugs on September 10.</p> <p>Representatives of the Islamabad Capital Territory (ICT)</p>	<p>Multinationals urge Pakistan to raise drug prices. Daily International Pharma Alert. Jan 27, 2006; vol 3, no 19. www.fdanews.com</p> <p>Waqar A. Sale of homeopathic and herbal 'Viagra' rampant. Daily Times; April 6, 2006.</p> <p>Clampdown on fake drugs in Pakistan. www.scripnews.com. May 26, 2006. no. 3160: p. 18.</p> <p>Pakistan: mixed reaction to proposed drug authority. Reuters Foundation AlertNet. Nov 3, 2006. Available at: www.alertnet.org</p> <p>40-50pc medicines in market "counterfeit." The Dawn. April 26, 2008. Available at: www.dawn.com/2008/04/26/top9.htm Accessed: April 28, 2008</p> <p>Rs 15m in fake drugs found. Daily Times. September 11, 2008. Available at: www.dailytimes.com.pk Accessed: Sep 11, 2008</p> <p>ICT moves against quacks, counterfeit drug</p>

	Lipitor, Viagra	A Pfizer spokesman said that 2,000 pills of Lipitor and 600 pills of Viagra – all counterfeit – were seized during raids in the West Bank last year.	Egypt seizes large amount of suspected fake drugs. CNN Money. May 1, 2009. Available at: www.money.cnn.com Accessed May 4, 2009
Philippines	Maintenance drugs for cancer, diabetes, and cardiovascular diseases; OTC products such as analgesics (paracetamol); antibiotics; cough syrups, tablets, and capsules	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).	Martin S. P7-B fake drugs for sale. From maintenance to paracetamol. <i>The Manila Times</i> . October 07, 2004.
	Vitamins (Calpol and Ceelin)	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.	Gevera Mai. Fake drugs alarm DOH. Philippine Information Agency press release, October 13, 2005.
	Amira Whitening Cream	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.	Vendor of fake whitening cream nabbed. Tempo; May 19, 2006. http://www.tempo.com/ph/news.php?aid=24106
	Multivitamins, cefazolin, cefuroxime, dydrogesterone, loperamide, gliclazide, and dexamethasone	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.	Fake medicines are everywhere; on a daily basis, many unknowingly risk death. News Today. August 11, 2006. found at http://www.thenewstoday.info/2006/08/11/fake_medicines_are_everywhere.html
	Viagra, Norvasc	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	Fake Viagras abound, NBI warns. Manila Standard Today. Dec 7, 2006. Available at: www.manilastandardtoday.com

		<p>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>Mananghaya J. 4 Chinese nabbed in Binondo. The Philippine Star. January 10, 2007.</p>
	Plendil and Imdur	<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>
	Charantia, erectile dysfunction drugs, soap, diet pills, beauty products	<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 Accessed: June 26, 2007</p>
	Viagra	<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>
	Ponstan and Norvasc	<p>NBI agents raided establishments in Manila and Caloocan City recently, seizing hundreds of counterfeit medicines. The agents confiscated 806 tablets of Ponstan (a pain reliever) and 946 tablets of Norvasc (an anti-hypertension drug).</p>	<p>Fake anti-hypertension, pain-reliever drugs seized. Philippine Daily Inquirer. July 12, 2008. Available at: http://newsinfo.inquirer.net Accessed: July 14, 2008</p>
	Viagra, others	<p>In a government raid of a warehouse in Paranaque City, boxes of counterfeit medicines were found, including Viagra.</p>	<p>Authorities seize P200M worth of counterfeit goods in Paranaque. GMA News. July 30, 2008. Available at: www.gmanews.tv Accessed: July 31, 2008</p>
	Virlix (anti-allergy)	<p>NBI agents raided a drug store in Punta Princesa in Cebu City</p>	<p>Cavanlit, C. NBI agents seize alleged counterfeit</p>

	<p>medicine)</p> <p>Whitening soap, others</p> <p>Influenza vaccines</p>	<p>for allegedly selling counterfeit Virlix, anti-allergy tablets. Tests revealed that the tablets did not contain any active pharmaceutical ingredient.</p> <p>The Department of Health estimates that 10% of the medicines available in the Philippines are fake. From 2002–2005, there were 20 cases reported of companies manufacturing fake medicines.</p> <p>NBI seized P 1.4 million (USD \$29,500) worth of counterfeit whitening soap and medicine from several establishments in Manila.</p> <p>The Department of Health issued a warning that counterfeit medicines are being sold in Cagayan Valley.</p> <p>NBI seized P4 million (USD \$81,800) worth of fake flu vaccines in San Pedro, Laguna and arrested a former representative of a pharmaceutical firm. The confiscated vaccines contained only distilled water.</p>	<p>medicines in Cebu drug store. ABS-CBN News. Oct 16, 2008. Available at: www.abs-cbnnews.com Accessed: Oct 16, 2008.</p> <p>Fabunan, S. Counterfeiting of drugs still a nuisance. Business Mirror. Nov 12, 2008. Available at: www.businessmirror.com.ph Accessed: Nov 12, 2008</p> <p>Santos, T. Fake whitening soap, drugs seized. Philippine Daily Inquirer. Dec 14, 2008. Available at: www.services.inquirer.net Accessed: Dec 15, 2008</p> <p>DOH warns public on fake drugs. PIA Information Services. Jun 4, 2009. Available at: www.pia.gov.ph Accessed Jun 5, 2009</p> <p>Crisostomo, S. DOH warns vs fake flu vaccines. Philstar. July 30, 2009. Available at: www.philstar.com Accessed: Aug 4, 2009</p>
Saudi Arabia	<p>Captagon (fenethylline)</p> <p>Sexual enhancement and weight loss pills</p>	<p>The director of a pharmaceutical manufacturing company, Abdullah Al-Abdelgader, estimated that around 30-40% of the medicines sold at pharmacies and hospitals in the Kingdom are counterfeit.</p> <p>Following several raids, police seized nearly 4 million Captagon tablets and arrested several drug traffickers. Captagon is the commercial name for fenethylline, an anti-depressant that metabolizes into amphetamine and became illegal in the 1980s.</p> <p>Authorities shut down an unlicensed clinic for selling sexual enhancement and weight loss pills. “A large quantity” of the fake medications was seized during the raid.</p> <p>A Shoura Council member said that there are only 60 Ministry of Health supervisors for over 4,000 pharmacies in the</p>	<p>Legal bodies agreed Tuesday on stepping up legal actions against counterfeiters and pirates. The Saudi Gazette. Oct 27, 1008. Available at: www.saudigazette.com Accessed: Oct 27, 2008</p> <p>Ghafour, PK. Drug networks busted. Arab News. Mar 9, 2009. Available at: www.arabnews.com Accessed: Mar 9, 2009</p> <p>Al-Barakati, S. Clinic with bogus TV ads shut down. Saudi Gazette. Mar 23, 2009. Available at: www.saudigazette.com.sa Accessed: Mar 23, 2009</p> <p>Al-Ghamdi, M. Shoura members want curbs on fake medicines. Saudi Gazette. May 19, 2009.</p>

		Kingdom; he also stated that some statistics show 14% of the medicines sold in the Kingdom are fake.	Available at: www.saudigazette.com Accessed May 19, 2009
Singapore	Power 1 Walnut (anti-impotence drugs/sexual enhancement drugs) Sexual enhancement drugs	Police arrested a man after discovering approximately 2,000 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. Sellers of illegal sexual enhancement drugs are hiding their stashes in drain gutters, water pipes, and circuit boxes to elude Health Sciences Authority (HSA) raid teams.	Ching, N. That's how raid team knew where "sex drugs" were. The Electric New Paper. Feb 24, 2008. Available at: http://newpaper.asia1.com.sg Accessed: Feb 25, 2008 Chow, J. Novel tricks to hide sex drugs. The Straits Times. Apr 12, 2009. Available at: www.straitstimes.com Accessed Apr 13, 2009
Sri Lanka	Rubella vaccine	Doctors allege that as much as 30% of the country's drug supply is fake or counterfeit. After one death occurred following an injection of the Rubella vaccine and "particles" in drug vials and saline bottles were discovered, the Healthcare and Nutrition Ministry of Sri Lanka is launching a "full-scale probe." Six Indian companies and their local representatives are being questioned.	Wijewardene, R. Pirated pills. The Sunday Leader. Apr 12, 2009 Available at: www.thesundayleader.lk Accessed Apr 13, 2009 Contaminated medicine: "show cause" on six Indian companies. Daily News. October 30, 2009. Available at: www.dailynews.lk Accessed November 12, 2009
Syria	Viagra, Lipitor	A local manufacturing plant was discovered making fake Viagra and Lipitor, according to a Pfizer representative.	Egypt seizes large amount of suspected fake drugs. CNN Money. May 1, 2009. Available at: www.money.cnn.com Accessed May 4, 2009
Thailand	Furosemide (Lasix), levonorgestrel (Postinor), norethisterone (Primolut), finasteride (Proscar), sildenafil (Viagra) Antimalarials	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 nongovernmental bodies, the police, and customs; and provides training for law enforcement officers. Data obtained from the USP DQI antimalarial drug quality	Asian countries on the road to tackle counterfeits. Scrip World Pharmaceutical News Feb 20, 2004. Issue 2928; west Sussex, UK. PJB Publications Ltd: 18. Antimalarial drug quality monitoring project in

		<p>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.</p>	<p>the Mekong region 2004. U.S. Pharmacopeia Drug Quality and Information Program. Available from: www.usp.dqi.org</p>
	Antimalarials	<p>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.</p>	<p>Silp, S. Thai Officials Warn about Counterfeit Malarial Drugs. Irrawaddy News Magazine. September 7, 2006. Available at: www.irrawaddy.org</p>
	Artesunate	<p>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.</p> <p>The FDA is proposing an amendment to the Drug Act of BE 2510 seeking to impose fines of up to Bt5 million (USD \$166,000) for manufacturers of fake drugs. Sellers and importers could receive fines of up to Bt2 million (USD \$66,500) The current law states that the maximum fine for manufacturers is Bt 50,000 (USD 1,600), while sellers and importers face a maximum fine of Bt 10,000 (USD 332). 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>Newton, P. Counterfeit medicines and the artesunate problem. Proceedings of the 3rd Global Forum on Pharmaceutical Anticounterfeiting; 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>
	Viagra	<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>The scourge of fake medicine. Bangkok Post. Feb 14, 2008. Available from: www.bangkokpost.com Accessed: Feb 14, 2008</p>
	Loperamide (anti-	<p>In October 2009, a couple was arrested by a military unit along</p>	<p>The other war on drugs. Bangkok Post. Nov 22,</p>

	diarrheal) Erectile dysfunction medicines	<p>the Thai-Cambodia border in Sa Kaeo province for smuggling 84,800 tablets of generic loperamide into the country from Poi Pet. The couple hired Cambodian men to carry the boxes over the border without going through border checkpoints.</p> <p>In a recent raid conducted by the FDA, the Police Suppression Division, and the Department of Special Investigation, a pharmacy in Bang Rak district was raided, and more than 25 million baht (USD \$756,000) worth of fake medicines were seized.</p> <p>More than 15 million baht (USD \$454,000) worth of illegal erectile dysfunction medicines were discovered being sold in pharmacies and drug stores in the Yaowarat area of Bangkok.</p>	<p>2009. Available at: www.bangkokpost.com Accessed Nov 23, 2009</p> <p>The other war on drugs. Bangkok Post. Nov 22, 2009. Available at: www.bangkokpost.com Accessed Nov 23, 2009</p> <p>The other war on drugs. Bangkok Post. Nov 22, 2009. Available at: www.bangkokpost.com Accessed Nov 23, 2009</p>
United Arab Emirates (UAE)	Phytoshape, sibutramine (Reductil), Viagra, sedatives	<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>Phytoshape, an alleged herbal product which is used for weight loss, was removed from the market recently after tests showed that it contained the non-herbal ingredient sibutramine, a prescription-only anti-obesity medication. In 2007, customs officers in Dubai seized 5 million tablets of counterfeit Viagra and sedatives worth about Dh20 million (USD \$5,445,000)</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_mainh1_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> <p>Underwood, M. Low cost, low quality, high risk. The National. May 29, 2008. Available at: www.thenational.ae Accessed: June 2, 2008</p>
Vietnam	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	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>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>	
	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 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>Son N. Fake erectile dysfunction medicines on 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>
	Augmentin	<p>Police in Hanoi seized 570 boxes of counterfeit Augmentin, an antibiotic. The counterfeits were discovered during a routine pharmacy inspection.</p> <p>The rate of counterfeit medicines in the market is now 0.17%, down from 7% in 1991, according to the Drug Administration of Vietnam. Last year, 25,460 samples were tested; 3.3% (800) of those failed quality standards.</p> <p>Police in Ho Chi Minh City arrested a man who is believed to be part of a major counterfeit drug ring. Hundreds of kilograms of</p>	<p>Counterfeit antibiotics found in Ha Noi. Viet Nam News. May 28, 2008. Available at: http://vietnamenews.vnagency.com.vn Accessed: May 29, 2008</p> <p>Vietnam to reinforce crackdown on fake medicine: official. Thanh Nien News. Sept 22, 2008. Available at: www.thanhniennew.com Accessed: Sept 22, 2008</p> <p>Vietnam arrests drug counterfeiter. Earthtimes.org. Jan 16, 2009. Available at:</p>

		contraband, including manufacturing equipment, were found in his home. Local media report that the head of Vietnam's Drug Administration says the rate of counterfeit drugs in the market has risen from 0.06% in 2000 to 0.21% in 2008.	www.earthtimes.org Accessed: Jan 16, 2009.
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 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.</p> <p>After raiding 178 pharmacies, "huge" quantities of smuggled medicines were seized from 111 of the facilities, according to the Ministry of Health and Population. Counterfeit medicines were found in 30 pharmacies, and expired medicines were found in 38. A total of 932 types of illegal and counterfeit medicines were seized, along with 9,000 ready-made labels used for masking expired medicines. In addition, a counterfeiting factory was discovered in Sana'a.</p>	<p>Abdo-Rabbo Ahmed, Bassili Amal, and Atta Hoda. The quality of antimalarials available in Yemen. <i>Malaria Journal</i> 2005; vol. 4 no. 28</p> <p>Yemen: counterfeit, obsolete drugs pose safety risk, say health experts. Reuters Foundation AlertNet. July 4, 2006. Available at: www.alertnet.org</p> <p>Ghaleb, T. When the cure becomes the killer. June 3, 2008. <i>Yemen Observer</i>. Available at: www.yobserver.com Accessed: June 4, 2008</p>

EUROPE AND EURASIA

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.scripnews.com , March 29, 2006, no. 3143, p. 17.
Czech Republic	Viagra, Cialis, anabolic steroids,	Customs officials in Kralupy and Vlatvou destroyed one tonne of fake medicines in an industrial furnace. Approximately one	Velinger, J. Customs officers destroy tonne of fake-brand medicines. <i>Radio Prague</i> . Jul 2, 2008.

	others	million pills were discovered by way of x-rays that examined incoming packages in the regular post. These packages were most often sent from China, India, and Hong Kong.	Available at: www.radio.cz/en/article/105717 Accessed: Jul 7, 2008
Ireland	Diet capsules, sibutramine	Adulterated “2 Day Diet Capsules,” marketed to users of traditional Chinese medicinal products, were found to contain sibutramine, a prescription-controlled medicine for weight loss. Medicinal products like “2 Day Diet Capsules” are illegal in Ireland.	Irish Medicines Board Warning Notice Feb 5, 2009. www.imb.ie Accessed Mar 27, 2009.
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.scripnews.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. 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.	Moldova concerned about counterfeits or date-expired products. Scrip World Pharmaceutical news March 12, 2004. Issue 2934; London, UK. PJB Publications Ltd. p.4. Also available at www.scrippharma.com
Russia	Ampicilline (ampicilline) tablet Claritin (loratadine) tablet	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,	2004 Report from Elena Ushkalova, M.D., USP DQI Russia coordinator. eushk@mars.rags.ru

	<p>Mezim-forte (proteolytic enzyme) tablet Lorinden (flumetasone) ointment Omez (omeprazole) Cerebrolysin injection Biseptol (cotrimoxazole) tablet No-spa (drotaverine) tablet Nizoral (ketoconazole) tablet</p>	<p>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 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>Thomson, T. Strengthening pharmaceutical controls in Eastern Europe. Proceedings of the 2nd Global Forum on Pharmaceutical 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>
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	<p>Antibiotics, cardiovascular and gastrointestinal medicines</p> <p>Cavinton</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>Roszdravnadzor, the federal service for healthcare and social development, has begun to revoke wholesalers’ and retailers’ licenses if counterfeit drugs are found in their stocks. Since the beginning of 2006, 90 licenses have been terminated and 20 annulled.</p> <p>Approximately 3000 doses of fake Cavinton, made in its genuine form by Gedeon Richter of Hungary and used to treat high blood pressure, were found in a research hospital in Siberia. According to the police, Cavinton is one of the more common counterfeit pharmaceuticals circulating in Russia. Detectives traced the fake Cavinton to a Moscow warehouse registered to the wife of a pharmaceutical magnate, according to police records.</p> <p>Roszdravnadzor requested its regional divisions to conduct unscheduled inspections of pharmaceutical wholesalers and pharmacies to check for counterfeits. In the first half of 2006, 32 designated fake medicines were found; the largest proportion of</p>	<p>Russia to introduce criminal penalties for counterfeit drugs. www.scripnews.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.scripnews.com, February 24, 2006, no. 3134, p. 16.</p> <p>Counterfeits worth \$250 million sold in Russia. www.scripnews.com, February 24, 2006, no. 3134, p. 2.</p> <p>Russia wants to “sort out” counterfeits, again. www.scripnews.com, June 23, 2006, no. 3168, p. 7.</p> <p>Kramer, AE. Counterfeit drugs imperil health and profits. International Herald Tribune. September 4, 2006. Found at: www.ihf.com/bin/print_ipub.php?file=/articles/2006/09/04/business/fake.php</p> <p>Roszdravnadzor to inspect Russia’s pharma traders for counterfeits. www.scripnews.com, Aug 23, 2006, no. 3185, p. 5.</p>
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	<p>Eye elixir, psychotropics</p>	<p>these was antibiotics (38%). In 70% of the cases where fake drugs were found, the medicines were foreign-made.</p> <p>Sales of counterfeit drugs in Russia are worth between \$200 and \$300 million annually. During the 10-day long investigation “Operation Pharmacologist,” police found that the number of violations exceeded by 12 times the number reported in 2005. Most violations were found in municipal drugstores (3000) and kiosks (8500). Police also reported 642 cases of biological active additives being sold through kiosks. According to the first deputy for the Interior Ministry, the additives discovered were produced elsewhere and did not conform to the Russian safety standards.</p> <p>After receiving a complaint, police raided a company (whose name was not released pending investigation) where employees were using illegally obtained databases of eye patients, to whom they were selling “eye elixir” for \$600 (16,000 rubles) per 10ml bottle. 319 bottles were confiscated; each contained nothing but distilled water. Also confiscated were 765 packages of capsules that contained as yet unidentified substances.</p> <p>According to Pharmexpert consultancy, about 8% of medicines 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 Thai weight loss pills containing phentermine and opraphepranon, 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>According to polls, 40% of Russians believe that they are taking either substandard or counterfeit medicines. At a June 3</p>	<p>Debevec N. Russian Probe finds fake drug market big. United Press International. Dec 1, 2006. Available at: www.upi.com</p> <p>Schreck C. Distilled water touted as eye “elixir.” The Moscow Times.com, Nov 1, 2006, p. 3. Available at: www.themoscowtimes.com</p> <p>Russia’s parliament proposes longer jail sentence for counterfeiting. www.scripnews.com, May 16, 2007, no. 3259, p. 6.</p> <p>Counterfeit Drugs: a threat to Russia’s security. Moscow News. June 10, 2008. Available at:</p>
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		<p>roundtable meeting held at the Federation Council, the Deputy Chairman of the Committee on Health Care of the State Duma, Professor Alexander Chukhraev, stated that 10-12% of medicines in the Russian market are likely to be counterfeit. Valentina Kosenko, a representative from Roszdravnadzor, reported that 146 types of fake medicine were seized in 2007.</p> <p>Four executives of Bryntsalov A pharmaceuticals company were given suspended sentences and fined 30,000-50,000 rubles (approximately \$900-1,500 USD) after being found guilty of counterfeiting more than 50 brands of medicines.</p>	<p>www.mnweekly.rian.ru Accessed June 11, 2008</p> <p>Pharmaceuticals executives given suspended sentences for counterfeit medicines. Mosnews. Apr 3, 2009. Available at: www.mosnews.com Accessed Apr 22, 2009</p>
Turkey		<p>A total of 69 people were detained in a raid conducted by the Office of Combating Organized Crime and the Security Office. Of those, 64 are expected to stand trial in Turkey's Kadikoy court for trafficking counterfeit and smuggled drugs that were produced in Syria.</p> <p>According to Cengiz Gumustus, managing director of Esfor Security Consulting, Turkey is the fourth largest market for counterfeit medicines in the world, in terms of the number of arrests. There were 68 arrests made in 2008.</p>	<p>Counterfeiting suspects to stand trial in Turkey. SCRIP World Pharmaceutical News. May 1, 2009. No. 3443</p> <p>Warning on counterfeit medicines. Hurriyet Daily News. July 2, 2009. Available at: www.hurriyet.com.tr Accessed July 6, 2009</p>
Uzbekistan		<p>The Federation of Societies of Consumer Protection says a survey of 1,214 pharmacies across the country showed that 35% sell counterfeit drugs and 50% sell drugs that are boxed without any instructions. The survey also revealed that 122 unlicensed drugs are for sale in the country.</p>	<p>Uzbekistan: fake drugs are prevalent in Central Asian state. Eurasianet. Feb 13, 2009. Available at: www.eurasianet.org Accessed: Feb 17, 2009</p>

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>
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	Asthma and cancer medications	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.	Loewy, M. Deadly Imitations. Perspectives in Health. 2007, vol. 11, no. 1. Available at: http://www.paho.org/English/DD/PIN/Number23_article2.htm
Brazil	Procop-50 (“Bolivian Viagra”) and others	ANIVSA, Brazil’s medicines regulator, seized more than 500 illegal medicines from pharmacies in the state of Mato Grosso. In the city of Caceres, 8 pharmacies were shut down and 5 owners arrested, while in the city of Mirassol D’Oeste, 2 pharmacies were shut down. Both counterfeit and unregistered medicines were among those seized, including Procop-50, locally known as Bolivian Viagra.	Bruse, F. Brazil fights illegal medicines. Informa UK Ltd. Sept 10, 2008. Available at: www.pjpubs.com Accessed: Oct 13, 2008.
Colombia	Sildenafil (Viagra)	<p>A global security representative of Pfizer reported about a raid on a manufacturing facility for fake Viagra. The authorities found bags of boric acid (a low-grade insecticide) used to make pills masquerading as Pfizer’s Viagra. The finished product lay in piles on the floor.</p> <p>INVIMA reported that in 2003, more than 1000 tons of fake medicines that were locally produced were seized, including analgesics and a brand of antiretroviral produced by a multinational company in Colombia. The fake medicine market is estimated to be worth more than 14M pesos (\$5.5M). In 2004, 38 illegal laboratories producing fake drugs were dismantled and INVIMA found fake medicines made of flour, sugar, boric acid and cement lime. INVIMA is on the look out for drugs that are bought in neighboring countries like Peru, Ecuador, and Venezuela that are nearing or past their sell-by date, and are then repackaged in Colombia with a different expiry date and sold to illegal dealers. INVIMA works in collaboration with pharmacy owners, police, public prosecutors, and regional health authorities to try to identify the fake drugs on a local level.</p> <p>According to the Association of Colombian Pharmaceutical Industries, 5% of all medicines sold were contraband, counterfeit,</p>	<p>Ex-FBI man warns of counterfeit threat. SCRIP World Pharmaceutical News July 2, 2004. Issue no. 2966; PJB Publications Ltd London, UK. p. 6.</p> <p>Colombian regulatory agency seizes 1,000 of fake medicines. SCRIP World Pharmaceutical News Oct 29, 2004. Issue no. 3000; PJB Publications Ltd. London, UK. p. 22.</p> <p>Loewy, M. Deadly Imitations. Perspectives in Health. 2007, vol. 11, no. 1. Available at:</p>

	13 active ingredients (fluoxetine, cefalexin, hydro-chlorothiazide, glibenclamide, lovastatin, verapamil, diclofenac, tamoxifen, ketoconazole, ibuprofen, vecuronium, levonorgestrel, ethinylestradiol)	or adulterated as of 2004. This represents USD \$60 million. As a result of INVIMA's Prove the Quality Programme, 43 lots of medicines that failed to meet quality standards are to be decommissioned. 827 samples from 43 local companies and 17 multinationals were analyzed. Of those samples, 2.3% (9) failed because of storage or transportation problems which affected the medicines' quality; 4.1% (34) failed because of non-compliance with manufacturing standards. In 2005, the Programme found that 7.8% of the samples failed to comply with those standards. In addition to the 13 active ingredients tested, the Programme analyzed the antiretroviral nelfinavir and the immunosuppressant ciclosporin, but found no problems with those samples.	http://www.paho.org/English/DD/PIN/Number23_article2.htm Products pulled in Colombia for failing quality standards. www.scripnews.com . September 14, 2007. no. 3294, p. 20.
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	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	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.

	Cough and anti-allergy syrups	<p>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.</p> <p>Panamanian investigators released a report on the 2006 counterfeit cold medicine poisonings, concluding that at least 174 people were poisoned and 115 died as a result.</p>	<p>http://www.nytimes.com Accessed Dec 13, 2007.</p> <p>Panama releases report on '06 poisoning. Panama News Briefs. November 27, 2008. Available at: www.panamanewsbriefs.com Accessed December 1, 2008</p>
Peru		<p>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.</p> <p>Peru's Ministry of Health estimates that illegal sales of medicines account for 15 to 20% of the local market.</p> <p>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.</p>	<p>Latin America battles counterfeit drug threat. Daily International Pharma Alert. Feb 27, 2006; vol 3, no. 40. www.fdanews.com</p> <p>World Health Organization Fact Sheet no. 275, revised Feb 2006; http://www.who.int/mediacentre/factsheets/fs275/en/print/html</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>
Venezuela		<p>It is estimated that one in four pharmaceuticals is a counterfeit or fails to meet regulatory standards.</p>	<p>Latin America battles counterfeit drug threat. Daily International Pharma Alert. Feb 27, 2006; vol 3, no. 40. www.fdanews.com</p>

MULTI-COUNTRY/REGIONAL/GLOBAL

Myanmar, Laos, Vietnam, Cambodia and Thailand	Antimalarial (Artemisinin derivatives or Mefloquine)	<p>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.</p>	<p>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.</p>
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Africa		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.	Combating Counterfeit Drugs: a Report of the Food and Drug Administration. February 18, 2004. p. 2.
Europe		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.
Southeast Asia	Artesunate	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.	Counterfeits continue to emerge in Asia. www.scripnews.com , September 21, 2005, no 3091, pg 22
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.scripnews.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.	Weak laws blamed for trade in fake drugs. Daily Nation Online. August 15, 2006. www.nationmedia.com/dailynation
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 national authorities combat counterfeit medicines.	WHO and partners accelerate fight against counterfeit medicines. World Health Organization news release. Nov 15, 2006. Available at: www.who.int

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.scripnews.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,	Antiretroviral, anti-tuberculosis,	Representatives of four African countries asked for Interpol's help in preventing counterfeit drugs – especially antiretroviral, anti-	Interpol to help stop trade of counterfeit antiretroviral, TB, Malaria drugs in Africa. Kaiser

Senegal, Sudan	antimalarial medicines	tuberculosis, and antimalarial medicines – from making their way into the market by way of smuggling networks. According to John 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.	Daily HIV/AIDS Report. Nov 8, 2007. Available at: www.kaisernetwork.org/daily_reports 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
Ghana, Kenya, Nigeria, Rwanda, Tanzania, and Uganda	Antimalarials	Of the samples tested, 35% (73/210) failed quality tests, including dissolution and thin-layer chromatography (TLC). Specifically, 55% (12/22) of dihydroartemisinin, 48% (14/29) of amodiaquine, 38% (19/50) of sulfadoxine-pyrimethamine (SP), 31% (15/49) of artesunate, 27% (3/11) of artemether, 24% (4/17) of mefloquine, and 19% (6/32) of artemether-lumefantrine failed.	Bate, R; Attaran, A; Coticelli, P; Tren, R. Antimalarial drug quality in the most severely malarious parts of Africa: a six country study. PLoS One. May 7, 2008.
Global		In 2007, seizures of fake prescription medicines rose 24% (1,513 incidents) and accounted for approximately USD \$3 billion. More than 400 different versions of counterfeit drugs were seized in 99 countries, according to the Pharmaceutical Security Institute. Viagra remains the most counterfeited drug.	Frank, A. Illegal Viagra leads 24% jump in counterfeit medicine seizures. Bloomberg.com. June 10, 2008. Available at: www.bloomberg.com Accessed: June 10, 2008
		Pharmaceutical counterfeiting data shows that 40% of the fake medicines seized in 2007 by the EU originated in Switzerland, making the country the biggest importer of fake medicines into the EU; India and the United Arab Emirates were second and third, respectively. Reportedly, the Swiss statistic is as a result of five shipments totaling 1.6 million morphine-based painkillers seized at the German border. Swiss officials assert that it is a patent	Taylor, N. 40% of EU counterfeit drug seizures of Swiss origin. In-Pharma Technologist. May 20, 2008. Available at: www.in-pharmatechnologist.com Accessed: May 20, 2008 <i>and</i> EU worried about fake medicines coming from Switzerland. World Radio Switzerland. May 22,

		dispute rather than a case of fake medicines. The total volume of counterfeit pharmaceuticals seized by EU officials rose 51% in 2007.	2008. Available at: www.worldradio.ch Accessed: May 22, 2008
Global		In a recent study, 62% of prescription-only medicines purchased online were substandard or counterfeit. More than 90% of the 116 online pharmacies contacted did not require proof of a prescription in order to sell the medicines.	The Counterfeiting Superhighway. European Alliance for Access to Safe Medicines. 2008. Available at: www.eaasm.eu
Southeast Asia		According to INTERPOL data, Laos has the highest percentage of counterfeit drugs in the region, followed by Vietnam, Cambodia, and Thailand.	Vietnam second in Southeast Asia in counterfeit drugs. Intellasia. Sep 24, 2008. Available at: www.intellasia.net Accessed: Sep 24, 2008
Southeast Asia	Antimalarials, antiretrovirals, anti-TBs, antibiotics, others	During a 5-month investigation involving nearly 200 raids, INTERPOL's "Operation Storm" made 27 arrests and seized more than 16 million pills worth approximately USD \$6.65 million. Operation Storm ran from April 15 to September 15 and covered Cambodia, China, Laos, Myanmar, Singapore, Thailand, and Vietnam.	Bennett, S. Interpol seizes \$6.65 million in counterfeit drugs. Bloomberg.com. Nov 17, 2008. Available at: www.bloomberg.com Accessed Nov 17, 2008.
East Africa	Antimalarials, vitamins, skin medicines, heart medicines, others	An INTERPOL-led investigation called Operation Mamba led to seizures of more than 100 kinds of medicinal products in Uganda and Tanzania. Four pharmacies were shut down in Tanzania; 38 shops are under investigation in Uganda.	Rapid rise in African anti-counterfeiting efforts led by developed nations. Intellectual Property Watch. December 9, 2008. Available at: www.ip-watch.org Accessed December 9, 2008
Global (EU, India, China, Singapore, Syria)		The EU seized 34 million fake drugs in an EU-wide customs operation over the past two months. The highest numbers of items were seized in Belgium, France, Britain, and Spain. The majority of items came from India, China, Singapore, and Syria.	EU crackdown on fake drugs nets 34 million items. PR-inside.com. December 16, 2008. Available at: www.pr-inside.com Accessed: December 16, 2008
Global	Weight and hair loss tablets, anti-depressants, painkillers, anabolic steroids	More than a quarter million pounds (\$350,000 USD) worth of counterfeit, unlicensed, withdrawn, and controlled drugs were seized in England by the Medicines and Healthcare products Regulatory Agency (MHRA). The drugs are believed to be linked to an illegal online pharmacy selling prescription-only medicines around the globe.	250,000 pounds fake drug stash seized in undercover operation. Medical News Today. Mar 6, 2009. Available at: www.medicalnewstoday.com Accessed: Mar 9, 2009
Global	Swine flu remedies	Millions of emails selling counterfeit drugs to treat swine flu have flooded the internet, with many emails directing recipients to fake online pharmacies, according to McAfee Inc, the world's second-largest security software maker. McAfee estimates that swine flu	Opportunists exploit swine flu with spam e-mails. Reuters. Apr 27, 2009. Available at: www.reuters.com Accessed Apr 28, 2009

		spam accounted for 3-4% of all email spam on just one day.	
Global (China, England, Ireland, N. Ireland, USA, Canada)	Viagra, Cialis, Kamagra, Tadalafil, Lovegra, others	Three British nationals have been arrested for selling fake Viagra and other medications via the internet and over the phone. The material was purchased from China and was sold from addresses in England, Ireland, and Northern Ireland. Orders for purchasers in Canada and the US were also found.	Carolan, M. House raided in Viagra inquiry. Irish Times. May 15, 2009. Available at: www.irishtimes.com Accessed May 15, 2009
Global (Iran, Malaysia, Netherlands, Poland, United Kingdom)	Insulin needles/pens	The Netherlands Healthcare Inspectorate issued a public warning that counterfeit needles for insulin delivery systems (insulin pens) were discovered in the Netherlands. Approximately 200,000 counterfeit needles were introduced in the country, with 30,000 still unaccounted for. A further 500,000 were introduced in the UK, and 1.3 million in Poland. A Dutch company purchased the needles from a wholesaler in Malaysia, who claims that the needles came from Iran. The supply line has not been traced beyond that point. The Inspectorate warns that the needles may break during use or not fit properly, causing the needle to not administer the correct dosage of insulin. Furthermore, it is unknown if the needles are sterile, meaning skin irritation and infections are a risk.	Warning for counterfeit insulin pens. SafeMeds Alert. June 20, 2009. Available at: www.safemedicines.org . Accessed July 6, 2009.
European Union/India		The number of counterfeit goods seized at the EU's external borders more than doubled in 2008, according to statistics published by the European Commission: in 2008, 178 million goods were detained, while in 2007, there were 79 million. India was the main source of counterfeit medicines.	EU statistics show counterfeit imports doubled in 2008. Dow Jones Newswires. July 9, 2009. Available at: www.nasdaq.com Accessed July 10, 2009
Global		Of the prescription drug and online pharmacy advertisements sponsored by Microsoft that were reviewed, 89.7% led to "rogue" internet pharmacies that did not require a prescription for prescription medicines or were otherwise acting unlawfully or fraudulently.	No Prescription Required: Bing.com Prescription Drug Ads. LegitScript and KnujOn. Aug 4, 2009. Available at: www.legitscript.com/BingRxReport.pdf
European Union		Recent figures show a 384% increase in counterfeit medicine seizures, which now represent the third largest category of customs seizures in the EU.	EU urged to take 'urgent' action to combat fake drugs. The Parliament. Sep 30, 2009. Available at: www.theparliament.com Accessed: Oct 1, 2009
Global		Operation Pangea II, involving 24 countries and coordinated by INTERPOL and the World Health Organization's International	International operation combats online supply of counterfeit and illegal medicines. INTERPOL.

		Medical Products Anti-Counterfeiting Taskforce (IMPACT), revealed 751 websites engaged in illegal activity related to the sale of medicines, including controlled or prescription-only drugs. More than 16,000 packages of medicine were inspected, with 995 packages seized and nearly 167,000 illicit and counterfeit pills confiscated.	Nov 19, 2009. Available at: www.interpol.int Accessed Nov 24, 2009
European Union	Antibiotics, cancer treatments, erectile dysfunction drugs, antimalarials, analgesics, and anti-cholesterol treatments	The EU seized 34 million fake tablets in just two months, according to the European Industry commissioner. Seized drugs included: antibiotics, cancer treatments, erectile dysfunction medicines, antimalarials, analgesics, and anti-cholesterol treatments.	Fake drugs trade on the rise, says EU. EU Business News. Dec 7, 2009. Available at: www.eubusiness.com Accessed Dec 7, 2009
Global (New Zealand, U.S., India)		A New Zealander and his U.S. accomplice who sent billions of illegal emails marketing prescription drugs and weight loss pills under the company name “HerbalKing” have been fined USD \$15million. The company marketed the pills as generic versions of U.S.-branded and licensed medicines, but they were actually unapproved and “potentially dangerous” drugs imported from India.	Spam gang leader gets \$15m fine. BBC News. Dec 1, 2009. Available at: www.newsvote.bbc.co.uk Accessed Dec 1, 2009