

Pharmaceutical Care and Humanitarian Aid My experiences in Haïti 2005-2015

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Pharmacists Without Borders- Canada and



Pharmaciens sans frontières-Canada
Pharmacist without borders-Canada

Mission Haïti

Haïti Mission



Pharmaciens sans frontières - Canada

Pharmacist without borders - Canada

- Canadian section founded by Hubert Brault -1995
- President Regis Vaillancourt
- Thrive to provide technical and logistical support
- Work in collaboration with locals
- Implement efficient drug management and distribution system
- Teaching and supporting pharmaceutical care in development and post-war countries.



2005

- Collaboration with a group of American Dermatologists
- Was their third visit, they didn't expect to go in Haiti anymore
- Want me to develop compoundings for tropical dermatologic problems

Haiti

- International Boundary
- Department Boundary
- Road
- River
- ★ National Capital
- Department Capital
- City or Town

0 25 50 KM
0 25 50 Miles

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Collaboration with the American Academy of Dermatologists and CDC (2005-)

- Leogane – 40Km from Port-au-Prince
- Leger Hospital
- Need for compounding dermatological formulations against tropical diseases
- Pictograms
- Orphanage medical visits
- Teaching



From left to right: Dr Norlund, Sr Ellissainte,
Dr Charles, technician assistant et Dr Ertle.

Compounding formulations



Tinea capitis in Haïti



Specific compounded formulations selected for tropical country diseases

- Hydrocortisone cream, ointment
- Fluocinonide
- Triamcinolone acetonide
- Clotrimazole cream and lotion
- Gentian violet 1%
- Whitfield ointment
- Potassium permanganate

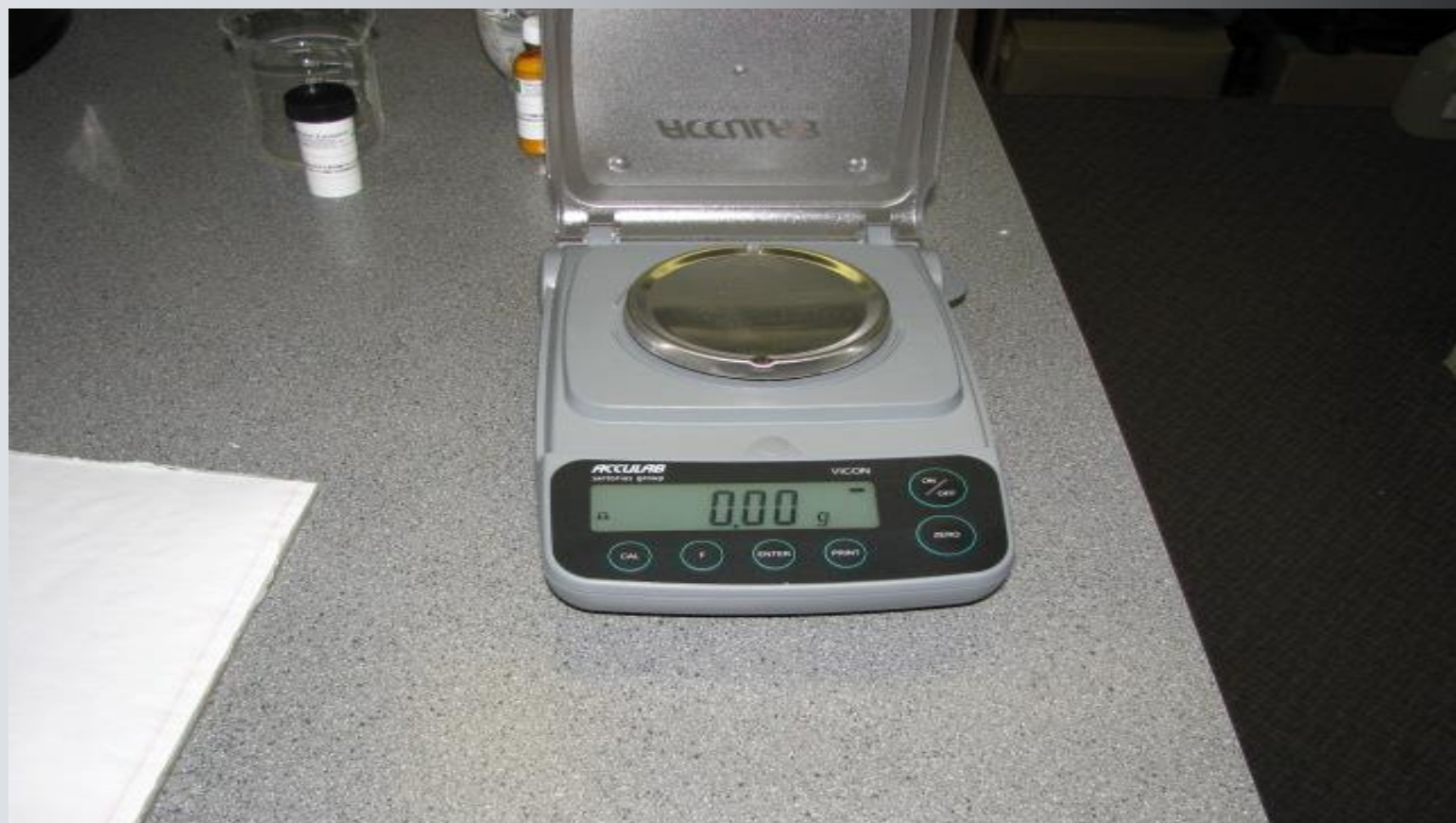
**American Academy of Dermatology
65th Annual Meeting
Volunteers Abroad
Washington DC February 1st, 2007**

Compounding and Use of Technology

**Diane Lamarre, pharmacist
B.Pharm., M.Sc.,
Associate Professor of Clinical Pharmacy,
Faculty of Pharmacy, University of Montreal**

Compounding supplies

- Balance weights to 100 mg to 1 kg (1,300.\$US)
Acculab
- Weighing papers and plastic weighing boats
- Graduate cylinders (10,25,50,100,250ml)
- Beakers (500ml, 1 liter, 2 liters)
- Hot plate with magnetic stirrer
- Spatulas (various sizes), (V spatula for gentian violet powder)



Glass Graduated Cylinders

- Cylinder is graduated in single scale (mL).
- Borosilicate glass.



Graduated Cylinders	Product Description	Scale
Item# 3002	Glass Graduated Cylinder	10 mL
Item# 3009	Glass Graduated Cylinder	25 mL
Item# 3006	Glass Graduated Cylinder	50 mL
Item# 3008	Glass Graduated Cylinder	100 mL
Item# 3014	Glass Graduated Cylinder	250 mL
Item# 3015	Glass Graduated Cylinder	500 mL
Item# 3371	Glass Graduated Cylinder	1000 mL

Plastic Graduated Cylinders

- Polypropylene (non-transparent).
- High quality chemically resistant, shatter resistant, autoclavable and have molded graduations in milliliters.



Graduated Cylinders	Product Description	Scale
Item# 3431	Polypropylene Cylinder	10 mL
Item# 3034	Polypropylene Cylinder	50 mL
Item# 3036	Polypropylene Cylinder	100 mL
Item# 3037	Polypropylene Cylinder	250 mL
Item# 3038	Polypropylene Cylinder	500 mL
Item# CYP-1L	Polypropylene Cylinder	1000 mL
Item# CYP-2L	Polypropylene Cylinder	2000 mL



Plastic Graduated Cylinders

- Accurate and easy-to-read graduations.
- Transparent polymethylpentene cylinders have printed graduations.
- Large round bases for stability

Graduated Cylinders	Product Description	Scale
Item# 3040	Clear Plastic Cylinder	10 mL
Item# 3435	Clear Plastic Cylinder	25 mL
Item# 3045	Clear Plastic Cylinder	50 mL
Item# 3046	Clear Plastic Cylinder	100 mL
Item# 3047	Clear Plastic Cylinder	250 mL
Item# 3048	Clear Plastic Cylinder	500 mL
Item# 3436	Clear Plastic Cylinder	1000 mL
Item# 3437	Clear Plastic Cylinder	2000 mL
Item# 3438	Clear Plastic Cylinder	4000 mL



Pitcher

- Item# PIP-500 (500mL)
- Item# PIP-1L (1000mL)
- Item# PIP-2L (2000mL)
- Item# 40055 (3000mL)
- Item# PIP-5L (5000mL)
- These handy jugs, molded in polypropylene are autoclavable and have a good chemical resistance.
- All sizes have handles for easy and convenient lifting, and feature raised graduations.

Glass Beakers

- Item# 3372 (20mL)
- Item# 3024 (50mL)
- Item# 3025 (100mL)
- Item# 3373 (150mL)
- Item# 3026 (250mL)
- Item# 3374 (400mL)
- Item# 3027 (600mL)
- Item# 3375 (1000mL)
- Item# BKG-2L (2L)
- Item# BKG-4L (4L)
- Borosilicate beaker.
- Spout for easy pouring.
- Enamel milliliter scale.



Plastic Beakers

- Item# BKP-50 (50mL)
- Item# BKP-100 (100mL)
- Item# BKP-250 (250mL)
- Item# BKP-600 (600mL)
- Item# BKP-1L (1000mL)
- Item# BKP-2L (2000mL)
- Item# BKP-5L (5000mL)
- Polypropylene (non-transparent) plastic which is autoclavable.
- Graduations are molded in milliliters.



Clear Plastic Beakers

- Item# BKTPX-50 (50mL)
- Item# BKTPX-100 (100mL)
- Item# BKTPX-250 (250mL)
- Item# BKTPX-600 (600mL)
- Item# BKTPX-1L (1000mL)
- Item# BKTPX-2L (2000mL)
- Polymethylpentene (transparent) plastic which is autoclavable.
- Graduations are molded in milliliters.



Weighing Paper

Item#: 3016 (4" square)

Item#: 68415 (6" square)

- Non-absorbent glassine weighing paper.
- Packaged in 500's.



Filter Paper

- Available in different flow rates.
- 100/pkg.

Item#	Size	Flow Rate
Item 2994	11.0cm	Fast
Item 2995	18.5cm	Fast
Item 2996	24.0cm	Medium
Item 2997	32.0cm	Medium
Item 2998	11.0cm	Medium
Item 2999	18.5cm	Medium



Ceramic Mortars & Pestles

- Available in sets or individual pieces.

Item#	Description & Size
Item 3395	Ceramic Mortar & Pestle 2 oz. (60 mL)
Item 3398	Ceramic Mortar & Pestle 4 oz. (120 mL)
Item 3401	Ceramic Mortar & Pestle 8 oz. (240 mL)
Item 3404	Ceramic Mortar & Pestle 16 oz. (480 mL)
Item 3407	Ceramic Mortar & Pestle 32 oz. (960 mL)



Ointment Pads

Item#: 3088

- 12" square.
- 100 sheets per pad.



Rubber Spatulas

Item#: 3091 (4")

Item#: 3093 (6")

Item#: 3095 (8")

- Hard, non-porous rubber spatula for compounding.
- Use in place of a metal spatula when mixing compounds that have a chemical reaction with metal.



Stainless Steel Spatulas

Item#: 3042 (4")

Item#: 3043 (5")

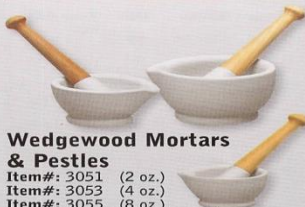
Item#: 3028 (6")

Item#: 3029 (8")

Item#: 3429 (10")

Item#: 3430 (12")

- Comfortable wood handles.



Wedgewood Mortars & Pestles

Item#: 3051 (2 oz.)

Item#: 3053 (4 oz.)

Item#: 3055 (8 oz.)

- Very durable, high quality product.
- Available in sets or individual pieces.



Glass Ointment Slab

Item#: 3098

- 12" square, 1/4" thick.



Flint Glass Mortars & Pestles

- Available in sets or individual pieces.

Item#	Description	Size
Item 3070	Glass Mortar	2 oz.
Item 3080	Glass Pestle	2 oz.
Item 3071	Mortar & Pestle Set	2 oz.
Item 3072	Glass Mortar	4 oz.
Item 3082	Glass Pestle	4 oz.
Item 3073	Mortar & Pestle Set	4 oz.
Item 3074	Glass Mortar	8 oz.
Item 3084	Glass Pestle	8 oz.
Item 3075	Mortar & Pestle Set	8 oz.
Item 3076	Glass Mortar	16 oz.
Item 3086	Glass Pestle	16 oz.



VIOLET DE GENTIANE 1%

Product	Quantity	
Gentian violet	1.00 gram	<input type="text"/>
Alcohol 95%	10.00 milliliters	<input type="text"/>
Purified water qs ad	100.00 milliliters	<input type="text"/>
Total :		100.00 milliliters <input type="text"/>

Calculate

Preparation

- Dissolve the GENTIAN VIOLET in the alcohol.
- Gradually add the water. Stir well.
- Make up to the final volume.
- Strain if necessary.

Indications

topical antifungal agent for treatment of oral candidosis in newborn.
Limit the product concentration between 0.25 to 0.5%.

Notes

CAUTION - STAINS EASILY - IRRITATING PRODUCT
Concentration higher than 0.5% should not be used on mucosa.

Conservation

undetermined stability

References

Martindale, The extra Pharmacopoeia, 29th.

Pharmaceutical care and documentation

- Compounding dermatologic preparations in developing countries.
- Lamarre D, Bertrand ME, Giroux D, Nordlund JJ, Ertle J, Charles AJ. Dermatol Ther. 2009 Nov-Dec;22(6):560-3.

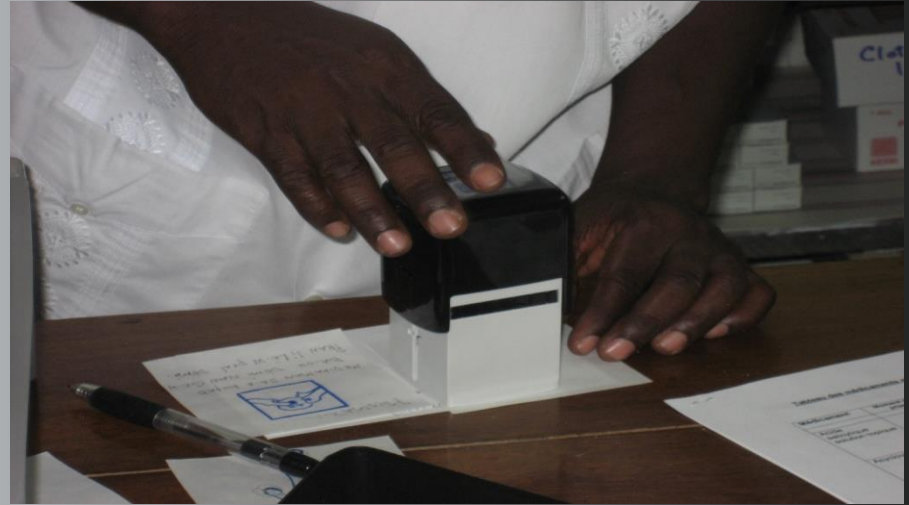
Real life (!)

- June 2005
- Explosion at the market Place PAP
- 20 people shot on the airport road
- 20 other people kidnapped
- Compounding products were lost at the airport

Pictograms program



Making pictogram attracting





PHARMACIE 8AM. 2H30P.M.

LABORAT



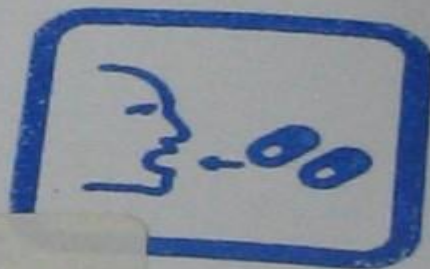


Sœur Ellissainte, responsable du dispensaire

Notre programme de pictogrammes !



glenmark
PHARMACEUTICALS LTD.



[REDACTED]
KETONAZOLE 200MG
2 COMPRIMÉS 1 FOIS
2/2/2009

(!)

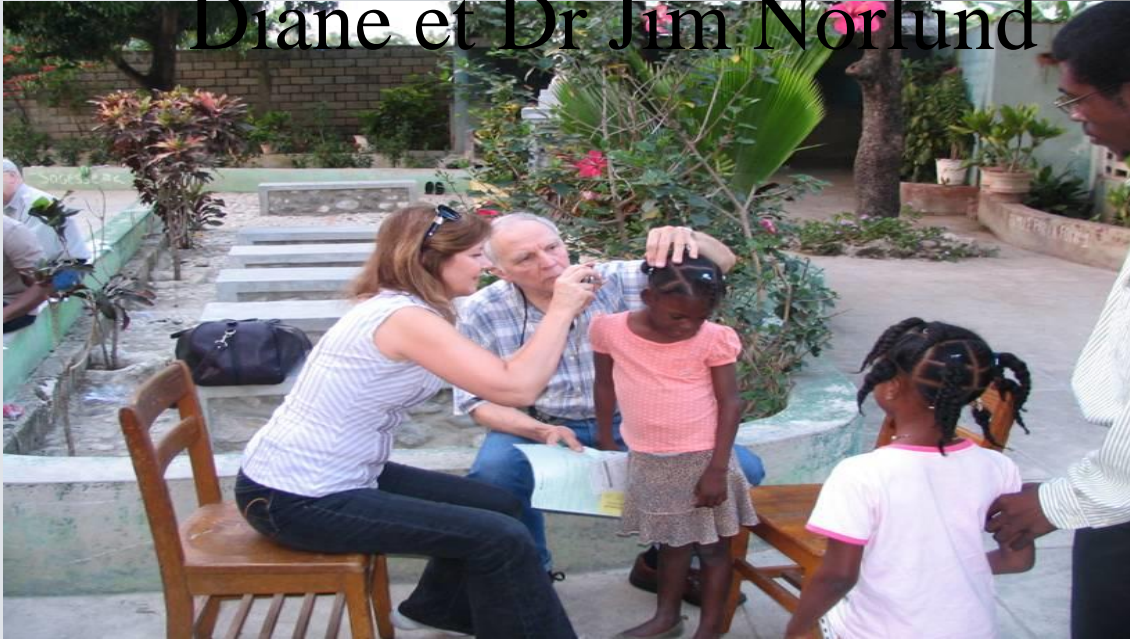
- Too hot for pictogram printers



Orphanage

120 children 2-12 years old

Diane et Dr Jim Norlund





Dr Alix Charles



Dr Jim Ertle





Teaching and coaching

- Nursing School – 90
- Léogane /Bill Gates Foundation
 - Oral rehydration solutions
 - Antibiotics et antifungals
 - Typhoid fever
 - Drug interactions
 - AIDS- tuberculosis- malaria- leprosys
- Joint Medicine and Pharmacy Faculty
- Port-au-Prince 100/60

Teaching Pharmaceutical Care and AIDS interactions at the Faculty of Pharmacy and Medicine Port au Prince



LE PHARMACIEN, VERITABLE SENTINELLE DU SYSTEME DE SANTE



Diane, vice-dean of the Faculté de Pharmacie et Charles Milliard

AIDS treatments

Drugs non available



Filariasis



Pharmacy Library at the Faculty of medicine and pharmacy Port-au-Prince -2007



**Nursing students
very dedicated despite very hot
and humid weather**



Teaching to nursing students.



Oral Rehydration Solution



Safety issues (!)



TARGET
PERFORMANCE

ACTUALITÉ

RÉGIONS

INTERNATIONAL

SPORTS

CULTURE

ARGENT

VIDÉOS

HÉLICOPTÈRE

montopo

INTERNATIONAL



12°C Montréal
Changer

Coopérante pour Médecins du Monde Une étudiante québécoise enlevée en Haïti

Première publication 22 mai 2008 à 10h46



Crédit photo : LCN

Dans cette section



Frappes
Les Russes
bombardent à
nouveau en Syrie



Royaume-Uni
La police bernée
par une poupée!



Heureuse nouvelle
à Hong Kong
La ville attend son
premier bébé
panda



Earthquake

January 12th 2010

- 25% of students and teachers died
- Leogane Hospital was completely destroyed

Collaboration with Canadian international development Agency (CIDA)



PSF- Canada

- Help the management of drugs donations received after the earthquake
- Support of the Ministry pharmacy departement
 - Training
 - Help in mutliple tasks
 - Drug clearance
 - Inspection
 - Essential drugs program



**Partnership with the
Public Health
departement, relocalized
in tents paid by Canadian
government**



Danielle Viens and JeanFrançois Patenaude

- Help the management of drugs donations received after the earthquake
- Support of the Ministry pharmacy department
 - Training
 - Help in multiple tasks
 - Drugs clearance
 - Inspection
 - Essential drugs program







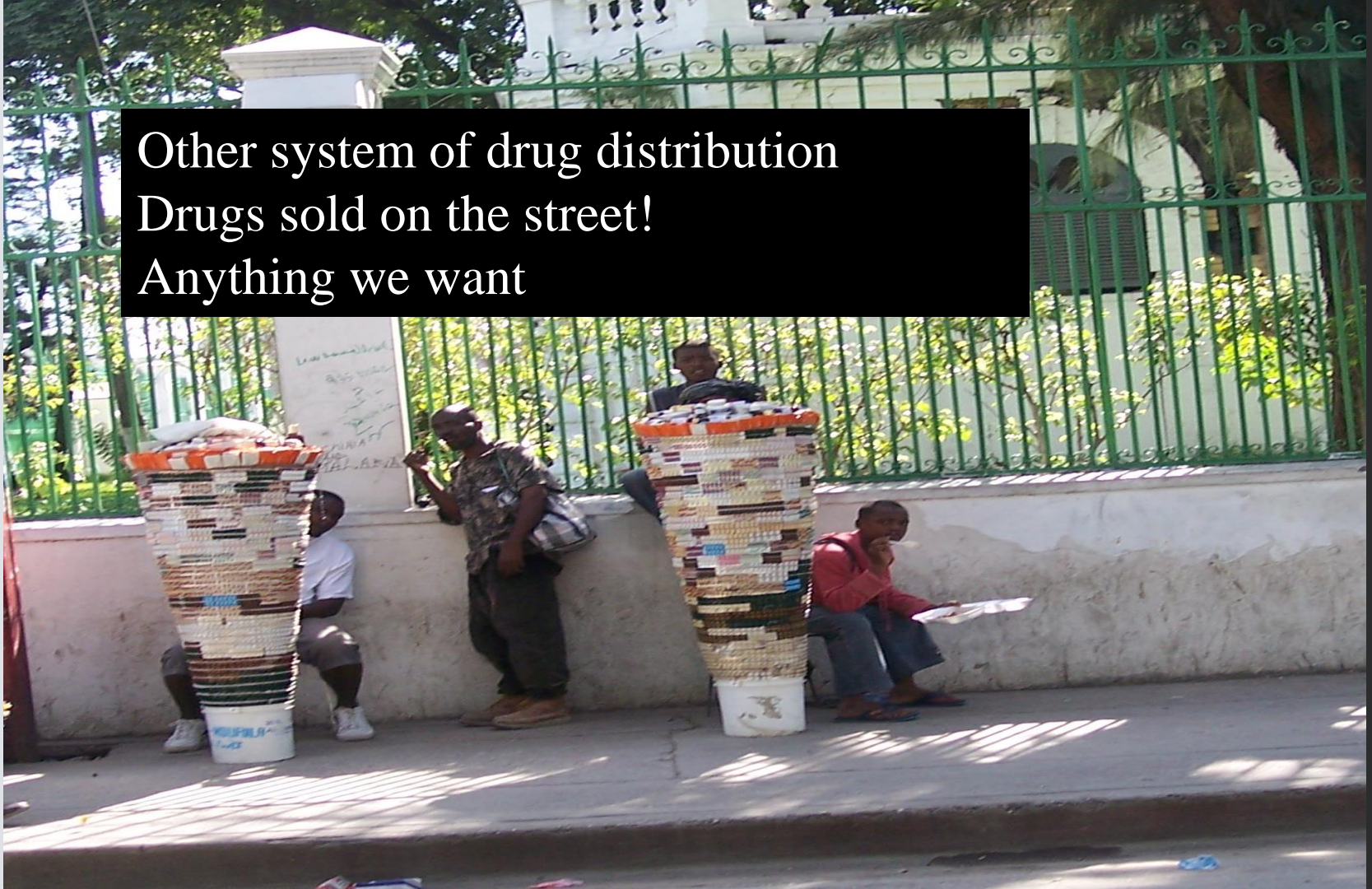


Cabanon





Other system of drug distribution
Drugs sold on the street!
Anything we want



Cholera epidemic

- Emergency during our stay
- Threats of cholera
- Sending drugs
to counter the epidemic
 - Rehydration solutions
 - Antibiotics
 - Disinfectants, diapers etc.



Development mission at Leogane
Léger Hospital is now
**the Haïti national hospital for the
treatment of leprosy**

- Valérie Clément, Quebec pharmacist
- Stock management – first in/first out system for the new drug dispensary
- Leprosy littérature review. Prevention-treatment and proper medication use.
- Lectures to nurse students – 8 hours.

Leprosy- Hansen's disease

Mycobacterium leprae







Leger hospital reports his satisfaction to CIDA








- Contribution to stock control- less shortages of drugs
- Contribution to education of nurse students
- Compounding formulations are still used and sold at low price for Haïtian patients / micro-économie.

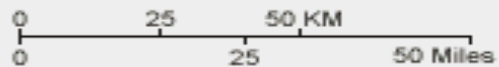
Infected by leprosy
by age of 8





Haiti

-  International Boundary
 Department Boundary
 Road
 River
 National Capital
 Department Capital
 City or Town



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2013 -

- New mission: La Brousse (5 hours PAP)
- Collaboration UPA (Quebec support to develop micro economy in agriculture)
- Many dispensaries in the mountain.
- Education and Standardization of Technician program
- Certificate

Haiti, Caribbean pearl!



(!)

- Inappropriate Donations
- - pads for dressing
- - blanket
- - calcium supplement



Basell statements (FIP)

Optimization of Medicines Procurement

Optimizing the

Influences on Prescribing

Preparation and Delivery of Medicines

Administration of Medicines

Monitoring of Medicines

Monitoring of Medicines

II. B. 1. T. i. i.

Humanitarian Aid must apply the same principles and the same steps, to reach outcomes on a populational basis and not only on a patient basis.

Develop real partnership not only donation, aid or even collaboration

January 12th 2010
16h58













September 30th 2010







January 2011



Leger Hospital Inauguration

January 2012









Follow-up Student Humanitarian Aid Program

- PSF-Canada education program has been used to develop a specific course at the University of Montreal PHM-6513
- « Le pharmacien humanitaire »
- 45 hours – 3 credits
- 30 students each year



Canadian pharmacy students
get their admission free

You are welcome!

Thank you for them

www.pafcanada.org

