

International Medical Graduates Fill Shortage Gaps

BY JOYCE FRIEDEN
Senior Editor

ARLINGTON, VA. — International medical graduates have become an integral part of providing medical care in federally designated physician shortage areas, according to results from a recent study.

“Compared to U.S.-trained physicians, IMGs provide more primary care and more [overall] medical care to populations living in primary care shortage ar-

reas” as well as to minorities, immigrants, patients in poor areas, and Medicaid recipients, said Esther Hing of the National Center for Health Statistics, in Hyattsville, Md.

Ms. Hing and her colleague Susan Lin, Dr.P.H., studied 2005-2006 data from the National Ambulatory Medical Care Survey. The survey was nationally representative, and the data used by the researchers included information from 2,390 physicians in office-based practices.

Surveyors performed a face-to-face interview and abstracted medical records for about 30 office visits.

Ms. Hing presented the survey results at the 2008 Physician Workforce Research Conference.

The survey showed that IMGs make up 25% of office-based physicians. They also tend to be a little older than U.S.-trained doctors, with an average age of 52 years, compared with 50 years for physicians trained in the United States.

The racial and ethnic differences between U.S.-trained doctors and IMGs were more pronounced: 71% of U.S. medical graduates were non-Hispanic white, compared with 26% of IMGs. Asian/Pacific Islanders made up 32% of IMGs, compared with 5% of U.S. medical graduates. Hispanic and Latino physicians accounted for 7% of IMGs, compared with 2% of U.S. graduates.

More of the IMGs than U.S. medical graduates were working as primary care physicians—57% vs. 46%—a statistically significant difference, Ms. Hing noted.

IMGs also practiced more often in counties that included primary care shortage areas than did U.S.-trained physicians—87% vs. 79%. And IMGs more often saw patients during evening and weekend hours than their U.S.-trained counterparts.

IMGs also were more likely to accept new patients and to accept Medicaid—nearly one-third of IMGs surveyed derived 20% or more of their incomes from Medicaid, compared with less than one-fourth of U.S.-trained physicians.

“This study illustrates how the U.S. health care system continues to rely on IMGs to address shortages in primary care,” Ms. Hing said at the conference, which was sponsored by the Association of American Medical Colleges and Harvard Medical School.

“The U.S. health care system faces challenges if the future supply and use of IMGs is constrained by recent changes in visa policy that reduce the number of incoming [medical graduates],” she said.

“This is an important consideration for policy makers.”

METROGEL®

(metronidazole gel), 1%

BRIEF SUMMARY

For topical use only. Not for oral, ophthalmic or intravaginal use.

INDICATIONS AND USAGE

METROGEL® (metronidazole gel), 1% is indicated for the topical treatment of inflammatory lesions of rosacea.

CONTRAINDICATIONS

METROGEL® (metronidazole gel), 1% is contraindicated in those patients with a history of hypersensitivity to metronidazole or to any other ingredient in this formulation.

PRECAUTIONS

General: Topical metronidazole has been reported to cause tearing of the eyes. Therefore, contact with the eyes should be avoided. If a reaction suggesting local skin irritation occurs, patients should be directed to use the medication less often or discontinue use. Metronidazole is a nitroimidazole and should be used with care in patients with evidence of, or history of, blood dyscrasia.

Information for Patients: Patients using METROGEL® (metronidazole gel), 1% should receive the following information and instructions:

1. This medication is to be used as directed.
2. It is for external use only.
3. Avoid contact with the eyes.
4. Cleanse affected area(s) before applying METROGEL® (metronidazole gel), 1%.
5. This medication should not be used for any other condition than that for which it is prescribed.
6. Patients should report any adverse reaction to their physicians.

Drug Interaction: Oral metronidazole has been reported to potentiate the anticoagulant effect of coumarin and warfarin, resulting in a prolongation of prothrombin time. Drug interactions should be kept in mind when METROGEL® (metronidazole gel), 1% is prescribed for patients who are receiving anticoagulant treatment, although they are less likely to occur with topical metronidazole administration because of low absorption.

Carcinogenesis, Mutagenesis and Impairment of Fertility: Metronidazole has shown evidence of carcinogenic activity in a number of studies involving chronic, oral administration in mice and rats, but not in studies involving hamsters.

In several long-term studies in mice, oral doses of approximately 225 mg/m²/day or greater (approximately 37 times the human topical dose on a mg/m² basis) were associated with an increase in pulmonary tumors and lymphomas. Several long-term oral studies in the rat have shown statistically significant increases in mammary and hepatic tumors at doses >885 mg/m²/day (144 times the human dose).

Metronidazole has shown evidence of mutagenic activity in several *in vitro* bacterial assay systems. In addition, a dose-related increase in the frequency of micronuclei was observed in mice after intraperitoneal injections. An increase in chromosomal aberrations in peripheral blood lymphocytes was reported in patients with Crohn's disease who were treated with 200 to1200 mg/day of metronidazole for 1 to 24 months. However, in another study, no increase in chromosomal aberrations in circulating lymphocytes was observed in patients with Crohn's disease treated with the drug for 8 months.

In one published study, using albino hairless mice, intraperitoneal administration of metronidazole at a dose of 45 mg/m²/day (approximately 7 times the human topical dose on a mg/m² basis) was associated with an increase in ultraviolet radiation-induced skin carcinogenesis. Neither dermal carcinogenicity nor photocarcinogenicity studies have been performed with METROGEL® (metronidazole gel), 1% or any marketed metronidazole formulations.

Pregnancy: Teratogenic Effects: Pregnancy Category B. There are no adequate and well-controlled studies with the use of METROGEL® (metronidazole gel), 1% in pregnant women.

Metronidazole crosses the placental barrier and enters the fetal circulation rapidly. No fetotoxicity was observed after oral administration of metronidazole in rats or mice at 200 and 20 times, respectively, the expected clinical dose. However, oral metronidazole has shown carcinogenic activity in rodents. Because animal reproduction studies are not always predictive of human response, METROGEL® (metronidazole gel), 1% should be used during pregnancy only if clearly needed.

Nursing Mothers: After oral administration, metronidazole is secreted in breast milk in concentrations similar to those found in the plasma. Even though blood levels taken after topical metronidazole application are significantly lower than those achieved after oral metronidazole, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother and the risk to the infant.

Pediatric Use: Safety and effectiveness in pediatric patients have not been established.

Geriatric Use: While specific clinical trials in the geriatric population have not been conducted, sixty-six patients aged 65 years and older treated with METROGEL® (metronidazole gel), 1% over ten weeks showed comparable safety and efficacy as compared to the general study population.

ADVERSE REACTIONS

In a controlled clinical trial, 557 patients used METROGEL® (metronidazole gel), 1% and 189 patients used the gel vehicle once daily. The following table summarizes adverse reactions that occur at a rate of ≥ 1% in the clinical trials:

System Organ Class/Preferred Term	Metronidazole Gel, 1%	Gel Vehicle
	N= 557	N=189
Patients with at least one AE	186 (33.4)	51 (27.0)
Infections and infestations	76 (13.6)	28 (14.8)
Bronchitis	6 (1.1)	3 (1.6)
Influenza	8 (1.4)	1 (0.5)
Nasopharyngitis	17 (3.1)	8 (4.2)
Sinusitis	8 (1.4)	3 (1.6)
Upper respiratory tract infection	14 (2.5)	4 (2.1)
Urinary tract infection	6 (1.1)	1 (0.5)
Vaginal mycosis	1 (0.2)	2 (1.1)
Musculoskeletal and connective tissue disorders	19 (3.4)	5 (2.6)
Back pain	3 (0.5)	2 (1.1)
Neoplasms	4 (0.7)	2 (1.1)
Basal cell carcinoma	1 (0.2)	2 (1.1)
Nervous system disorders	18 (3.2)	3 (1.6)
Headache	12 (2.2)	1 (0.5)
Respiratory, thoracic and mediastinal disorders	22 (3.9)	5 (2.6)
Nasal congestion	6 (1.1)	3 (1.6)
Skin and subcutaneous tissue disorders	36 (6.5)	12 (6.3)
Contact dermatitis	7 (1.3)	1 (0.5)
Dry skin	6 (1.1)	3 (1.6)
Vascular disorders	8 (1.4)	1 (0.5)
Hypertension	6 (1.1)	1 (0.5)

The following table summarizes the highest scores of local cutaneous signs and symptoms of irritation that were worse than baseline:

	Metronidazole Gel, 1%	Gel Vehicle
	N= 544	N=184
Sign/Symptom	N= 544	63 (34.2)
Dryness	138 (25.4)	63 (34.2)
Mild	93 (17.1)	41 (22.3)
Moderate	42 (7.7)	20 (10.9)
Severe	3 (0.6)	2 (1.1)
Scaling	134 (24.6)	60 (32.6)
Mild	88 (16.2)	32 (17.4)
Moderate	43 (7.9)	27 (14.7)
Severe	3 (0.6)	1 (0.5)
Pruritus	86 (15.8)	35 (19.0)
Mild	53 (9.7)	21 (11.4)
Moderate	27 (5.0)	13 (7.1)
Severe	6 (1.1)	1 (0.5)
Stinging/burning	56 (10.3)	28 (15.2)
Mild	39 (7.2)	18 (9.8)
Moderate	7 (1.3)	9 (4.9)
Severe	10 (1.8)	1 (0.5)

The following additional adverse experiences have been reported with the topical use of metronidazole: skin irritation, transient redness, metallic taste, tingling or numbness of extremities, and nausea.

OVERDOSAGE: There are no reported human experiences with overdosage of METROGEL® (metronidazole gel), 1%. Topically applied metronidazole can be absorbed in sufficient amount to produce systemic effects.

DOSSAGE AND ADMINISTRATION: Areas to be treated should be cleansed before application of METROGEL® (metronidazole gel), 1%. Apply and rub in a thin film of METROGEL® (metronidazole gel), 1% once daily to entire affected area(s). Patients may use cosmetics after application of METROGEL® (metronidazole gel), 1%.

HOW SUPPLIED: METROGEL® (metronidazole gel), 1% is supplied as follows:

60 gram tube – NDC 0299-3820-60

60 gram tube with complimentary 4 oz Cetaphil® Gentle Skin Cleanser – NDC 0299-3820-04

Keep out of the reach of children.

Storage Conditions: Store at controlled room temperature: 20° to 25°C (68° to 77°F), excursions permitted between 59° and 86°F (15°-30°C).

Prescribing Information as of February 2007.

Rx Only

US Patent No. 6,881,726

Manufactured by:

Galderma Production Canada Inc.

Baie d'Urfé, QC, H9X 3S4 Canada

Made in Canada.

Marketed by:

Galderma Laboratories, L.P.

Fort Worth, Texas 76177 USA

P50742-1 0207

References: 1. Wolters Kluwer, PHast Database, January 2008. 2. Data on file. A multi-center clinical study of metronidazole 1% compared to vehicle for 10 weeks (n=552). 3. Data on file. HSA-3. Galderma Laboratories, L.P. 4. Odom RB. The subtypes of rosacea: implications for treatment. *Cutis*. 2004;73:9-14.

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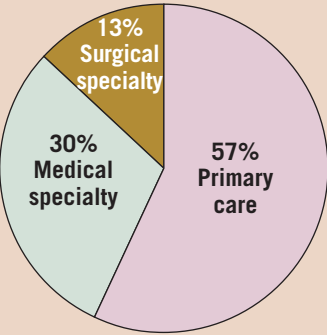
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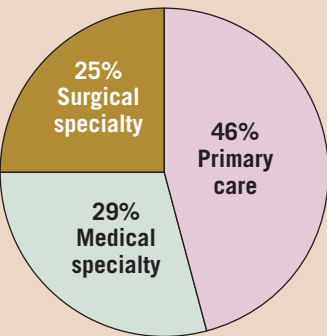


Most International Medical Graduates Work as Primary Care Physicians

International Medical Graduates



U.S. Medical Graduates



Note: Based on 2005-2006 data from the National Ambulatory Medical Care Survey for 2,390 physicians in office-based practices.

Source: Ms. Hing