

Michelle Powell Kvalsund, DO MS

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Zambia Address:

University of Zambia School of Medicine
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EDUCATION

Aug 1994-Aug 1998 Michigan State University, East Lansing, MI; B.S. (Psychology)
Jan 2001-May 2008 Michigan State University, East Lansing, MI; M.S (Epidemiology)
Aug 2004-May 2009 Michigan State University, East Lansing, MI; D.O. (Osteopathic Medicine)

POSTGRADUATE TRAINING

July 2009-June 2010 Internship, Department of Internal Medicine, Vanderbilt University Medical Center
July 2010-June 2013 Neurology Residency, Department of Neurology, Vanderbilt University Medical Center
July 2013-June 2014 Neuroepidemiology Fellowship, International Neurologic & Psychiatric Epidemiology Program, Department of Neurology, Michigan State University
Sept 2014- Dec 2015 Clinical Neurophysiology Fellowship, Michigan State University, Department of Neurology/Sparrow Health Systems
Oct 2017 - ongoing Post-graduate Diploma in Global Health Policy, London School of Tropical Medicine & Hygiene

LICENSURE AND CERTIFICATIONS

Michigan State Licensure: exp. 12/31/2019
Zambia Medical Licensure: HPCZ/101/2/3/06046
American Board of Psychiatry and Neurology Certification, exp. 9/2023
American Board of Psychiatry and Neurology Clinical Neurophysiology Certification, exp. 10/2027

ACADEMIC APPOINTMENTS

Jan 2016- ongoing Assistant Professor of Neurology, Michigan State University Department of Neurology, East Lansing, MI 48824
Jan 2016-ongoing Director of Adult Neurology Global Health Initiatives, Michigan State University Department of Neurology International Neurologic & Psychiatry Epidemiology Program
Oct 2013-ongoing Honorary Lecturer, University of Zambia School of Medicine, Department of Internal Medicine

July 2013-Dec 2015 Clinical Instructor, Michigan State University Department of Neurology, East Lansing, MI 48824

HONORS AND AWARDS

2018 National Academy of Medicine Osteopathic Health Policy Fellow
2016 U.S. Fulbright Scholar to Zambia
2013 Vanderbilt University Department of Neurology James True Martin Award
2009 American Academy of Neurology Medical Student Prize for Excellence
2009 Michigan State University Department of Neurology and Ophthalmology Clinical Neuroscience Outstanding Achievement Award
2007 Fogarty International Clinical Research Scholar
2006 College of Osteopathic Medicine International Health Enrichment Award
2003 U.S. Fulbright Fellow to Zambia
2002 Sigma Delta Epsilon, Women in Science Hartley Fellow

HOSPITAL APPOINTMENTS

July 2016- present Clinical Neurophysiology Attending, Epilepsy Monitoring Unit, Sparrow Hospital
Jan 2016- present Director of Electromyography Services, University Teaching Hospital, Lusaka, Zambia
Oct 2013- present Consultant Neurologist, University Teaching Hospital, Lusaka, Zambia
July 2013- present Attending Neurologist, Adult Neurology consult service, Sparrow Hospital, Lansing, MI
July 2013- present Attending Neurologist, Adult Neurology consult service, McLaren-Greater Lansing Medical Center, Lansing, MI

PROFESSIONAL ORGANIZATIONS

2009-ongoing American Osteopathic Association
2009-ongoing American Academy of Neurology
2013-ongoing Neurologic and Psychiatric Society of Zambia
2018-ongoing American Neurological Association

TEACHING AND MENTORING ACTIVITIES

2002 Visiting Lecturer, Chainama College of Health Sciences, Lusaka, Zambia
2005 Peer Mentor, College of Osteopathic Medicine Peer Mentor Program
2005 Guest Speaker, Osteopathic Medical Scholar Program Meeting
2013-ongoing Lecturer, University of Zambia School of Medicine Department of Internal Medicine Courses Med 5010 and 710 Lecture Series

RESEARCH AND GRANT SUPPORT

Funded Projects, ongoing:

Jul 2019-Jun 2021 Principal Investigator
American Academy of Neuromuscular and Electrodiagnostic Medicine Foundation Development Grant
Acute Flaccid Paralysis Prevalence and Etiologies in Lusaka, Zambia
Jun 2019-Jun 2022 Co-investigator (PI Hanna)

Medical Research Council Neurosciences and Mental Health Board
Strategic Award for an International Centre for Genomic Medicine in
Neuromuscular Diseases

- Oct 2018-Oct 2020 Principal Investigator
National Academy of Sciences Grant (200009630)
Advancing Studies of and Clinical Evaluations for Neuromuscular Disorders
in Zambia (ASCENDZ)
- Sept 2016-Aug 2018 Principal Investigator (*in no cost extension through August 2019*)
World Federation of Neurology Grant-in-Aid Award
Research on Assessments of Vitamins and Evaluation of Neurological
Symptoms: Dried Blood Spot Assessments for Methylmalonic Acid
- Jun 2019-Jun 2022 Co-investigator (PI Hanna)
Medical Research Council Neurosciences and Mental Health Board
Strategic Award for an International Centre for Genomic Medicine in
Neuromuscular Diseases

Past Funding:

- July 2015-Dec 2018 Principal Investigator
Michigan State University Clinical & Translational Sciences Institute Award
Research on Assessments of Vitamins and Evaluation of Neurological
Symptoms in Urban Zambia (RAVENS I)
- Jan 2016-Dec 2016 Principal Investigator
Fulbright African Regional Research Award
Research on Assessments of Vitamins and Evaluation of Neurological
Symptoms in Peri-urban Zambia (RAVENS II)
- July 2013-June 2015 Principal Investigator
American Brain Foundation Practice Research Training Fellowship
Distal Symmetric Polyneuropathies in Lusaka, Zambia
- July 2013-June 2014 Principal Investigator
5R25TW009337 02 NIH/Fogarty International Center
Distal Symmetric Polyneuropathies in Mazabuka, Zambia
- July 2007-June 2008 Research Assistant (PI Guerrant)
5U01AI026512-23 NIH/NIAID
Long-term Impact and Intervention for Diarrhea in Brasil
- June 2005-June 2006 Research Assistant (PI Birbeck)
Doris Duke Charitable Foundation Operations Research in Africa Award
Rural Antiretroviral Adherence in Zambia Study
- Aug 2003-July 2004 Principal Investigator
Fulbright U.S. Student Grant
Screening instruments for Neurocognitive Impairment in
HIV/AIDS Patients: A Pilot Study Utilizing Non-Physician
Healthcare Providers in Kalingalinga, Lusaka, Zambia.

July 1998-2002 Graduate Assistant. (PI Murman)
K08-AG00864 NIH/NIA
Cost of Healthcare in Alzheimer's Relative to Gained Effectiveness

TRAINING/EDUCATION GRANTS

October 2018 Mentor (PI Mwansa-Thurman)
American Neurological Association International Outreach Travel Award
Expanding NCS/EMG Access at University Teaching Hospital

Mar 2016-July 2016 Mentor (PI Elafros)
Kagan Endowed Scholarship
Role of Individual Beliefs and Patient-Provider Communication in Lumbar
Puncture Acceptance

PUBLICATIONS

Peer Reviewed Articles: Completed

1. **Kvalsund MP**, Mukomena P, Chidumayo T, Birbeck GL, Andary M, Horner M, Herrmann D. Electrodiagnostic Consultations in Zambia: Referral Characteristics and Neuromuscular Disorder Diagnosis. *J Neurol Sci* 2019; 397:150-154.
2. **Kvalsund MP**, Chidumayo T, Hamel J, Herrmann D, Heimbürger DC, Peltier A, Birbeck GL. Factors associated with distal symmetric polyneuropathies in adult Zambians: a cross-sectional, observational study of the role of HIV, non-antiretroviral medication exposures, and nutrition. *J Neurol Sci* 2018; 388:61-69.
3. Lima AA, **Kvalsund MP**, Souza PP, Figueiredo ÍL, Soares AM, Mota RM, Lima NL, Pinkerton RC, Patrick PP, Guerrant RL, Oriá RB. Zinc, vitamin A, and glutamine supplementation in Brazilian shantytown children at risk for diarrhea results in sex-specific improvements in verbal learning. *Clinics (Sao Paulo)*. 2013;68(3):351-8.
4. **Kvalsund MP**, Birbeck GL. Epilepsy Care Challenges in Developing Countries. *Curr Opin Neurol* 2012;25(2):179-86.
5. Mitter SS, Oriá RB, **Kvalsund MP**, Pamplona P, Joventino ES, Mota RM, Gonçalves DC, Patrick PD, Guerrant RL, Lima AA. Apolipoprotein E4 influences growth and cognitive responses to micronutrient supplementation in shantytown children from northeast Brazil. *Clinic (Sao Paulo)* 2012L 67 (1):8-11.
6. Birbeck GL, **Kvalsund MP**, Byers PA, Bradbury R, Mang'ombe C, Organek N, Kaile T, Sinyama AM, Sinyangwe SS, Malama K, Malama C. Neuropsychiatric and socioeconomic status impact antiretroviral adherence and mortality in rural Zambia. *Am J Trop Med Hyg* 2011 Oct;85(4):782-789.
7. Kandiah PA, Atadzhanov M, **Kvalsund MP**, Birbeck GL. Evaluating the Diagnostic Capacity of a Single-question neuropathy screen (SQNS) in HIV positive Zambian adults. *J Neurol Neurosurg Psychiatr* 2010; doi:10.1136/jnnp.2009.183210.
8. Lima AA, Soares AM, Lima NL, Mota RM, Maciel BL, **Kvalsund MP**, Barrett LJ, Fitzgerald RP, Blaner WS, Guerrant RL. Effects of Vitamin A Supplementation on Intestinal Barrier Function, Growth, Total Parasitic, and Specific *Giardia* spp Infections in Brazilian Children: A Prospective Randomized, Double-blind, Placebo-controlled Trial. *J Pediatr Gastroenterol* 2010 Mar;50(3):309-15

9. **Kvalsund MP**, Haworth A, Murman DL, Velie E, Birbeck GL. Closing Gaps in ART Access: Screening Instruments for Use by Non-Physician Healthcare Workers. *Am J Trop Med Hyg* 2009 Jun;80(6):1054-9
10. Birbeck GL, Chomba EN, **Kvalsund MP**, Bradbury R, Mang'ombe C, Malama K, Kaile T, Byers PA, Organek N. Antiretroviral adherence in rural Zambia--The first year of treatment availability. *Am J Trop Med Hyg* 2009; 80(4):669-674.
11. Kandiah, P., **Powell M.**, Birbeck G., Validation of the Single-Question Neuropathy Screen (SQNS) Used in Zambian ARV Clinics. *Neuroepidemiology* 2007; 28:121-134
12. Murman DL, Kuo SB, **Powell MC**, Colenda CC. The impact of parkinsonism on costs of care in patients with AD and dementia with Lewy bodies. *Neurology* 2003; 61:944-949
13. Murman DL, Chen Q, **Powell MC**, Kuo SB, Bradley CJ, Colenda CC. The incremental direct costs associated with behavioral symptoms in AD. *Neurology*. 2002 Dec 10;59(11):1721-9.

Peer Reviewed Articles: In submission or process

1. **Kvalsund MP**, Birbeck GL, Herrmann D. Neuromuscular Care and Diagnostic Access in Tropical Low and Middle Income Countries: Confronting Global Consequences *Manuscript in submission.*
2. **Kvalsund MP**, Kayamba V, Kelly P, Mwansa-Thurman C, Lamers Y, Sommer I, Birbeck GL, Herrmann DN. Folate Deficiency is Associated with Distal Symmetric Polyneuropathy in Adult Clinic Attendees in Zambia. *Manuscript in submission.*
3. **Kvalsund MP**, Chidumayo T, Hamel J, Birbeck GL, Herrmann D. DSP progression and functional impairment among Zambian DSP cases after 12 months of follow-up in urban and rural Zambia" *Manuscript in preparation.*
3. **Kvalsund MP**, Mwansa-Thurman C, Andary M, Herrmann D. Normative Data on Routine Nerve Conduction Study Assessments in HIV+ and HIV- community controls in Lusaka, Zambia. *Manuscript in preparation.*
- 4.. **Kvalsund MP**, Mwansa-Thurman C, Kayamba V, Kelly MP, Birbeck GL, Lamers Y. Validity of DBS Methylmalonic Acid Assessments for Vitamin B12 and Folate Deficiencies in a Zambian population with high food insecurity and HIV prevalence. *Manuscript in preparation.*
6. Elafros MA, Belessiotis C, Birbeck GL, Bond G, **Kvalsund MP**. Lumbar Puncture in Zambia: Insights into the 'Tap Gap'." *Manuscript in preparation.*

Abstracts:

1. **Kvalsund M**, Kayamba VJ, Kelly MP, Mwansa-Thurman C, Birbeck GL, Herrmann D. Folate Deficiency is Associated with Distal Symmetric Polyneuropathy in Adult Zambian Clinic Attendees: Results of a Case-Control Study. Peripheral Nerve Society Meeting, Genoa, Italy 2019 (*Accepted*).
2. Villegas AC, Saylor D, **Kvalsund M**, Siddiqi. Task-shifting to Optimize Outpatient Neurological Care in Zambia. American Academy of Neurology Annual Meeting,

Philadelphia PA 2019.

3. **Kvalsund M**, Kayamba VJ, Mwansa-Thurman C, Birbeck GL, Herrmann D. Folate Deficiency is Associated with Distal Symmetric Polyneuropathy in Zambia. Oral Presentation, Neurology Association of South Africa/African Academy of Neurology Joint Congress. East London, South Africa 2019.
4. Elafros MA, Belessiotis C, Birbeck GL, Bond G, **Kvalsund MP**. Barriers to Lumbar Puncture in Zambia: Insights into the 'Tap Gap'. American Neurological Association Meeting, San Diego, CA 2017.
5. **Kvalsund MP**, Tegtmeier JD, Hornbach E, Andary M. Electrical Needle Stimulation for Localization in Rare Median Mononeuropathy of the Forearm. Poster Presentation. American Academy of Neuromuscular and Electrodiagnostic Medicine Meeting, Honolulu, HI 2015.
6. **Kvalsund MP**, Chidumayo C, Hamel J, Heimbürger D, Birbeck GL. Prevalence and Comorbid Factors Associated with Distal Symmetric Polyneuropathies in HIV+ and HIV- Adults in Urban and Rural Zambia. Poster Presentation. American Academy of Neurology Meeting. Washington, D.C., 2015.
7. Siame, J, Chisenga M, **Kvalsund MP**, PrayGod G, Rehman AM, Woodd S, Koethe JR, Heimbürger D, Henrik F, Kelly MP, Filteau S. Effect of Nutritional Intervention on Peripheral Neuropathy in Malnourished HIV-infected Adults Starting Antiretroviral Therapy. Oral Presentation. African Nutrition Epidemiology Conference VI. Accra, Ghana; 2015.
8. **Kvalsund MP**, Mbewe E, Mulenga J, Atadzhanov M, Haworth A, Chomba E, Birbeck G. Quality Indicators for Epilepsy Care in Zambia: Roadwork for the WHO Mental Health Gap Action Programme (mhGAP) Guidelines. Poster Presentation. American Academy of Neurology Meeting. New Orleans, LA; 2012.
9. **Kvalsund MP**, Pomplona P, Oriá, Soares AM, Most RMS, Fitzgerald RP, Guerrant RL, Lima AAM. Impact of Glutamine, Zinc and Retinol Supplementation on Cognitive Outcomes in Brazilian Children: A Prospective Randomized, Double-Blind, Placebo-Controlled Trial. Poster at World Congress of Pediatric Gastroenterology, Hepatology and Nutrition. Iguazu Falls Brazil; August 2008.
10. **Powell MC**, Murman DL, Haworth A, Velie E, Birbeck GL. Assessing Cognitive Impairment in Persons Living with AIDS in Zambia. Platform Presentation at World Federation of Neurology Meeting. Miami, FL; 2005.
11. Murman DL, Kuo SB, **Powell MC**, Friderici KA. Genetic variations in serotonin neurotransmission and psychiatric symptoms in Alzheimer's disease. JAOA 2002; 120(8):439.

INVITED LECTURES

2019 The 12th UK Neuromuscular Translational Research in Neuromuscular Genomics
Newcastle, UK

"Zambia: A Country, Clinical Neurology & Research Overview"

2018 University of Zambia Neuroscience Symposium, Lusaka Zambia

"Answering the Burning Questions in Your Clinics: Nutritional Neuropathies in Lusaka"

- 2017 University of Zambia-Vanderbilt University Partnership Nutrition Research Methods Workshop, Lusaka, Zambia
“Vitamin B12 & Methylmalonic Acid”

Tropical Gastroenterology and Nutrition Group Annual Symposium, Lusaka, Zambia
“Research on Assessments of Vitamin B12”
- 2016 Tropical Gastroenterology and Nutrition Group Journal Club Presentation, Lusaka, Zambia.
“Poor Nutrition and Neurotoxic Exposures are Risk Factors for Distal Symmetric Polyneuropathies in HIV+ Adult Zambians”
- 2015 University of Rochester Medical Center, Department of Neurology Grand Rounds, Rochester NY “Risk Factors for Distal Symmetric Polyneuropathies in Zambia”

Chikankata Salvation Army Hospital Tuesday Symposium, Mazabuka, Zambia.
“Predictors of Distal Symmetric Polyneuropathies in Rural Zambians with and without HIV infection.”

Department of Medicine Morning Report, University Teaching Hospital, Lusaka, Zambia.
“Distal Symmetric Polyneuropathies at Kamwala Health Centre: Predictors amongst Adults with and without HIV infection.”
- 2014 Michigan State University Department of Neurology Grand Rounds, East Lansing, MI
“Update on HIV-associated Neurocognitive Disorders”

SERVICES TO SCIENTIFIC JOURNALS

Ad hoc Reviewer

Journal of Acquired Immune Deficiency Syndromes (2016)

SERVICES TO OTHER PROFESSIONAL ORGANIZATIONS

Ad hoc Reviewer, Egypt Science and Technology (S&T) Joint Fund, Cycle 18

U.S. National Academy of Sciences and the Science and Technology Development Fund (STDF) of Egypt (2017)

Ad hoc Reviewer, Global Transformation NIHR Research and Innovation for Global Health Transformation Call 1 stage 1

National Institute for Health Research and Policy Research Programme, National Health Service (2018)

Neurology Without Borders Post, A blog of the journal *Neurology*

On the road: The Joint Congress of the Neurological Association of South Africa and the African Academy of Neurology (2019)